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Lymph or Liberty': Responses to Smallpox Vaccination in the Eastern Australian Colonies

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CHAPTER ONE:

Introduction

1.1: General introduction

> Your Committee having carefully considered the Message of His Excellency the Lieutenant-Governor, and having also communicated with the principal Medical Practitioners in Hobart Town, Launceston, and other parts of the country, and ascertained their opinions as to the best mode of promoting vaccination, (which is admitted by all competent authorities to be extremely desirable, as affording the best protection against the ravages of that dreadful disease the Small-pox), have arrived at the unanimous conclusion that the most, if not the only effectual means of rendering vaccination general throughout the Island, will be by passing an Act of the Legislature imposing a pecuniary penalty on the parent or guardian of any child, above the age of six months and under that of fourteen years, who shall, without reasonable cause or excuse, be found after the 1st day of April next not to have been vaccinated.[1]

With this seemingly uncontroversial recommendation in September 1853, the chairman of the Tasmanian Select Committee on Smallpox and Colonial Secretary, William Champ, set into motion the first Compulsory Vaccination Act in the Australian colonies. Carefully considered in light of expert opinion and local conditions, it also represents an early instance of the extension of state authority into the private lives of citizens and an integral component of the development of public health in the colonies. The presence of smallpox in Sydney caused this exotic and terrible disease to appear immediately threatening, making the widespread implementation of preventive measures reasonable.

When Champ was writing the above statement, vaccination was not a new technology. In the late eighteenth century, Edward Jenner demonstrated the efficacy of inoculation with cowpox as a preventive against smallpox through empirical study, as outlined in his

[1] W. Champ, 'Small-Pox. Report from the Select Committee appointed to take into consideration His Excellency's Message, No. 22', *TPP*, LC, 1853, No. 77.

1798 publication of *An Inquiry into the Causes and Effects of the Variolae Vaccinae*, and was responsible for popularising the operation.[2] Despite some initial scepticism, vaccination was soon championed by allopathic medical practitioners and rapidly spread across the globe, first throughout Europe and then following lines of colonial expansion.[3] Vaccine lymph was introduced into the new Australian colonies on a number of occasions from 1804 onwards, resulting in sporadic vaccination of the colonial populations. It appeared to offer a safe and relatively easy way to prevent the spread of smallpox and contribute to the public health, outcomes that were generally cognate with the political and economic aims of nineteenth-century nation-states. Compulsory vaccination legislation was introduced in many countries in the first half of the nineteenth century, but only became compulsory in its home, England, in 1853.

The implementation of compulsory vaccination was rarely smooth or uncontested. Furthermore, the incidence of smallpox decreased over the nineteenth century, understandings of disease changed and vaccine technology developed in multifarious and confusing directions, providing grounds for doubt as to the continued value of vaccination. Thus the enforcement of smallpox vaccination generated significant debate, with changes in the nature and intensity of the controversy over the course of the century. The vaccination debate and its consequences involved three groups with competing interests and objectives: the medical profession, the state and the public. Each group exercised an influence on the ways in which smallpox was perceived and vaccination was implemented, including the conditions under which it could be enforced and the extent to which public bodies could make decisions about the health and bodies of private citizens.

Champ's recommendation, and the resultant Vaccination Act in Tasmania in 1853, marked the point at which smallpox and vaccination became serious issues in the Australian colonies. The Select Committee chaired by Champ had been formed in

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[2] E. Jenner, *An Inquiry into the Causes and Effects of the Variolae Vaccinae, a disease discovered in some of the western counties of England, particularly Gloucestershire, and known by the name of the cow pox* (London: Sampson Low, 1798), reprinted (Birmingham, AL.: Classics of Medicine Library, 1978).
[3] M.J. Bennett, 'Passage through India: global vaccination and British India, 1800-05', *Journal of Imperial and Commonwealth History* 35(2) (2007): 201-220.

response to pressure from the medical profession, which was representative of the appeals being made at that time by medical practitioners to the various colonial governments that state action be taken in regard to vaccination. Although closely related in many ways, the colonies adopted different approaches in preventing and managing disease, and this was especially true of smallpox and vaccination. Victoria, too, introduced a Compulsory Vaccination Act, but implemented it in a more comprehensive manner than Tasmania, while New South Wales avoided legislating for vaccination, preferring a less coercive approach. The interdependent relationships between the colonies were to become increasingly clear in the operation of their differing policies, creating tensions that demanded a level of reconciliation in prophylactic policy and forming part of the negotiations and pressures in the build up to Federation.

Vaccination, its implementation and its enforcement remained contentious issues in many parts of the world for most of the nineteenth century. Although generally intended as an altruistic intervention, it was an invasive procedure with complex social, cultural and political implications. Its use had different meanings for different people, creating fertile ground for conflict. Ostensibly politically and culturally neutral, the smallpox virus, and the methods used to prevent its advancement, became issues of political and cultural significance.

1.2: Historiography

It could be argued that histories of smallpox and vaccination in the nineteenth century have claimed a level of significance and impact for this disease out of proportion with its incidence and mortality. The literature in this area has a long history, is consequently extensive, and approaches the material from a variety of angles as trends in style and methodology have changed over time. It is, in many ways, representative of the developments in the wider field of history of medicine. Many of the earliest histories were written by members of the medical profession and tended to portray vaccination as the triumph of scientific rationalism over disease and human superstition and ignorance, casting Edward Jenner as a hero.[4] There were a number of notable exceptions to this rule, most prominently the works of Charles Creighton and Edgar Crookshank.[5] Both of these medically trained men were explicitly partisan, and this was reflected in their anti-vaccinationist historical accounts. Early histories, then, were value-laden and mainly concerned with the operation and its utility.

The 1960s witnessed an awakening of interest in smallpox and vaccination among professional historians, as part of wider interest in the history of medicine. From this point, several lines of interest developed. The first line continued the earlier interest in the technology of vaccination, and such works focused exclusively on the history of the vaccine itself, tracing the production and dissemination of vaccine material throughout

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[4] F.E. Jencken, *Vaccination Impartially Reviewed* (London: John Churchill and Sons, 1868); S.M. Copeman, *Vaccination: its natural history and pathology* (London: Macmillan, 1899); F. Tidswell, *A Brief Sketch of the History of Small-Pox and Vaccination in New South Wales* (Sydney: Government Printer, 1899); Australasian Medical Congress, Auckland, New Zealand, *The History of Inoculation and Vaccination for the Prevention and Treatment of Disease: lecture memoranda* (London: Burroughs Wellcome & Co., 1914); F.D. Drewitt, *The Life of Edward Jenner M.D., F.R.S., naturalist and discoverer of vaccination* (London: Longmans, Green and Company, 1933); E. Ford, *Jenner's Centenary and his Contribution to Public Health: lecture from proceedings of 38th Annual Conference of Health Surveyors of New South Wales* (Pyrmont: Maritime Press and Publishing, 1949); *idem.*, *Edward Jenner and the Conquest of Smallpox: reprinted from The Australian Museum Magazine X(1) (1949): 9-13* (Sydney: Australasian Medical Publishing Company, 1950).

[5] E.M. Crookshank, *History and Pathology of Vaccination: a critical inquiry* (London: H.K. Lewis, 1889); C. Creighton, *The Natural History of Cow-Pox and Vaccinal Syphilis* (London: Cassell and Company, 1887); *idem.*, 'Vaccination' in *Encyclopedia Britannica*, 9th ed., (London: Adam and Charles Black, 1888); *idem.*, *Jenner and Vaccination* (London: Sonnenschein, 1889). See also, G.C. Cook, 'Charles Creighton (1847-1927): eminent medical historian but vehement anti-Jennerian', *Journal of Medical Biography* 8 (2000): 83-88.

the world in an attempt to identify its origin and nature.[6] This highly contentious area remains to be satisfactorily resolved, and highlights the difficulties associated with attempting to attain scientific certainties through historical methods.

The disruption to normal life that was caused by outbreaks of smallpox make such occurrences ideal focal points for research, leading to the second major line of inquiry, in which smallpox and vaccination have been studied as part of the genre of histories of disease and epidemics. A significant number of publications have been devoted to smallpox from a history of disease angle.[7] Necessarily general in nature, histories of smallpox have been greatly influenced by its global eradication which was ostensibly the 'end' of its story. These works therefore retained an element of the Whiggishness of earlier histories. Histories of smallpox epidemics, however, are more focused, which allows for an examination of the social, political and economic effects to be more clearly distinguished. Leavitt, for example, used the Milwaukee epidemic of 1894-1895 and the New York epidemic of 1947 to highlight the political nature of smallpox control, while Nelson and Rogers linked the 1874 epidemic in Stockholm to the development of liberal social policy in Sweden.[8] Several authors have noted the impact of smallpox epidemics across North America on the political and military events of the American Revolution.[9]

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[6] P.E. Razzell, *Edward Jenner's Cowpox Vaccine: the history of a medical myth* (Firle: Caliban Books, 1977); D. Baxby, *Jenner's Smallpox Vaccine: the riddle of Vaccinia Virus and its origin* (London: Heinemann Educational Books, 1981).

[7] A sample of prominent examples includes: C.W. Dixon, *Smallpox* (London: J. & A. Churchill, 1962); K.B. Roberts, *Smallpox: an historic disease* (St. John's: Memorial University of Newfoundland, 1979); D.R. Hopkins, *Princes and Peasants: smallpox in history* (Chicago: University of Chicago Press, 1983); F. Fenner, D.A. Henderson, L. Arita, Z. Ježek, and I.D. Ladnyi, *Smallpox and its Eradication* (Geneva: World Health Organization, 1988); I. and J. Glynn, *The Life and Death of Smallpox* (London: Profile, 2004).

[8] J.W. Leavitt, 'Politics and Public Health: smallpox in Milwaukee, 1894-1895', *Bulletin of the History of Medicine* 50 (1976): 553-568; *idem.*, '"Be Safe. Be Sure.": New York City's experience with epidemic smallpox', in D. Rosner (ed.), *Hives of Sickness: public health and epidemics in New York City* (New Brunswick, N.J.: Rutgers University Press, 1995): 95-114; M.C. Nelson and J. Rogers, 'The Right to Die? Anti-vaccination activity and the 1874 smallpox epidemic in Stockholm', *Social History of Medicine* 5(3) (1992): 369-388.

[9] H. Thursfield, 'Smallpox in the American War of Independence', *Annals of Medical History* 2 (1940): 312-318; O. Reiss, *Medicine and the American Revolution: how diseases and their treatments affected the colonial army* (Jefferson, N.C.: McFarland & Co., 1998); E.A. Fenn, *Pox Americana: the great smallpox epidemic of 1775-82* (New York: Hill and Wang, 2001).

This line also includes a range of works addressing the impact of the introduction of smallpox into immunologically virgin populations.[10]

Closely related to these histories of disease and epidemics is the third line of interest, in which issues relating to smallpox and vaccination are presented as components of wider histories of public health. These histories generally provided an assessment of the morbidity and mortality of smallpox and the impact of preventive measures, especially vaccination.[11] This often included accounts of the implementation of vaccination programs, with a focus on official medical actions, as well as a brief outline of public acceptance or rejection of these initiatives. The presence of discussions of smallpox and vaccination within more general public health histories has been ensured by the alarm that smallpox tended to cause amongst the contemporary population, which was somewhat disproportionate to its epidemiological impact, and by the legislative significance of compulsory vaccination laws, which frequently represented a significant extension of state interventionism.

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[10] A.W. Crosby, *The Columbian Exchange: biological and cultural consequences of 1492* (Westport, CT.: Greenwood Publishing Co., 1972); W.H. McNeill, *Plagues and Peoples* (New York: Anchor Books, 1976); S. Watts, *Epidemics and History: disease, power and imperialism* (New Haven: Yale University Press, 1997); D.N. Cook, *Born to Die: disease and New World conquest, 1492-1650* (Cambridge: Cambridge University Press, 1998); S. Alchon, *A Pest in the Land: New World epidemics in a global perspective* (Albuquerque: University of New Mexico, 2003).

[11] W.T. Howard, *Public Health Administration and the Natural History of Disease in Baltimore, Maryland, 1797-1920* (Washington: Carnegie Institution of Washington, 1924), pp. 157-164, 275-296; F.S. Maclean, *Challenge for Health: a history of public health in New Zealand* (Wellington: Government Printer, 1964), pp. 223-245; B.G. Rosenkrantz, *Public Health and the State: changing views in Massachusetts, 1842-1936* (Cambridge, Mass.: Harvard University Press, 1972), *passim.*; G. Hyde, *The Soviet Health Service: a historical and comparative study* (London: Lawrence and Wishart, 1974), pp. 13-14, 48-49, 106, 148; J. Duffy, *A History of Public Health in New York City, 1866-1966* (New York: Russell Sage Foundation, 1974), pp. 55-57, 59-60, 70-71, 84, 87, 96, 147-154; *idem.*, *The Sanitarians: a history of American public health* (Urbana: University of Illinois, 1990), pp. 10-11,26-28, 54-56, 179-180; S. Galishoff, *Safeguarding the Public Health: Newark, 1895-1918* (Westport, CT.: Greenwood Press, 1975), *passim.*; F.B. Smith, *The People's Health, 1830-1910* (Canberra: Australian National University Press, 1979), pp.156-169; Leavitt (1976), *op. cit.*; *idem.*, *The Healthiest City: Milwaukee and the politics of health reform* (Princeton, N.J.: Princeton University Press, 1982), pp. 76-121; A.S. Wohl, *Endangered Lives: public health in Victorian Britain* (London: J.M. Dent & Sons, 1983), pp. 132-135, 160-161; A. Hardy, *The Epidemic Streets: infectious disease and the rise of preventive medicine, 1865-1900* (Oxford: Clarendon Press, 1993); M. Harrison, *Public Health in British India: Anglo-Indian preventive medicine, 1859-1914* (Cambridge: Cambridge University Press, 1993), pp. 82-87; D. Dow, *Safeguarding the Public Health: a history of the New Zealand Department of Health* (Wellington: Victoria University Press, 1995), pp. 15, 21-24, 27-32; L. Manderson, *Sickness and the State: health and illness in colonial Malaya, 1870-1940* (Cambridge: Cambridge University Press, 1996), pp. 45-47, 202.

This leads to the fourth line of interest, which centred upon assessing interventions against smallpox. This line has generally, but not exclusively, dealt with assessing the implementation and impact of vaccination.[12] As the only specific medical preventive measure against an infectious disease available in that period, vaccination justifiably draws significant interest, and yet it is important to remember that it was not the only, and not necessarily the most important, preventive measure employed against smallpox. Indeed, Fraser's analysis highlighted the rational assessment of risk that contributed to the popularity of the Leicester method – a combination of notification, isolation and disinfection – over vaccination as the principal means of preventing the spread of smallpox in the city of Leicester.[13] Clark, too, demonstrated a degree of scepticism regarding the extent of vaccination's impact in her study of compliance with vaccination legislation in Hollingbourne, England, by identifying institutionalised complicity with non-compliance in its administration.[14] Similarly, Mooney identified poor administration of compulsory vaccination in London as the prime reason for its high smallpox rates in the third quarter of the nineteenth century.[15]

More national assessments of English smallpox management techniques include Hardy's chapter on smallpox in her broader study of infectious diseases, in which she emphasised the role of local preventive departments in controlling the disease using a combination approach, and Williams's quantitative analysis, in which she concluded that compulsory smallpox vaccination contributed significantly to the reduction of infant smallpox mortality, at least until the 1880s.[16]

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[12] One example that focused on assessing the impact of variolation, rather than vaccination, is P.E. Razzell, *The Conquest of Smallpox: the impact of inoculation on smallpox mortality in eighteenth-century Britain* (Firle: Caliban Books, 2003).

[13] S.M.F. Fraser, 'Leicester and Smallpox: the Leicester method', *Medical History* 24(3) (1980): 315-332.

[14] A. Clark, 'Compliance with Infant Smallpox Vaccination Legislation in Nineteenth-century Rural England, 1876-88', *Social History of Medicine* 17(2) (2004): 175-198.

[15] G. Mooney, '"A Tissue of the Most Flagrant Anomalies": smallpox vaccination and the centralization of sanitary administration in nineteenth-century London', *Medical History* 41(3) (1997): 261-290.

[16] Hardy, *op. cit.*, pp. 110-150; N. Williams, 'The Implementation of Compulsory Health Legislation: infant smallpox vaccination in England and Wales, 1840-1890', *Journal of Historical Geography* 20(4) (1994): 396-412.

Out of this assessment of interventions line have come some excellent comparative studies, such as Hennock's analysis of vaccination policy in England, Prussia and Imperial Germany.[17] The advantage of such an approach is that it makes clear the significance of different interventions; Hennock, for instance, concluded that as smallpox mortality dropped sharply in both countries, despite the use of different preventive strategies, that the emphasis within German literature upon the significance of mass vaccination has been overstated. Baldwin took the comparative strategy several steps further in his expansive study of national prophylactic strategies.[18] By comparing state responses to cholera, smallpox and syphilis in France, Germany, Great Britain and Sweden, Baldwin sought to test the reductionist thesis that political orientation determined prophylactic strategy choices, and concluded that a more complicated explanation was required, acknowledging the role of social, medical and geographical factors in addition to political influences.

More frequently, however, prophylactic histories have focused on a single national context. In Sweden, Sköld thoroughly documented and assessed the implementation and impact of variolation and vaccination in the eighteenth- and nineteenth-century, outlining the organisational success of vaccine distribution and attributing to vaccination the greater share of credit for the rapid decline of smallpox.[19] Similarly, Bhattacharya, Harrison and Worboys produced a comprehensive history of official smallpox control measures in British India in relation to public health policies, and consciously attempted to address equally the political, economic, technological, cultural and religious aspects of vaccination as a medical intervention.[20] In doing so, they drew together a large amount

[17] E.P. Hennock, 'Vaccination Policy Against Smallpox, 1835-1914: a comparison of England with Prussia and Imperial Germany', *Social History of Medicine* 11(1) (1998): 49-71.
[18] P. Baldwin, *Contagion and the State in Europe, 1830-1930* (Cambridge: Cambridge University Press, 1999).
[19] P. Sköld, *The Two Faces of Smallpox: a disease and its prevention in eighteenth- and nineteenth-century Sweden* (Umeå: Umeå University, 1996); *idem.*, 'From Inoculation to Vaccination: smallpox in Sweden in the eighteenth and nineteenth centuries', *Population Studies* 50(2) (1996): 247-262; *idem.*, 'The Key to Success: the role of local government in the organization of smallpox vaccination in Sweden', *Medical History* 45 (2000): 201-226; *idem.*, 'The History of Smallpox and its Prevention in Sweden', *Asclepio* 54(1) (2002): 71-91.
[20] S. Bhattacharya, M. Harrison and M. Worboys, *Fractured States: smallpox, public health and vaccination policy in British India, 1800-1947* (London: Sangam Books, 2005).

of material and built upon both focused studies, such as Banthia and Dyson's quantitative assessment, and components of wider works on Indian public health.[21]

A segment of the literature on national histories of smallpox and vaccination has taken one aspect of the complex social interrelationships associated with this area of medical history and examined it in detail. An example of this approach is the group of authors who have assessed the role of vaccination in the medicalisation of society.[22] While a positive correlation between the spread of vaccination and the growth of medical influence has been identified across a range of countries, other histories of vaccination through a particular social lens are more culturally specific. One such instance is the collection of histories that assess the colonial dimension of medicine, which are naturally only relevant in colonial contexts.[23] In relation to vaccination, these works examine the implementation, acceptance or rejection, and consequences of this western medical tool, and discuss the extent of its role as a technology of control. This approach is a focused extension of the literature assessing state interventions against disease.

Of the work addressing interventions against smallpox, the majority has focused upon vaccination because of its social and political significance. It was a technology that attracted considerable controversy in its implementation, and this has led to the clearest and most enduring line of research, which has addressed anti-vaccinationism. Early

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[21] J. Banthia and T. Dyson, 'Smallpox in Nineteenth-Century India', *Population and Development Review* 25(4) (1999): 649-680; R. Ramasubban, *Public Health and Medical Research in India: their origins and development under the impact of British colonial policy* (Stockholm: SAREC, 1982); Harrison, *op. cit.*; S. Sinha, *Public Health Policy and the Indian Public: Bengal, 1850-1920* (Calcutta: Vision, 1998); N. Brimnes, 'Variolation, Vaccination and Popular Resistance in Early Colonial South India', *Medical History* 48(2) (2004): 199-228.

[22] G.D. Sussman, 'Enlightened health reform, professional medicine and traditional society: the cantonal physicians of the Bas-Rhin, 1810-1870', *Bulletin of the History of Medicine* 51(4) (1977): 565-584; C. Huerkamp, 'The History of Smallpox Vaccination in Germany: a first step in the medicalization of the general public', *Journal of Contemporary History* 20(4) (1985): 617-635; A. Jannetta, *The Vaccinators: smallpox, medical knowledge, and the "opening" of Japan* (Stanford: Stanford University Press, 2007). This argument has also formed a component of more wide-ranging histories, including R.J. Evans, *Death in Hamburg: society and politics in the cholera years, 1830-1910* (Oxford: Clarendon Press, 1987), pp. 218-226; N. Durbach (2005), *op. cit.*, pp. 14-25.

[23] D. Arnold, *Colonizing the Body: state medicine and epidemic disease in nineteenth-century India* (Berkeley: University of California Press, 1993); Brimnes, *op. cit.*; W. Anderson, 'Immunization and Hygiene in the Colonial Philippines', *Journal of the History of Medicine and Allied Sciences* 62(1) (2007): 1-20; M.J. Bennett, 'Passage through India: global vaccination and British India, 1800-05', *Journal of Imperial and Commonwealth History* 35(2) (2007): 201-220.

work by Beck and Kaufman outlined the constitutional, medical and religious arguments of the anti-vaccinationists in England and America, respectively, while MacLeod presented a more nuanced view, describing the development of English anti-vaccinationism in five stages and discussing their actions and achievements in terms of pressure group politics.[24] These authors argued that anti-vaccinationists were motivated by a reaction against scientific medicine and a belief in individual liberty.

With the increase in interest in the social history of medicine from the 1970s onwards came a rise in the quantity of research on various aspects of anti-vaccinationism. Several authors, including Durbach on England, Sköld, Nelson and Rogers on Sweden, and Meade and Needell on Rio de Janeiro, pointed to popular anxieties about bodily integrity and the extent of state intervention into private lives, particularly as they related to issues of class, gender and citizenship.[25] Arguments against enforced vaccination centred upon liberal ideology are emphasised, although Durbach and Barrow have ascribed different concerns to different classes: while middle class anti-vaccination leaders argued in terms of the liberty of the individual, working-class resisters exhibited more concern about bodily integrity and the administration of public vaccination.[26]

The earlier view that anti-vaccinationism was rooted in anti-scientific sentiment has been negated by subsequent scholarship with increasing intensity. Porter and Porter initially

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[24] A. Beck, 'Issues in the Anti-Vaccination Movement in England', *Medical History* 4 (1960): 310-321; M. Kaufman, 'The American anti-vaccinationists and their arguments', *Bulletin of the History of Medicine* 5 (1967): 463-78; R.M. MacLeod, 'Law, medicine and public opinion: the resistance to compulsory health legislation 1870-1907', *Public Law* (Summer 1967): 107-28, 189-211.

[25] T. Meade, '"Civilizing Rio de Janeiro": the public health campaign and the riot of 1904', *Journal of Social History* 20(2) (1986): 301-322; J.D. Needell, 'The *Revolta Contra Vacina* of 1904: the revolt against "Modernization" in *Belle Époque* Rio de Janeiro', *Hispanic American Historical Review* 67(2) (1987): 233-269; Nelson and Rogers (1992), *op. cit.*; P. Sköld, 'Offer and Request: preventive measures against smallpox in Sweden 1750-1900', *Health Transition Review* 7 (1997): 75-81; N. Durbach, ''They Might As Well Brand Us': working-class resistance to compulsory vaccination in Victorian England', *Social History of Medicine* 13(1) (2000): 45-62; *idem.*, 'Class, Gender and the Conscientious Objector to Vaccination, 1898-1907', *The Journal of British Studies* 41(1) (2002): 58-83; *idem.*, *Bodily Matters: the anti-vaccination movement in England, 1853-1907* (Durham: Duke University Press, 2005).

[26] Durbach (2002, 2005), *op. cit.*; L. Barrow, 'In the Beginning was the Lymph: the hollowing of stational vaccination in England and Wales, 1840-98', in S. Sturdy (ed.), *Medicine, Health and the Public Sphere in Britain, 1600-2000* (London: Routledge, 2002): 205-223. Durbach's position was greatly influenced by Behlmer's work on state intervention and the family, see G.K. Behlmer, *Friends of the Family: the English home and its guardians, 1850-1940* (Stanford: Stanford University Press, 1998).

questioned MacLeod's argument by highlighting the inconsistencies internal to the anti-vaccination movement and its ideology, and characterising the beliefs of many 'anti-vaccinationists' as shallow, given their apparently easy conversion in times of smallpox epidemic.[27] Scarpelli's assessment of the arguments of prominent scientist and anti-vaccinationist, Alfred Russel Wallace, and the London Anti-Vaccination League supported the Porters' position by situating objections within a Darwinian scientific framework, although Scarpelli's focus upon the anti-vaccination elite limited the applicability of his findings.[28] In her analysis of Canadian Anti-Vaccination Leagues, Keelan argued that the connection between anti-vaccinationism and rejection of scientific medicine had been overstated, and that objections were more likely to result from differing interpretations of the empirical data and concerns about the classed nature of vaccination legislation.[29]

The anti-vaccination research stream has tended to emphasise the impact of the anti-vaccination movement upon legislative change, perhaps as a result of their focus. However, Lambert predominantly attributed English legislative development to sustained pressure from medical experts and explained the eventual breakdown and decline of compulsory vaccination with reference to the disappearance of smallpox.[30] Further, Fraser and Mooney used local studies in Leicester and London, respectively, to show that administrative practicalities were more influential than anti-vaccination agitation in highlighting the inadequacies of existing legislation.[31]

Although not comprehensive, this review of historical literature dealing with smallpox and vaccination has provided an outline of the directions that international scholarship in this field has taken to this point. While Australian histories of smallpox and vaccination

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[27] D. Porter and R. Porter, 'The Politics of Prevention: anti-vaccinationism and public health in nineteenth-century England', *Medical History* 32 (1988): 231-252.
[28] G. Scarpelli, '"Nothing in nature that is not useful": the anti-vaccination crusade and the idea of *harmonia naturae* in Alfred Russel Wallace', *Nuncius* 7 (1992): 109-130.
[29] J.E. Keelan, *The Canadian Anti-Vaccination Leagues, 1872-1892* (Ph.D. thesis: University of Toronto, 2004).
[30] R.J. Lambert, 'A Victorian National Health Service: state vaccination, 1855-71', *The Historical Journal* 5(1) (1962): 1-18.
[31] Fraser, *op. cit.*; Mooney, *op. cit.*

fit into these lines of inquiry, the idiosyncrasies of the Australian experience, in terms of its relative youth, low incidence of smallpox, issues of distance and dispersed population, make it an interesting counterpoint to the established, densely populated European and American states. Furthermore, as the Australasian colonies were British colonies differing significantly in character to British India, study of disease and disease management in this context adds depth and texture to the history of colonial public health. Historiography regarding smallpox and vaccination in Australia therefore exhibits both similarities with international experiences and highlights points of difference specific to the particularities of geographic, demographic, social and political realities.

Some of the earliest work in Australia, as in other countries, was produced by medical practitioners for a predominantly medical audience.[32] Containing strong ideological and didactic elements, these triumphalist histories eulogised Jenner and lauded the work of Australian medical men in transmitting the new technology at the frontier of the empire, while lamenting the seeming inability of colonial Australian governments to take full advantage of its benefits. These brief histories were built upon and greatly expanded by the medical histories of Cumpston, the first director-general of the Australian Department of Health, who wrote two volumes dedicated to the history of smallpox in Australia, as well as including it in his more general public health histories.[33]

Cumpston's work has a strong tendency towards historical epidemiology, and his thorough research demonstrated his belief that policies be based upon a firm factual foundation. He has had a considerable influence upon all subsequent scholarship on

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[32] G.L. Mullins, 'A Brief History of Smallpox and Vaccination in New South Wales, from the Foundation of the Colony to the Present Day', *AMG* (December 21, 1896), pp. 501-503, (February 20, 1897), pp. 74-77, (August 20, 1897), pp. 376-378, (October 20, 1897), pp. 492-496, (April 20, 1898), pp. 147-149; A.S. Paterson, 'The early history of vaccination', *AMJ*, 17 (1872), pp. 265-275; 306-315; F. Tidswell, *A Brief Sketch of the History of Small-Pox and Vaccination in New South Wales* (read before the Australasian Association for the Advancement of Science, January 7, 1898), (Sydney: Government Printer, 1899).

[33] J.H.L. Cumpston, *The History of Smallpox in Australia, 1788-1908* (Canberra: Government Printer, 1914); *idem.* and F. McCallum, *The History of Small-Pox in Australia, 1909-1923* (Melbourne: Government Printer, 1925); J.H.L. Cumpston, *The Health of the People: a study in federalism* (Canberra: Roebuck, 1978), pp. 43, 180-191; *idem.*, *Health and Disease in Australia: a history*, introduced and edited by M.J. Lewis (Canberra: Australian Government Publishing Service, 1989).

smallpox and vaccination in Australia by providing a clear summary of outbreaks, official responses and vaccination rates for the whole population, as well as an assessment of the implications of his findings. A work of comparable breadth has not been repeated for the history of smallpox and vaccination in Australia since Cumpston's, which was published almost a century ago. Work in the interim has tended to either subsume smallpox and vaccination within a broader narrative of Australian public health, or has focused on a particular outbreak from which to draw conclusions.

Of the former category, Barclay dedicated a chapter to smallpox and management strategies in her examination of public health in late nineteenth-century Queensland, while Haynes argued that Edward Swarbreck Hall's pro-vaccinationism formed an integral part of his overall strategy for the promotion of public health in Tasmania.[34] Mayne discussed issues relating to smallpox in his study of sanitary policy in nineteenth-century Sydney, and noted changes in popular understandings of disease and contagion as well as the social implications of the presence of epidemic disease and inefficient management by health officials.[35] More recently, Lewis included discussion of outbreaks of smallpox and official responses to them in his wide-ranging history of public health in Australia, which incorporated comparative analysis with contemporaneous developments in Britain and America.[36] By placing the history of smallpox and vaccination within the wider context of public health development, these authors have made clear its significance, arguing that smallpox provided a stimulus to the growth of public health in the Australian colonies analogous to cholera in Britain.

Histories within the second category, focusing upon specific outbreaks of smallpox, are best viewed as part of a wider, international group of histories which comprised studies of a range of epidemic and infectious diseases and 'used the economic, social, political and ideological responses to disease to explore the complex ways in which change both

[34] E.J. Barclay, *Aspects of Public Health in Queensland from 1859-1914* (M.A. thesis: University of Queensland, 1978); E.F. Haynes, *Edward Swarbreck Hall: medical scientist and social reformer in colonial Tasmania* (M.A. thesis: University of Tasmania, 1976).
[35] A.J.C. Mayne, *Fever, Squalor and Vice: sanitation and social policy in Victorian Sydney* (St. Lucia: University of Queensland Press, 1982), pp. 27-28, 31-35 75-76, 187-189.
[36] M.J. Lewis, *The People's Health: public health in Australia, 1788-1950* (Westport, CT.: Praeger, 2003).

caused and was determined by social classes, professionals, scientific and religious communities and political states and oligarchies.'[37] Curson, for example, saw death and disease not 'as isolated considerations but as integral to the functioning of a society and part of the complex web of attitudes, beliefs and values that make up part of the culture of a society.'[38] Curson's study of the socio-geographic aspects of infectious disease epidemics in Sydney included an analysis of the 1881-2 smallpox epidemic, which examined its social and demographic impact, its transmission and diffusion, and social responses to it.[39] He emphasised the panic and disorganisation amongst both the public and the local officials, and noted the impact on, and significance of, anti-Chinese feeling.

Curson's discussion recalled in several ways Roe's analysis of the 1887 and 1903 smallpox outbreaks in Launceston. Roe, too, highlighted official disorganisation and prevarication, and outlined the social, political and economic consequences of both outbreaks. Further, the geographical analysis that Curson performed on the Sydney epidemic was replicated for the 1903 Launceston outbreak by Michalek and McGlashan, using historical records to reconstruct the diffusion of the disease.[40]

Although predominantly an urban disease, smallpox also affected more remote populations, including the Aboriginal population. Following the lead set by international histories of smallpox in the 'new world', Butlin, Frost and Campbell investigated outbreaks of smallpox among the Australian Aboriginal population in the nineteenth century.[41] These authors differed in their assessment of the source of contagion, as

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[37] D. Porter, *Health, Civilization and the State: a history of public health from ancient to modern times* (London: Routledge, 1999), p. 2.
[38] P.H. Curson, *Times of Crisis: epidemics in Sydney, 1788-1900* (Sydney: Sydney University Press, 1985), p. 1.
[39] *Ibid.*, pp. 90-119.
[40] R.J. Michalek and N.D. McGlashan, 'Diffusion of a Smallpox Epidemic in Launceston, Tasmania in 1903', *Geographia Medica* 17 (1987): 151-159.
[41] N.G. Butlin, *Our Original Aggression: Aboriginal populations of Southeastern Australia, 1788-1850* (Sydney: George Allen & Unwin, 1983); *idem.*, 'Macassans and Aboriginal Smallpox: the '1789' and '1829' epidemics', *Historical Studies* 21(84) (1985): 315-335; J. Campbell, 'Smallpox in Aboriginal Australia, 1829-31', *Historical Studies* 20(81) (1983): 536-556; *idem.*, 'Smallpox in Aboriginal Australia, the early 1830s', *Historical Studies* 21(84) (1985): 336-358; *idem.*, *Invisible Invaders: smallpox and other diseases in Aboriginal Australia, 1780-1880* (Melbourne: Melbourne University Press, 2002); A. Frost, *Botany Bay Mirages: illusions of Australia's convict beginnings* (Melbourne: Melbourne University Press, 1994).

Butlin suggested that it had a European origin while Frost and Campbell argued that smallpox was brought to the Australian continent by Macassan fishermen, but all agree that its impact upon the Indigenous population was significant.

Several historians have assessed the role and implications of quarantine as a defence against smallpox in Australia, contrasting colonial Australian policy with that of Britain. Heavily influenced in different respects by Baldwin's argument of geo-epidemiological determinants of prophylactic strategies, Bashford and Maglen assessed Australian quarantine policy with respect to geographical and political realities, with Bashford arguing for a more strongly racialised explanation than Maglen.[42] Issues associated with the assessment of interventions against smallpox in the international literature, such as medicalisation and colonialism, have also been addressed in the Australian context to a degree. Mayne, for example, has examined some aspects of medicine and empire in his chapter on responses to the 1881-2 smallpox outbreaks in Sydney and Melbourne, especially the relations between centre and periphery.[43] He argued that colonial doctors largely imitated their British colleagues, only diverging as it became increasingly necessary to modify practice 'to suit the different social realities of the less sophisticated colonial economies'.[44]

Bashford, too, studied the connections between preventive medicine and colonialism, and argued that the transmission of vaccine technology and material both followed imperial connections and reflected imperial culture in anxieties about the provenance and genealogy of vaccines, and the boundaries between clean and unclean, self and other, and health and disease.[45] Her studies have focused largely upon the experience of New South

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[42] A. Bashford, 'Quarantine and the Imagining of the Australian Nation', *Health* 2(4) (1998): 387-402; K. Maglen, 'A World Apart: geography, Australian quarantine, and the mother country', *Journal of the History of Medicine and Allied Sciences* 60(2) (2005): 196-217.
[43] A.J.C. Mayne, '"The Dreadful Scourge": responses to smallpox in Sydney and Melbourne, 1881-2' in R.M. MacLeod and M.J. Lewis (eds.), *Disease, Medicine and Empire: perspectives on Western medicine and the experience of European expansion* (London: Routledge, 1988): 219-241.
[44] *Ibid*., p. 219.
[45] A. Bashford, 'Epidemic and Governmentality: smallpox in Sydney, 1881', *Critical Public Health* 9(4) (1999): 301-316; *idem.*, 'Foreign Bodies: vaccination, contagion and colonialism in the nineteenth century' in A. Bashford and C. Hooker (eds.), *Contagion: historical and cultural studies* (London: Routledge,

Wales, from which she has made wider extrapolations. By investigating aspects of public health and hygiene in relation to smallpox and vaccination, Bashford emphasised the relationship between medicine and governance. She argued that technologies aimed at protecting the health of the population could also be viewed as technologies of rule, and raised issues regarding the consent of the governed and the extent of liberal governance.

Thus, there remains much opportunity for historical research on the Australian experience of smallpox and its management, particularly work that neither subsumes the history of smallpox and vaccination within a broad public health narrative nor focuses too narrowly on individual outbreaks or locations. Compulsory vaccination legislation was among the earliest statutes passed by the newly self-governing colonies, suggesting that further analysis of the relationship between the state and its prophylactic policies would be valuable. Of similar chronological significance was the congruence between the vaccination debate, the professionalisation of medicine and the medicalisation of colonial society, indicating that further investigation of the role of the medical profession in the history of vaccination would be similarly worthwhile. Perhaps most obviously, given the attention given to it in international histories and its continuing significance in the present, is the absence of analyses of anti-vaccinationism in the Australian colonies. More broadly, public responses to vaccination – pro, anti or indifferent – have not been examined in any depth. Further, while Maglen and Bashford have examined some of the motivations behind increasing reliance upon quarantine in the colonies, with significant implications for the relationship between the state and contagion, the same has not been done for state attitudes towards vaccination in the same period, despite the clear links between the two strategies.

2001): 39-60; *idem.*, *Imperial Hygiene: a critical history of colonialism, nationalism and public health* (Houndmills, Basingstoke: Palgrave Macmillan, 2004).

1.3: Sources and methodology

This thesis aims to go some way towards addressing these lacunae in the historiography of smallpox and vaccination in colonial Australia. It draws upon some of the approaches used in international histories of smallpox and vaccination, and is intended to provide some basis for comparison with these diverse national histories. It is neither a history of disease nor a history of preventive strategies, but rather constitutes an investigation of social and political responses to and implications of smallpox and vaccination.

The present study builds upon a quantitative foundation, but is prevented from becoming a quantitative history, or historical demography, by some of the difficulties associated with the source material. Statistical data regarding colonial vaccination rates are available in Tidswell, Mullins and Cumpston's histories, and have been left largely unquestioned by subsequent scholarship. Using colonial parliamentary papers, including the official reports of colonial Vaccination Superintendents and Health Officers, this study begins by evaluating the accuracy of the figures provided by these early historians, particularly Cumpston's, and is influenced by Evans's work on cholera in Hamburg and Williams's and Clark's quantitative analyses of vaccination in England and Wales.[46] The vaccination rates are discussed in terms of numbers performed each year in each colony. While an examination of trends on a more local level or using smaller temporal units would be interesting, such an analysis is precluded by the sporadic reporting of these figures by the relevant health authorities.

By focusing on the interrelationships between medicine and society, the remainder of the thesis follows in the established tradition of social history of medicine. The aim of social history of medicine, as expressed in the 1970s, was to address and balance the Whiggish iatrocentrism of early medical history. This had, by focusing on leading figures and medical firsts, tended to portray the development of medicine as 'a progressivist narrative', as Jordanova has described it, in which 'the search for truth was told in terms

[46] R.J. Evans, *Death in Hamburg: society and politics in the cholera years, 1830-1910* (Oxford: Clarendon Press, 1987); Williams, *op. cit.*; Clark, *op. cit.*

of blind alleys and right answers; the model was a journey, and the main emphasis was on content.'[47] By focusing on the social processes, relationships and constructions associated with medicine, social histories of medicine sought to avoid triumphalist assumptions, and widened the scope of enquiry. This influence is particularly evident in the sections dealing with the role of vaccination in the professionalisation of medicine and the medicalisation of society.

The redress of the triumphant narratives of progress displayed by early medical histories is, as Huisman and Warner rightly pointed out, no longer sufficient theoretical justification for research.[48] Therefore, while the present study retains an element of this tendency towards balancing traditional medical history that was present in much of the 'new social history' of the 1970s and 80s, it attempts to go further, engaging with both the methods and aims of the social history of medicine movement and the more recent cultural history of medicine. The themes and categories of analysis present throughout this thesis, including professionalisation, medicalisation, and state-building, and class, gender and race across geographic locales, are products of the large body of work that has preceded it.

The work of authors such as Hennock and Baldwin has established the value of comparative analyses in medical history, particularly with regard to the role of the state in determining responses to disease and methods of preserving public health.[49] This thesis utilises the established comparative approach, not on an international level, as in Hennock and Baldwin's studies, but instead focuses on contrasting the experiences of three closely related colonies. The benefit of this approach and focus is that the similarities between New South Wales, Victoria and Tasmania limit the number of potentially influential variables, and allow the factors critical in explicating differences to

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[47] L. Jordanova, 'The Social Construction of Medical Knowledge', *Social History of Medicine* 8 (1995): 361-378, p. 362. For a more specifically Australian account of this development, see: N. Hicks, 'Medical History and History of Medicine' in G. Osborne and W.F. Mandle (eds.), *New History: studying Australia today* (Sydney: George Allen and Unwin, 1982): 69-81.

[48] F. Huisman and J.H. Warner, 'Medical Histories' in F. Huisman and J.H. Warner (eds.), *Locating Medical History: the stories and their meanings* (Baltimore: The Johns Hopkins University Press, 2004): 1-30, p. 2.

[49] Baldwin, *op. cit.*; Hennock, *op. cit.*

be more readily discerned. The comparative aspect of this study is most clearly observable in the section dealing with vaccination and the state, in which it builds upon the foundations laid by previous scholarship, but it is retained to a lesser extent throughout the thesis, and produces some useful results regarding the relationships between smallpox, vaccination, the medical profession and the public.

While a comparison of responses to vaccination in all of the Australian colonies would have provided a more comprehensive overview, such an approach was unsuitable for the present study for several reasons. It would have produced an unwieldy amount of information and produced significant structural challenges, particularly as a result of the different settlement dates and resultant differences in maturity of government. New South Wales, Victoria and Tasmania were therefore selected for a focused comparative study because they were approximately contemporary in achieving self-government, and because each pursued a distinctly different approach to smallpox prevention. Although Victoria and Tasmania both passed compulsory vaccination legislation, only Victoria implemented it in a consistent and effective manner, and New South Wales never legislated for compulsory smallpox vaccination at all.

These differences in response to similar circumstances serve to highlight the variables influential over the period between the mid-nineteenth and early-twentieth centuries. This time frame was selected to cover the period from the first Compulsory Vaccination Acts and the granting of self-government through to Federation and the introduction of conscientious objection clauses, providing the scope to chart the promise and progress of vaccination in the colonies. This period definition is not rigid, as some events both before and after it are relevant to developments within it, but the focus remains on the second half of the nineteenth century.

While justified by the natural boundaries formed by events, a study covering more than five decades places some practical limitations upon the use of some source material. As a result of the breadth of the study, two sources have not been fully exploited: court records of prosecutions for non-compliance with Compulsory Vaccination Acts, and

personal papers, such as diaries and memoirs. A thorough collation of information from these sources over an interval of more than half a century represented a vast undertaking, unequal to the potential rewards in relation to the aims of this study.

To elucidate the responses of the medical profession, the state and the public to vaccination, this thesis makes extensive use of a range of sources. Official sources used included parliamentary papers, such as Vaccination and Health Officer Reports, proceedings of conferences and parliamentary debates. Such papers provided quantitative and qualitative descriptions of disease and prophylactic measures and gave helpful synopses of arguments for and against different management strategies, from a range of perspectives. Periodicals, especially newspapers and medical journals, frequently contained articles, editorials and letters addressing the issues surrounding attitudes towards smallpox, quarantine and vaccination, as well as the occasional illustration. Sporadic publications, usually in the form of pamphlets, tended to express opinions, and evidence supporting those opinions, at either extreme of the debate and hence were particularly useful evidence for discussion of anti-vaccinationism, which generally received less attention in official sources than did pro-vaccinationists. Archival material, including vaccination registers, government department correspondence, Board of Health minutes and police, court and marriage records, was utilised to provide greater narrative detail and to clarify and add depth to the information provided by the other sources. Detailed source analysis is included within the discussion where relevant.

1.4: Summary

The purpose of this thesis is to provide an overview of attitudes towards smallpox in the eastern Australian colonies and the way that the vaccination debate played out in this context. Approached through the three-way relationship between the state, the medical profession and the population, it situates responses to vaccination and its compulsion within a broader framework of colonial perceptions of and experiences with smallpox, vaccine technology, and developments within the state, medicine and society. The thesis is divided into seven chapters: the introduction leads to five chapters comprising the body of the thesis, each addressing a different aspect of colonial responses to smallpox vaccination, which are followed by the concluding chapter.

The first main chapter, Chapter Two, seeks to establish the background information regarding smallpox and vaccination in Australia in order to provide a foundation for, and to inform, the subsequent chapters. Broken into two parts, it first outlines the history of smallpox in the Australian colonies by assessing its incidence and impact, in both epidemiological terms and its perceived threat to society. It then examines the use of vaccination in New South Wales, Victoria and Tasmania, and analyses vaccination rates in light of each colony's distinctive event narrative.

As one of the earliest state-sanctioned medical procedures aimed at every single member of society, vaccination was closely aligned with popular perceptions of medicine and its practitioners. In addition, the vaccination debate temporally overlapped with major developments within medicine, most notably professionalisation and medicalisation. Chapter Three therefore addresses the responses of the colonial medical profession to vaccination, including their role in its promotion and implementation, and the nature and extent of the significance of vaccination for medicine and the medical profession.

Vaccination on a large scale required the support of the state, although this support could take financial, legislative or ideological forms. Chapter Four analyses the relationship between vaccination and the state by comparing the responses of the New South Wales,

Victorian and Tasmanian governments. In doing so, it seeks to explain why governments responded to similar threats from disease in different ways, and to assess the impact of smallpox and vaccination on the colonial states, particularly in the lead up to Federation.

Ultimately, all state and medical initiatives aimed at encouraging widespread vaccination against smallpox most affected the public, and Chapter Five describes the range of responses exhibited by the populations of the three colonies to vaccination and the attempts made to compel them to be vaccinated. In charting these responses over the second half of the nineteenth century, the factors involved in shaping responses will be assessed and the consequences for liberal governance and the pursuit of public health will be identified and explicated.

The sixth chapter investigates the relationship between vaccination and colonial citizenship by examining the intersection of vaccination with three aspects of identity: class, gender and race. This examination will offer suggestions as to the role of medicine in constructing identity, defining citizenship and negotiating the relationship between citizens and the state as they developed over time. The seventh and final chapter articulates the thesis conclusions and draws together the major themes that have arisen in the analysis and discussion of smallpox and vaccination in nineteenth-century eastern Australia.

CHAPTER TWO:
Smallpox and Vaccination in Australia

2.1: Introduction

Smallpox was a highly infectious disease that, in its more severe forms, resulted in high mortality and significant consequences for survivors. It had a long and influential history, made prominent by the fear that it inspired and by its highly recognisable symptoms.[50] From ancient origins, smallpox spread with the movement of peoples and increased in intensity and frequency with the growth of population and its concentration in cities, so that by the end of the seventeenth century it was recognised as one of the foremost causes of death. Treatments in Europe had ranged from drinking sheep's dung to use of the colour red, and prevention had relied on isolation and quarantine, until variolation was introduced from Turkey in the early eighteenth century.[51] Variolation had been a long established practice in parts of Asia, but attained more widespread usage in the West, particularly Britain. Its use contributed to a decline in the mortality rates of smallpox and paved the way for the safer preventive of vaccination, providing both short term help and long term hindrance to the widespread adoption of vaccination.[52]

At the beginning of the nineteenth century, smallpox was endemic across much of Europe, Asia and the Americas, and vaccination was enthusiastically embraced by many as a means of protecting themselves from the ubiquitous scourge.[53] European settlers in the Australasian colonies, then, brought with them a view of smallpox that did not sit comfortably with the reality of their new situation, where smallpox occurred only infrequently. This set of circumstances inevitably resulted in increasingly clear

[50] D.R. Hopkins, *Princes and Peasants: smallpox in history* (Chicago: University of Chicago Press, 1983).
[51] *Ibid*., pp. 32-33, 46-47
[52] P.E. Razzell, *The Conquest of Smallpox: the impact of inoculation on smallpox mortality in eighteenth-century Britain* (Firle: Caliban Books, 2003).
[53] F. Fenner, D.A. Henderson, L. Arita, Z. Ježek, and I.D. Ladnyi, *Smallpox and its Eradication* (Geneva: World Health Organization, 1988), pp. 217-240.

dissonance between perception and reality that demanded reconciliation, and the particularities of the Australian context required the colonists to develop their own solutions, distinct from British precedent.

This section aims to provide background information regarding smallpox and vaccination in the colonies, in order to establish the context against which the following four sections will be set. The first chapter outlines the history of smallpox in Australia by investigating its incidence, relative severity and impact, both in terms of mortality and the effect that the presence of smallpox had upon the perceived threat presented by the disease. It also identifies the range of strategies available to the colonists to both prevent the introduction of smallpox and to control its progress once present. The second chapter focuses on the implementation of smallpox vaccination in New South Wales, Victoria and Tasmania, and their relative success at achieving widespread uptake of the technology, by setting the vaccination figures against the three colonial narratives.

2.2: The perception and management of the threat of smallpox in colonial Australia

The history of smallpox in Australia is largely one of absence, with a few notable exceptions. The people of Australia inherited an immense fear of the disease and its consequences from the British experience and were at pains to prevent smallpox becoming endemic to the Australian colonies for all of the nineteenth century. The colonial governments were generally successful in this endeavour. Smallpox was characterised as an exotic disease with potentially devastating consequences. Although this characterisation was not an ill-founded one, Bashford has pointed out that it was not inevitable and that it was, to some extent, created by political bureaucracy.[54] Nevertheless, this is the way in which smallpox was generally perceived and portrayed by colonial authorities, and it informed the ways in which it was responded to.

Despite being relatively uncommon in the colonies, smallpox was present at the very beginning of British settlement.[55] The settlers first noticed cases of smallpox in the Aboriginal population in the Port Jackson area in April 1789; fifteen months after the First Fleet arrived. This both confused and worried the settlers, as they had not believed it endemic, and they were unsure from where the smallpox had originated.[56] Cumpston believed it to have been introduced by Europeans, although there were no cases of

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[54] A. Bashford, *Imperial Hygiene: a critical history of colonialism, nationalism and public health* (Houndmills, Basingstoke: Palgrave Macmillan, 2004), p. 43.

[55] Curson noted that, although contemporary accounts were unanimous in their identification of the disease as smallpox, the symptoms could have been equally accounted for by chicken pox, and that there is insufficient evidence to categorically identify it either as smallpox or chicken pox. Most authors, however, have accepted that the colonists, familiar with smallpox, knew what they were dealing with and correctly identified it as smallpox. P.H. Curson, *Times of Crisis: epidemics in Sydney, 1788-1900* (Sydney: Sydney University Press, 1985), pp.43-44.

[56] W.C. Wentworth, *Statistical, Historical, and Political Description of the Colony of New South Wales , and its Dependent Settlements in Van Diemen's Land: with a particular enumeration of the advantages which these colonies offer for emigration, and their superiority in many respects over those possessed by the United States of America* (London: G. and W.B. Whittaker, 1819), p. 44; W. Tench, '1788' in T. Flannery (ed.), *Two Classic Tales of Australian Exploration: 1788 by Watkin Tench; Life and Adventures by John Nicol* (Melbourne: Text Publishing, 2000), pp. 102-105; G.L. Mullins, 'A Brief History of Smallpox and Vaccination in New South Wales, from the Foundation of the Colony to the Present Day', *AMG* (December 21, 1896), pp. 501-502; C.R. Boughton, 'Smallpox and Australia', *Internal Medicine Journal* 32 (2002): 59-61.

smallpox reported among any of the European ships.[57] The surgeons had brought bottles of variolous material with them for variolation, although there is no evidence that they used it and the likelihood of its retaining potency for that length of time under those conditions was low. How it might have reached the Aborigines is also unclear. Butlin has suggested that the matter in these bottles was released by the settlers, perhaps accidentally, probably on purpose:

> At the very least it can perhaps reasonably be said that the whites had control of a virus known to be extremely potent and failed in their responsibility. It is possible and quite likely that they deliberately opened Pandora's Box.[58]

This view, however, has been questioned by Frost and Campbell, who held that smallpox was probably introduced into Australia from the north by Macassan fishermen and that it spread across the continent from there.[59] Fenner argued that both of these positions have substantial difficulties associated with them and that there therefore may be 'a case for "the hand of God", or perhaps spontaneous generation!'[60] Regardless of its origins, there is general agreement that smallpox had a profound impact on the Aboriginal population in the 1789, 1829-32 and 1860s epidemics.

The 1789 epidemic did not affect any of the European settlers, although one Native American sailor caught smallpox. A few, however, were infected during the 1829-31 appearance of smallpox. The first outbreak to appear among the Europeans did not take place until late in 1852, when smallpox appeared in Sydney.[61] Cumpston has thoroughly

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[57] J.H.L. Cumpston, *The History of Smallpox in Australia, 1788-1908* (Canberra: Government Printer, 1914), pp. 2-3.

[58] N.G. Butlin, *Our Original Aggression: Aboriginal populations of Southeastern Australia, 1788-1850* (Sydney: George Allen & Unwin, 1983), p. 22. See also N.G. Butlin, 'Macassans and Aboriginal Smallpox: the '1789' and '1829' Epidemics', *Historical Studies* 21(84) (1985): 315-335.

[59] J. Campbell, 'Smallpox in Aboriginal Australia, 1829-31', *Historical Studies* 20(81) (1983): 536-556; 'Smallpox in Aboriginal Australia, the early 1830s', *Historical Studies* 21(84) (1985): 336-358; *Invisible Invaders: smallpox and other diseases in Aboriginal Australia, 1780-1880* (Melbourne: Melbourne University Press, 2002); A. Frost, *Botany Bay Mirages: illusions of Australia's convict beginnings* (Melbourne: Melbourne University Press, 1994), pp. 190-210.

[60] F. Fenner, 'Smallpox, "the most dreadful scourge of the human species": its global spread and recent eradication', *MJA* (November 24, 1984): 728-735, (December 8/22, 1984): 841-846, p. 733.

[61] Cumpston, *op. cit.*, (1914), pp. 27-8; F. Fenner, D.A. Henderson, L. Arita, Z. Ježek, and I.D. Ladnyi, *Smallpox and its Eradication* (Geneva: World Health Organization, 1988), p. 241. Both of these sources

documented the appearances of smallpox in Australia between 1850 and 1926, identifying twenty-three separate outbreaks of varying significance.[62] The incidences that he classified as 'major epidemics' were: the 1857 and 1868-9 epidemics in Victoria; the period 1881-85, which Cumpston described as 'the general epidemic period', affecting New South Wales, Victoria and South Australia; 1887 and 1903 in Tasmania; 1893 in Western Australia; and the 1913-18 epidemic which mostly concerned New South Wales, but also affected Queensland to a small degree in the first year. Fenner noted that this last epidemic was alastrim, or variola minor, and hence did not result in high mortality.[63] Table 1 presents in greater detail the occurrences of smallpox throughout the period 1850-1903.

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state that the first outbreak to affect the Europeans in Australia was in Melbourne in 1857. However, the Parliamentary Papers clearly describe cases of smallpox arriving in Port Jackson in 1852-3 onboard several vessels, leading to widespread panic and a sharp increase in the demand for vaccination. 'Vaccination', *NSWV&P*, LC, 1853, Vol. 2, p. 575.

[62] In fact, Cumpston has been so thorough in this endeavour, that it is not my intention to cover old ground by going into the details of individual outbreaks, except where directly relevant to the discussion. Cumpston, *op. cit.*, (1914); J.H.L. Cumpston and F. McCallum, *The History of Smallpox in Australia, 1909-1923* (Melbourne: Government Printer, 1925); J.H.L. Cumpston, *Health and Disease in Australia: a history*, introduced and edited by M.J. Lewis (Canberra: Australian Government Publishing Service, 1989), pp. 180-187.

[63] Fenner *et al.*, *Smallpox and its Eradication*, *op. cit.*, p. 361.

Table 1: Outbreaks influential in the Australian colonies, 1850-1903.

Year	Location	Cases	Deaths
1852-3	Sydney	?	
1857	Melbourne	16	4
1860-69	Northern Territory	? (among Aborigines)	?
1866	Geelong, Vic.	3	
1868-69	Victoria	43	10?
1872	New Zealand	?	
1872	Bendigo, Vic.	10	1
1874	Newcastle, NSW	1	
1877	Sydney	12	3
1881-5	NSW, Vic. & SA	>200*	>50
1882	Melbourne	1	
1887-88	Launceston	37	11
1888	Manly, NSW	1	
1889	Adelaide, SA	1	
1892	Sydney & Qld.	5	
1893	WA	51	9
1893	Sydney	1	
1895	Melbourne	1	
1901	Sydney	3	
1901	Fremantle	1	
1903	Launceston	66	19

*Smallpox was widely diffused during this period, and Cumpston believes it likely that many cases went unrecognised, making numbers uncertain. He puts the total for the period 1881-87 (including 1887 Launceston) at at least 314 cases. Curson separated this period into two main outbreaks, with 163 cases and 41 deaths in Sydney in 1881-2, 64 cases and 4 deaths in Sydney and 56 cases and 6 deaths in Melbourne in 1884-5. However, he noted that these figures were 'Undoubtedly an underestimation of true level of cases and deaths.'[64]

The vast majority of outbreaks, when the origin could be definitively ascertained, were attributable to shipping, a circumstance which clearly contributed to the Australian perception of smallpox as an exotic disease and to the promotion of quarantine as the foremost public health measure during this period. Further, Cumpston puts the total number of smallpox cases between 1850 and 1926 at 2962, excluding the Aboriginal outbreak of the 1860s.[65] For a period spanning three-quarters of a century, this is not a great deal, particularly as a third of them occurred in 1913 in New South Wales. Far

[64] Cumpston, *op. cit.*, (1989), p. 182; Curson, *op. cit.*, p. 92.
[65] *Ibid.*, (1989), p. 186, Table 95. Aboriginal numbers are excluded because of the impossibility of providing accurate figures.

more worrying were diarrhoeal diseases and tuberculosis, which constituted a large part of the annual mortality, but these were more accepted as an inevitable part of everyday life and hence caused less panic than smallpox.[66] For instance, in Tasmania during 1887 the death rate per 100,000 living was 84 for typhoid and 92 for diarrhoea, but only 8 for smallpox, and this was during one of only two 'epidemics' in this colony.[67] Similarly, in 1903, smallpox accounted for 11 deaths per 100,000 living out of a total of 1186 by all causes.[68] However, smallpox had a reputation for being both highly infectious and wholly preventable, which contributed to the disproportionate manner in which it was singled out as a cause of great panic.

Furthermore, health authorities were acutely aware of the potential of smallpox to wreak devastation upon the populations of the young colonies, should it ever become firmly established. For example, Francis Campbell, the medical officer in charge of vaccination in New South Wales, argued in 1868 that:

> … as commerce with all quarters of the globe and immigration from all countries increase, so will the probability of the introduction of small-pox increase in proportion. Let this noisome pestilence once get a footing on our shores, and it will laugh to scorn all subsequent efforts to erase it from the catalogue of your epichorial diseases. The dismal chasms made in families by the devastations of the small-pox, the frequent impairment of the constitution, and the sad transformations effected by it in the most beautiful of all God's handiwork – the human countenance, which many British practitioners still living must have witnessed in the early part of this century, will bear him out in his strong expressions on this subject.[69]

Campbell had suffered from a serious case of confluent smallpox as a child and this probably contributed to his estimation of the danger posed by smallpox and his stance on vaccination. Those who, like Campbell, feared the potential consequences of smallpox if introduced to the colonies pointed to the experiences of other countries, most notably Britain, as evidence of its devastation. They emphasised both the mortality to be

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[66] Duffy identified similar attitudes in the United States. J. Duffy, *The Sanitarians: a history of American public health* (Urbana: University of Illinois Press, 1990), pp. 23, 55, 179.
[67] *Statistical Returns of Tasmania*, (Hobart: Parliament of Tasmania, 1894), p. 66.
[68] *Statistical Returns of Tasmania*, (Hobart: Parliament of Tasmnaia, 1905), p. 126.
[69] F. Campbell, 'Vaccination', *NSWLCJ*, 1867-8, Part 1, No. 66, p. 830.

expected as well as the permanent disfigurement of survivors. The frequency with which the disease appeared to be threatening, to a greater or lesser extent, the colonies suggested to medical authorities, as well as others within the wider community, that specific preventive measures needed to be implemented on a broad scale. Cumpston noted 'that one of the most virulent of the epidemic diseases [smallpox] is known to have threatened to a greater or lesser extent to invade Australia upon 182 occasions', although they had mostly been prevented from spreading by the authorities.[70] The reaction of the general public to these outbreaks was generally one of panic, although the level of alarm varied with the size of the outbreak, the perceived preparedness and swiftness of action of the authorities, and the length of time since the last outbreak.[71]

Some of the Australian epidemics have since been studied by others. Curson examined the 1881 Sydney epidemic, and noted that the impact of smallpox outbreaks in Australia 'was often out of all proportion to the numbers actually involved.'[72] He found that the crisis caused by the presence of smallpox extended through the medical profession, the government and the general public, resulting in the construction of public health structures, notably the New South Wales Board of Health, infectious diseases legislation and a dedicated hospital, the Sydney University Medical School, and clearer guidelines for quarantine and disease management.[73] Smallpox epidemics created panic and hysteria among the populace that more consistently present health issues could never induce, and thereby created the pressure necessary for significant change to occur. Bashford argued that the experience of this Sydney epidemic highlighted issues of consent in public health and contributed to a shift towards increasingly governmental approaches to managing population health.[74] Lewis, too, argued that epidemic disease was often a fillip to public health reform in the United Kingdom, the United States and

[70] Cumpston, *op. cit.*, (1914), p. 108.
[71] The reactions of various sections of the community to outbreaks of smallpox are discussed in greater depth in the following chapters.
[72] Curson, *op. cit.*, p. 91.
[73] *Ibid.*, pp. 90-119.
[74] A. Bashford, 'Epidemic and Governmentality: smallpox in Sydney, 1881', *Critical Public Health* 9(4) (1999): 301-316.

Australia, and that smallpox epidemics were particularly important in the Australian colonies.[75]

Mayne analysed responses to smallpox in both Sydney and Melbourne during the same 1881 epidemic, and argued that these responses emphasised 'not only the economic but the cultural hegemony of empire' as the colonies looked to Britain for inspiration in dealing with the crisis. Although he noted that, 'British custom became modified to suit the different social realities of the less sophisticated colonial economies,' Mayne's view fits within a wider tradition of seeing Australian colonial public health as heavily reliant upon British precedent.[76] This emphasis on imperial influence has been refuted by others such as Dyason, who pointed to the significant differences between Britain and the colonies, and O'Carrigan, who stressed the role played by individual medical practitioners in the development of public health.[77]

Roe's study of the 1887 and 1903 Launceston epidemics highlighted the difficulties involved in evaluating responses to smallpox, and the dangers of generalising when people behaved in different, and often contradictory, ways.[78] People sought scapegoats, others denied the diagnosis of smallpox, the government – in a flurry of disorganisation – attempted to contain and eliminate the outbreak, and demand for vaccination skyrocketed. Simultaneously, however, Roe noted that, 'Most daily lives proceeded in humdrum fashions; schools closed only for a few days; roller-skating, the current

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[75] M. J. Lewis, *The People's Health: public health in Australia, 1788-1950* (Westport, CT: Praeger, 2003), pp. 65, 70-71.

[76] A. Mayne, '"The Dreadful Scourge": responses to smallpox in Sydney and Melbourne, 1881-2', in R. MacLeod and M. Lewis (eds.), *Disease, Medicine, and Empire: perspectives on western medicine and the experience of European expansion* (London: Routledge, 1988): 219-241.

[77] See: J.H.L. Cumpston, 'The Development of Public Health in Australia', *MJA* (March 17, 1928): 332-336, p. 333; D.J. Dyason, 'Aspects of public health in the colony of Victoria – the first 15 years', *XIVth International Congress of the History of Science, Proceedings No. 3* (Tokyo: Science Council of Japan, 1975): 15-18; D.J. Dyason, 'The medical profession in colonial Victoria, 1834-1901', in MacLeod and Lewis (eds.), *Disease, Medicine and Empire, op. cit.*, pp. 194-216; C. O'Carrigan, 'Some facets of Public Health in Nineteenth-Century New South Wales' in J. Pearn and C. O'Carrigan (eds.), *Australia's Quest for Colonial Health: some influences on early health and medicine in Australia* (Brisbane: Department of Child Health, 1983): 133-140.

[78] M. Roe, 'Smallpox in Launceston, 1887 and 1903', *Tasmanian Historical Research Association Papers and Proceedings* 23 (1976): 111-148.

entertainment craze, continued busy.'[79] He argued that the impetus for reform stimulated by the 1887 epidemic was short-lived and that the Launceston community was just as unprepared for the second outbreak, in 1903, as it had been for the first. Smallpox was not, then, invariably effective in producing lasting improvements in public health, although the impulse for reform had still occurred, and in 1903, this impulse contributed to the creation of the Department of Public Health. The 1903 Launceston epidemic has also been examined by Michalek and McGlashan, who used contemporary records to establish the time-space diffusion of smallpox.[80] They concluded that the authorities, though disorganised, performed a 'reasonably' good job of containing the disease through isolation and vaccination, primarily, and by cleansing, fumigation and travel restrictions, in supporting roles.

Having been established for a relatively short time, the colonies had a truncated version of the history of disease management experienced by European nations. At the time of white settlement, the main methods of managing smallpox in use around the world were variolation, quarantine, and isolation. Variolation was a significant predecessor to vaccination because it provided a procedural and theoretical precedent that facilitated the early acceptance of vaccination.[81] Paradoxically, variolation also contributed to opposition to vaccination; in places where variolation was well established, many people continued to prefer it, particularly among the lower classes, and practitioners who earned their living through variolation similarly opposed the move towards vaccination.[82] However, variolation was rarely practised in Australia.[83] Variolation was a risky procedure, useful only when contracting smallpox naturally was probable and there was no viable alternative. As smallpox was never endemic to the Australian colonies, and vaccination was available almost from their very founding, variolation was not

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[79] *Ibid.*, p. 122.
[80] R.J. Michalek and N.D. McGlashan, 'Diffusion of a Smallpox Epidemic in Launceston, Tasmania in 1903', *Geographia Medica* 17 (1987): 151-159.
[81] Hopkins, *op. cit.*, p. 77; Fenner *et al.*, *op. cit.*, pp. 256, 261.
[82] D. Arnold, *Colonizing the Body: state medicine and epidemic disease in nineteenth-century India* (Berkeley: University of California Press, 1993), pp. 137-139; N. Durbach, *Bodily Matters: the anti-vaccination movement in England, 1853-1907* (Durham: Duke University Press, 2005), pp. 19-21; Hopkins, *op. cit.*, p. 83.
[83] For an example, see Campbell (1985), *op. cit.*, pp. 342-343.

established and therefore did not play any role in opposition to vaccination, as it did elsewhere. It is likely that many of the colonists had either had smallpox naturally or been vaccinated against it before arrival in the colonies, providing some level of immunity amongst their population and assuring a degree of receptivity to the value of vaccination when it was introduced, despite the colonies effectively missing the variolation stage in its development of smallpox control strategies.

Smallpox posed the greatest threat to cities, where the population was sufficiently dense to sustain the virus, and it was also most likely to appear first in cities, as it was usually introduced from without via shipping. Its infectious nature was clear, and it was not attributed to miasmas.[84] Smallpox, then, would seem to lend itself to methods of exclusion for control; notably, quarantine for prevention and isolation for limitation. Indeed, these were strategies that had long been in use against diseases such as leprosy and plague, as well as smallpox.[85] Quarantine was of limited utility and isolation difficult in countries where smallpox was already endemic. The Australian colonies, however, were geographically well-suited to these techniques, especially as smallpox was never endemic. The voyage from England provided ample time for cases of smallpox, with an incubation time of around 12 days, to present themselves. As the volume and speed of shipping to the colonies rapidly increased over the nineteenth century, medical practitioners highlighted the fallibility of quarantine and the vulnerability of the colonies to epidemics.

For example, Haynes Gibbes Alleyne, the medical adviser in charge of vaccination in New South Wales, persistently called in the late 1870s for more thorough vaccination programs because he believed that quarantine was becoming decreasingly effective, 'as year by year our intercourse with countries where small-pox always prevails to a greater or lesser extent becomes more frequent and rapid, in consequence of the substitution of

[84] M. Pelling, *Cholera, Fever and English Medicine, 1825-1865* (Oxford: Oxford University Press, 1978), p. 90; A. Hardy, *The Epidemic Streets: infectious disease and the rise of preventive medicine, 1856-1900* (Oxford: Clarendon Press, 1993), p. 113.
[85] P. Slack, *The Impact of Plague in Tudor and Stuart England* (Oxford: Clarendon Press, 1990).

steam ships for sailing vessels'.[86] The successive improvements in speed between Europe and Australia afforded by clipper ships, steam ships, and the Suez Canal in 1869, combined with increasing communication with closer sources of infection, including India and China, and untruthful health reports from ships' captains, contributed to concerns that quarantine would prove insufficient to protect the colonies from smallpox.[87] As Cumpston observed,

> It could not… be expected that there could be conceived and instituted any system of defence so complete that it would never permit of small-pox infection breaking the quarantine cordon, so to speak, and being discovered on land after all measures of quarantine restriction had ceased.[88]

Quarantine was, for Cumpston as it had been for his predecessors, only a first line of defence in the war against epidemic disease, to be supplemented by other measures, especially vaccination. Medical authorities of the nineteenth century possessed an imperfect conception of how smallpox was transmitted, and they were at a loss to explain some of the virus's more aberrant behaviours, contributing to a lack of faith in quarantine as a preventive, even on an island continent where smallpox was considered exotic. The virus could be spread through direct contact with a patient or through airborne droplet infection, as well as indirectly, as the virus was capable of remaining infectious in articles such as clothing or bedding for significant periods of time.[89] Although it was generally understood that smallpox patients were infectious for the entirety of their illness and that the incubation period was around twelve days, the possibility of the spread of infection via fomites rendered quarantine less than entirely perfect as a preventive measure.

Despite the reservations of the medical community, quarantine became an increasingly important part of colonial public health at the same time as it was becoming less

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[86] H.G. Alleyne, 'Vaccination', *NSWLCJ*, 1878-9, Part 2, p. 931.
[87] G. Blainey, *The Tyranny of Distance: how distance shaped Australia's history* (rev. ed.) (Melbourne: Sun Books, 1982), pp. 175-226.
[88] Cumpston, (1914), *op. cit.*, p. 102.
[89] H. Paul, *The Control of Diseases (Social and Communicable)* (Edinburgh: E. & S. Livingstone, 1964), pp. 166-168.

favoured in Britain.[90] Quarantine was not just implemented against infected international ports, but also on an intercolonial level. It was generally faster to travel by sea than by land between colonial cities, until the 1880s when they first became linked by rail and, even then, the break in gauge required passengers and goods to change trains, facilitating customs and health inspections.[91] Efforts were made, as depicted in Figure 1, to identify cases at border crossings to prevent the spread of smallpox but, although ports and border rail crossings undoubtedly accounted for the bulk of intercolonial traffic, there remained the possibility of transmission along alternative, albeit slower, routes. The New South Wales Colonial Treasurer, for example, expressed concern during the 1884 outbreak in Victoria and South Australia that the borders were so extensive that it would be 'impracticable to put into force any efficient system of inspection.'[92]

Figure 1: 'The Small-Pox Scare – Border Precautions – 'Anyone got small-pox?'', a wood engraving from the *Illustrated Australian News*, 27 July 1881.[93]

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[90] A. Bashford, 'Quarantine and the Imagining of the Australian Nation', *Health* 2(4) (1998): 387-402, p. 387; Bashford (2004), *op. cit.*, pp. 115-136; K. Maglen, 'A World Apart: geography, Australian quarantine, and the Mother Country', *Journal of the History of Medicine and Allied Sciences* 60(2) (2005): 196-217.
[91] Blainey, *op. cit.*, pp. 243-250.
[92] 'Smallpox', *NSWPP*, 12 August 1884, 1883-4, 1st series, Vol. 14, p. 4832.
[93] S. Bennett, 'The Small-Pox Scare – Border Precautions – 'Anyone got small-pox?'', *Illustrated Australian News*, 27 July 1881, *SLV*, IAN27/07/81/137.

Once smallpox had been discovered on land, isolation and disinfection were widely employed to limit the spread of infection, because even at their height, vaccination rates were far from universal. Aetiological understanding of smallpox may have been limited, but authorities clearly recognised that isolation of smallpox cases and destruction or disinfection of property likely to be contaminated with smallpox material would help to prevent its spread.[94] This system shared many similarities with the Leicester Method, refined by the Sanitary Committee of Leicester in 1877 and 1893 and used in that city without recourse to vaccination.[95] It relied upon prompt notification and appropriate hospital accommodation to allow cases to be isolated, contacts to be quarantined and premises to be disinfected. Such an approach, however, requires an organised and efficient bureaucracy to administer it, and the youthful colonies lacked this crucial tool, limiting the effectiveness of isolation and disinfection in a colonial setting. When smallpox outbreaks occurred in the Australian colonies, actions closely approximating those comprising the Leicester method were attempted by authorities but, importantly, did so in conjunction with vaccination efforts. Figures 2 and 3 depict some of these precautions, including isolation in tents and the removal of patients from their homes under police guard, which provided highly visible evidence of government action against the crisis.

However, attempts to incorporate the use of sanitary techniques were hampered by incorrect diagnoses, slow or absent notification, a lack of appropriate facilities for isolating patients and quarantining contacts, and difficulty finding reliable staff to perform all of the necessary tasks.[96] Doctors unfamiliar with smallpox, or misled by

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[94] 'Smallpox', *VV&P*, LA, 1869, Vol. 1, No.A5, pp. 459-477; 'Southon Board: report of the board appointed to enquire into and report upon the various claims of compensation arising from the action of the sanatory authorities in connection with the recent small-pox case in Swanston Street, Melbourne, and the alleged neglect to afford the patient proper attendance and treatment', *VPP*, LA, 1882 Vol. 3 No. 55, p. 537-540.

[95] S.M.F. Fraser, 'Leicester and Smallpox: the Leicester Method', *Medical History*, 24(3) (1980): 315-332.

[96] See, for example, J.R. Street, P.S. Jones, H.N. Maclaurin, F.N. Manning, and F. Hixson, 'Report of the Royal Commission appointed on the 13th September, 1881, to enquire into and report upon the management of the Quarantine Station, North Head, and the Hulk "Faraway"; together with the Minutes of Evidence and Appendices', *NSWLCJ*, 1882, Part 2, pp. 325-337; 'Management of the Quarantine Station and Hulk *Faraway*', *NSWPD*, LA, 1882, pp. 979-1015; C. K. Mackellar, 'Vaccination', *NSWLCJ*, 1885-6,

atypical presentation of symptoms due to different strains of the virus or attenuation through vaccination, were apt to confuse cases of smallpox with a wide range of other diseases including, but not limited to: chicken pox, measles, scarlet fever, syphilis and acne.[97]

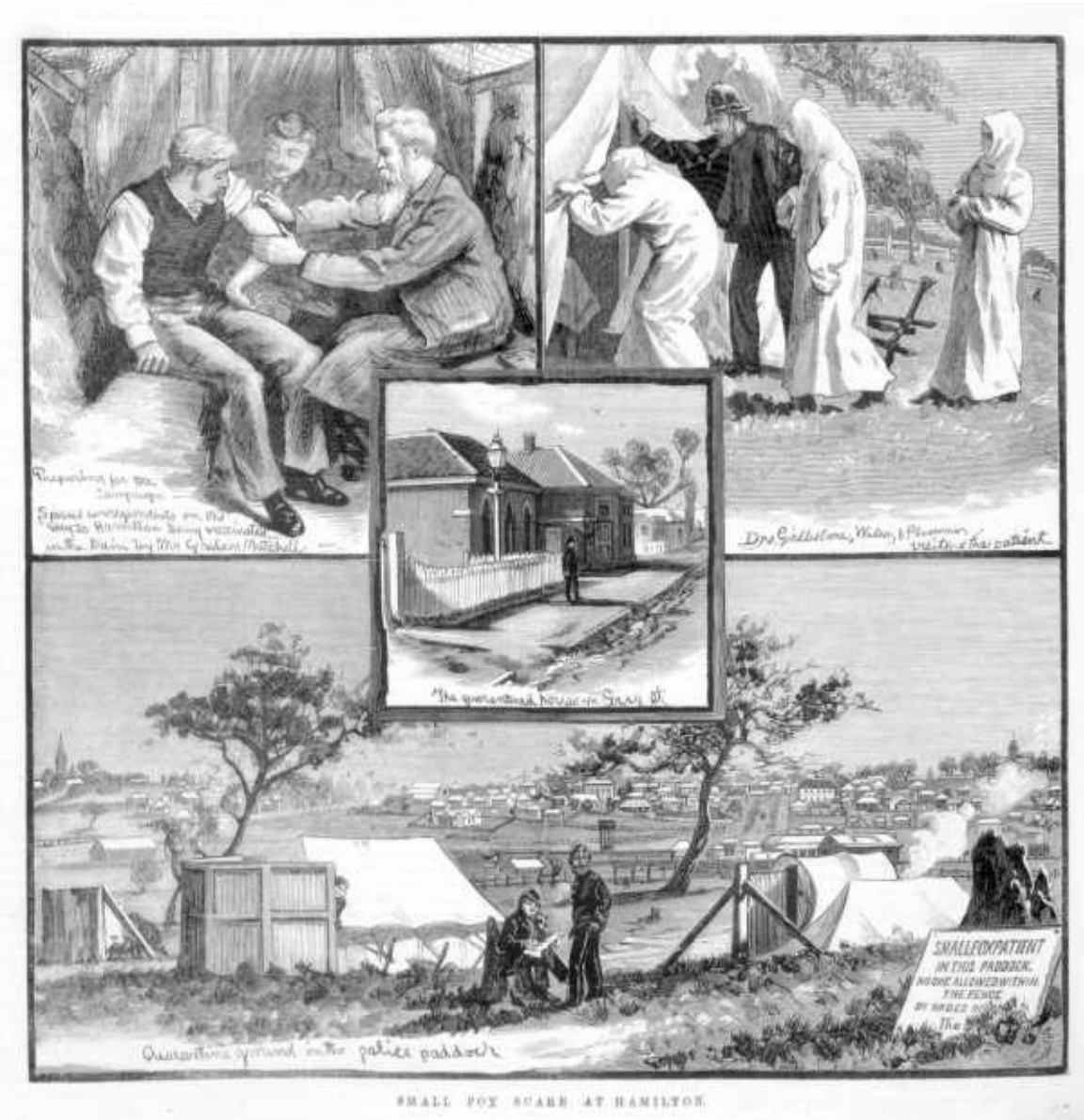
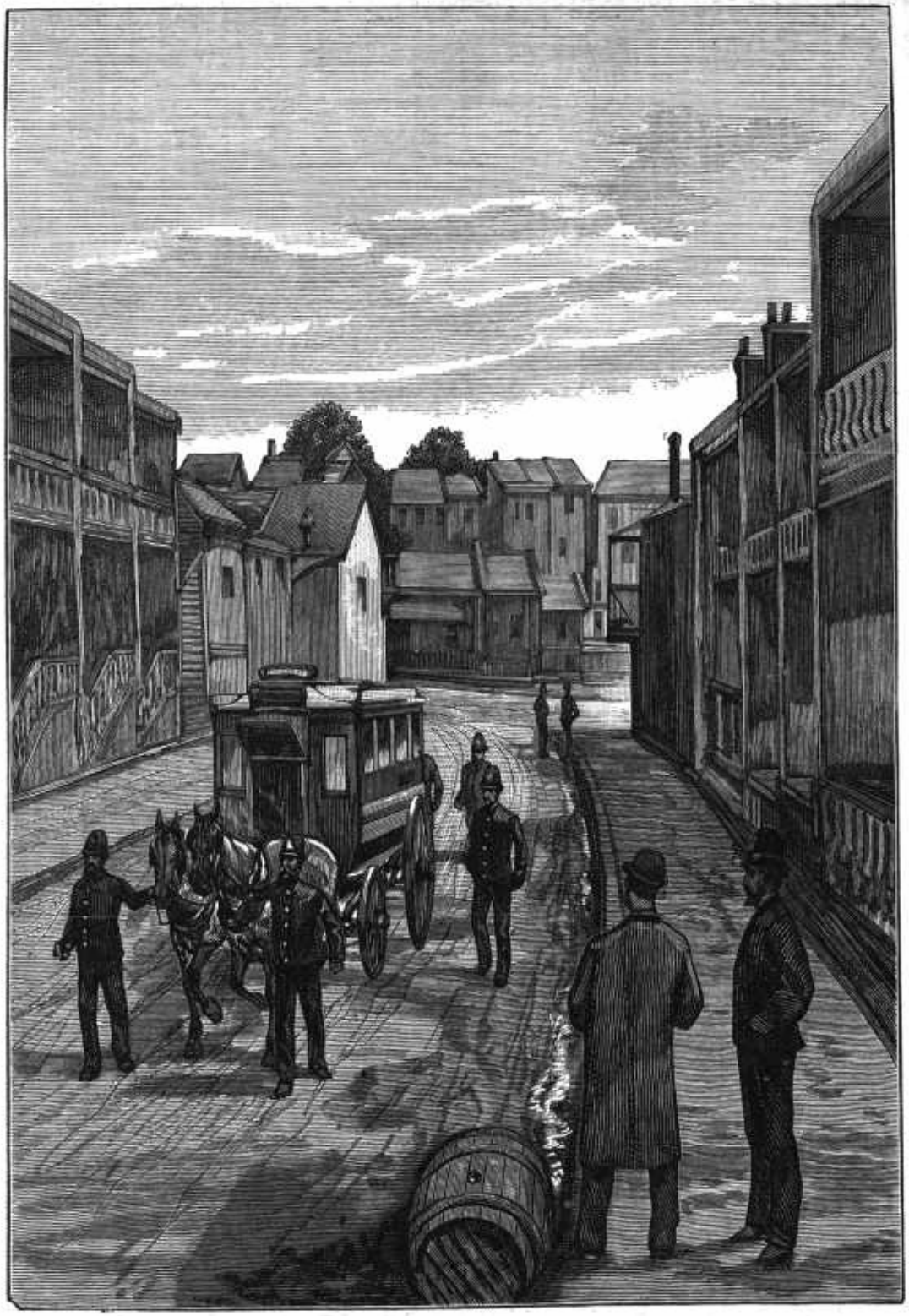


Figure 2: 'Small Pox Scare at Hamilton', wood engraving from the *Illustrated Australian News*, 4 October 1882.[98]

Vol 40, Part 1, pp. 878-882; 'Smallpox', *VV&P*, LA, 1869, Vol. 1, No.A5, pp. 459-477; A. Mault, 'Central Board of Health: Report for 1887', *TPP*, 1888, No. 102.

[97] Paul, *op. cit.*, p. 171.

[98] S. Bennett, 'Small Pox Scare at Hamilton', *Illustrated Australian News*, 4 October 1882, *SLV*, IAN04/10/82/144.



SMALL POX IN SYDNEY: POLICE PRECAUTIONS IN BELLEVUE-STREET.

Figure 3: 'Small Pox in Sydney: Police Precautions in Bellevue Street', wood engraving from *Australasian Sketcher*, 2 July 1881.[99]

[99] 'Small Pox in Sydney: Police Precautions in Bellevue Street', *Australasian Sketcher*, 2 July 1881, *SLV*, A/S02/07/81/221.

The methods used to manage smallpox outbreaks changed slightly over the course of the nineteenth century; although there were no new methods introduced, the relative emphases placed on each existing tool and the way in which each was implemented changed as experience with smallpox grew. Methods of quarantine, isolation and disinfection were refined and acquired important places within the public health arsenal, but throughout the entire period, vaccination remained a key focus in efforts against smallpox. Vaccination was the only specific preventive measure available to authorities, and was therefore central to nineteenth century efforts to prevent and control smallpox.

Vaccination involved introducing vaccine lymph into the body through scratches made in the skin, usually using a lancet or needle. Although more elaborate methods were invented, their use did not become generalised.[100] Vaccine lymph, while ostensibly the exudation from a cowpox vesicle on either a cow or vaccinated human and hence a clear fluid containing infective particles of cowpox, became in reality a far more complex commodity. The production of vaccine material in England was largely unregulated for most of the nineteenth century, and its development was a predominantly empirical process. Lymph for vaccination was sourced from cases of natural cowpox, cows inoculated with vaccine or smallpox, horses with 'grease' or horsepox, and various other permutations, as well as being further confused by serial arm-to-arm transfer in humans.

Despite this confusing mix of pox viruses, vaccination was effective, to some degree, when the lymph contained a virus that was related to smallpox, from the genus *Orthopoxvirus*. The strains of virus present in smallpox vaccine, known as vaccinia, were identified as distinct from cowpox virus in 1939 by Downie.[101] Vaccinia strains appear to have no natural reservoir, making its origin somewhat mysterious. Baxby investigated the identity of the early vaccines in great detail, and concluded that while their origin cannot be known for certain, some theories are more probable than others.[102] He argued that nineteenth-century vaccines probably had multiple origins, and that they were unlikely to have been derived from smallpox, as Razzell had previously argued, but

[100] See Appendix A.
[101] A.W. Downie, 'The Immunological Relationship of the Virus of Spontaneous Cowpox to Vaccinia Virus', *British Journal of Experimental Pathology*, 20 (1939): 158-176.
[102] D. Baxby, *Jenner's Smallpox Vaccine: the riddle of Vaccinia Virus and its origin* (London: Heinemann Educational Books, 1981), pp. 4, 118-133, 194-195.

were probably derived from cowpox, horsepox and some hybrids.[103] Further, the vaccines that survived to the twentieth century contained strains of virus that possessed none of the characteristics of smallpox or cowpox, were a distinct and homogeneous group, and produced consistent lesions for over one hundred years, with only a few exceptions. For these reasons, Baxby argued that vaccines produced from cowpox or hybrids were responsible for the intermittent cases of severe vaccines leading to their being discontinued, and that the virologically related strains that survived were produced from horsepox, which is no longer extant.

A great deal of the confusion surrounding vaccine lymph stemmed from scientific understandings of disease and how they changed over the nineteenth century, as well as the logistical difficulties inherent in maintaining and transporting active lymph over time and considerable distances. Lymph taken directly from a vaccination vesicle was easiest and arm-to-arm transmission dominated nineteenth-century vaccination. Vaccine matter could be transported as dried lymph on lancets, ivory points or cotton threads, or between glass plates, but it was known to lose efficacy over time and to be adversely affected by heat and so arm-to-arm transmission was generally considered preferable.

Cowpox was not present in Australian cattle, and so colonial vaccinators were initially reliant on international sources for lymph supplies. Vaccine lymph had arrived in Australia from Britain in 1804, only six years after Jenner published his famous observations. Governor King ordered that it be tested immediately, and three surgeons – Thomas Jamison, John Savage and John Harris – were responsible for performing the first vaccinations in Australia.[104] Maintaining supplies of lymph – which at this stage required unbroken lines of arm-to-arm vaccination – was to prove a particular difficulty for the colonies, and this early supply was clearly exhausted within a short time, because it needed to be reintroduced in 1805 and supplies were distributed among the colonies.[105]

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[103] P. Razzell, *Edward Jenner's Cowpox Vaccine: the history of a medical myth* (Firle: Caliban, 1977).
[104] *Sydney Gazette and New South Wales Advertiser*, 12 May 1804, pp. 3-4; 20 May 1804, p. 4, c. a; 3 June 1804, p. 1, c. c, p. 4, c. a; 1 July, 1804, p. 3, c. a; G.L. Mullins, 'A Brief History of Smallpox and Vaccination in New South Wales, from the Foundation of the Colony to the Present Day', *AMG* (December 21, 1896), pp. 502-503; V. Parsons, 'Jamison, Thomas (1753?-1811)', *ADB*, Vol. 2 (Melbourne: Melbourne University Press, 1967), pp. 12-13; B.H. Fletcher, 'Harris, John (1754-1838)', *ADB*, Vol. 1 (Melbourne: Melbourne University Press, 1966), pp. 519-520; V. Parsons, 'Savage, John (1770-)', *ADB*, Vol. 2 (Melbourne: Melbourne University Press, 1967), p. 419.
[105] *Ibid.*, (February 20, 1897), p. 75.

The large number of vaccinations performed at this time in New South Wales was almost entirely due to the efforts of Jamison, who used considerable powers of persuasion to encourage parents to present their children for vaccination, as they were reluctant to do so otherwise. Opposition at this time centred on concerns over pain, danger and the possibility of permanent blemishing, probably because the general public believed it to be similar to the previous method of inoculation with smallpox.[106] Vaccination was repeatedly described by authorities as a 'blessing' or 'inestimable blessing', and all were encouraged to avail themselves of it.[107] The relative freedom from smallpox enjoyed by New South Wales induced a nonchalant attitude in the population at large.

Similarly, in the colony of Van Diemen's Land, the authorities demonstrated enthusiasm for establishing vaccination, but found that the public did not view the introduction of smallpox as sufficiently likely to induce them to vaccinate as a precaution. Medical men thus tended to stress the 'dreadful ravages of the small-pox, the most loathsome of all diseases' as a means of encouraging vaccination.[108] Vaccine lymph first arrived in Van Diemen's Land on 9 November, 1805, aboard the H.M.S. Buffalo and although several children were vaccinated using this lymph, the vaccine was almost certainly not kept up through lack of children.[109] As in New South Wales, the authorities approved of vaccination in principle, but no legal changes were made to ensure its widespread adoption, resulting in sporadic efforts and the need for new lymph each time because of broken lines of vaccination. John Clarke, the Deputy Inspector of the Medical Department, established cowpox in Hobart in 1841 and lobbied the government to encourage vaccination.[110] No legislative change came out of this and, while it is clear that vaccination was made available to Van Diemonians at various points prior to 1853, the vast majority of vaccinated people in that colony would have been vaccinated in England or elsewhere, prior to arrival in the colony.

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[106] *Ibid.*, p. 77.
[107] *Ibid.*, (December 21, 1896), p. 503; (February 20, 1897), p. 75, 77; (August 20, 1897), p. 376; *Sydney Gazette and New South Wales Advertiser*, 14 October 1804, p. 2, c. a-b, p. 3, c. c.
[108] J. Scott cited in Cumpston, (1914), *op. cit.*, p. 140.
[109] *Historical Records of Australia*, Series III, Vol. 1, (Sydney: Library Committee of the Commonwealth Parliament, 1920), p. 346.
[110] W.G. Rimmer, *Portrait of a Hospital: the Royal Hobart* (Hobart: Royal Hobart Hospital, 1981), p. 53.

Van Diemen's Land and Victoria both passed Compulsory Vaccination Acts, in 1853 and 1854 respectively, motivated by the contemporaneous English Act and by the presence of smallpox in Sydney creating pressure for vaccination in the colonies. Interestingly, New South Wales did not pass a Compulsory Vaccination Act at this, or at any later, stage. It did, however, possess a Vaccine Institute, established in 1847 and capable of maintaining supplies of lymph. In this way, vaccination was made available to the people of New South Wales, but not thrust upon them. State authorities of the 1850s were optimistic about its potential. Arthur Savage, Health Officer for Port Jackson, demonstrated his faith in the benefits of vaccination, stating that, 'it is satisfactory to believe, that through its means many of our fellow creatures may be protected from much disease and suffering.'[111] Similarly confident, the Select Committee charged with investigating vaccination in Tasmania in 1853 believed 'it to be unnecessary to do more than to awaken the attention of the adult community to the extreme importance of taking steps which will obviously be so conducive to their own personal safety.'[112] Authorities at this time saw only positives in vaccination and did not anticipate any serious opposition from the public.

Acts amending the Compulsory Vaccination Acts were passed in 1865, 1874, 1889, 1890, 1915 and 1919 in Victoria, and in 1881, 1882, and 1898 in Tasmania.[113] The legislation is summarised in Table 2 for Victoria and Table 3 for Tasmania. While the basic provisions tended to remain constant over time, amendments reflected areas of ambiguity and difficulties encountered in the operation of the Act. Vaccination was ostensibly compulsory in these two colonies, and voluntary in New South Wales for most of the second half of the nineteenth century. Following the Final Report of the Imperial Royal Commission into Vaccination and the consequent amendment to the English Act, provision for conscientious objection was introduced in Tasmania in 1898. In Victoria, however, compulsory vaccination continued to be enforced without an equivalent clause until 1919. The implementation of vaccination in the Australian colonies was subjected to numerous debates and controversies, which were both the result of, and contributors to, the development of vaccination technology, administration and legislation.

[111] A. Savage, 'Health Officer', *NSWV&P*, LC, 1852, Vol. 1, p. 1161.
[112] W. Champ, 'Small-pox. Report from the Select Committee appointed to take into consideration His Excellency's Message, No. 22', *TPP*, 1853, No. 77.
[113] This legislation, or lack of in the case of New South Wales, is examined in greater detail in Part Two.

Table 2: Legislation relating to compulsory vaccination in Victoria, 1853-1920.

Year	Title	Major Provisions
1854	Compulsory Vaccination Act (18 Vict. No. 4)	Colony to be divided into districts and places appointed for vaccination; Governor in Council to appoint officers for vaccination; parents and guardians to cause their children born after 1 January 1850 to be vaccinated; children to be inspected on eighth day after operation; certificates of successful vaccination, unfitness for vaccination or insusceptibility to vaccination to be given by medical practitioner to parents and Registrar-General; no fees to be charged to parents, vaccinators to be remunerated by Parliament; Registars to keep vaccination registers and to notify parents of the requirement of vaccination; inoculation with smallpox illegal; proceedings to be had before two justices; first fine for non-compliance between 10 and 40s., subsequent fines at the discretion of the magistrate up to a total of £5.
1865	Public Health Act (28 Vict. No. 264)	As above.
1874	Compulsory Vaccination Act (38 Vict. No. 501)	As above, except applied to children born after 1 January 1875, plus: Governor in Council may make regulations and fix fees; unfitness certificates in force for two months, but successive certificates possible; medical practitioners who were not Public Vaccinators could vaccinate, but then parent to transmit certificate to Registrar; successive fines to double each time to a maximum of £5; Registrars to forward all cases of non-compliance to police, police to cause proceedings to be taken against persons in default; illegal to sign false certificates; cases of smallpox to be reported to the Board of Health; revaccination of persons on smallpox affected ships mandatory.
1889	Public Health Act (53 Vict. No. 1044)	As above.
1890	Health Act (54 Vict. No. 1098)	As above, plus: certificate of a duly qualified medical practitioner that a child has been successfully vaccinated, or is insusceptible, is sufficient, even if operation not performed by a public vaccinator or duly qualified medical practitioner.
1915	Health Act (6 Geo. V No. 2665)	As above, plus: notices to parents had to be very precise in information and wording; in the absence of evidence of authority, a wife is not the agent of her husband to receive a notice requiring him to have a child vaccinated.
1919	Health Act (10 Geo. V No. 3041)	As above, plus: no parent is liable to any penalty if a statutory declaration of conscientious objection is made within four months of birth and transmitted to the registrar within seven days of being made.

Table 3: Legislation relating to compulsory vaccination in Tasmania, 1853-1905.

Year	Title	Major Provisions
1853	Compulsory Vaccination Act (17 Vict. No. 20)	From 1 April 1854, parents of children aged 6 months to 14 years and not vaccinated liable to a penalty not exceeding £5; opinion of a medical practitioner that a child is not vaccinated sufficient *prima facie* evidence.
1881	Compulsory Vaccination Act (45 Vict. No. 2)	Vaccinators to be appointed for each district, to be paid 5s. per successful vaccination by Parliament, to keep a register of vaccinations; all people not previously vaccinated to be vaccinated by a medical practitioner within two months and all children to be vaccinated within six months of birth, or be fined up to £5; 20s. penalty for preventing a medical practitioner from taking lymph from a vaccinated child; medical practitioner to certify successful vaccination, unfitness for or insusceptibility to vaccination and certificates to be transmitted to the Registrar of the district by both medical practitioner and parent; Registrars to keep registers of vaccinations; inoculation with smallpox illegal.
1882	Compulsory Vaccination Act (46 Vict. No. 19)	As above, except: vaccinator to give certificate to parent of child and to transmit duplicate to Registrar, or to give certificate to vaccinated person if over 14 years of age and to retain duplicate; Deputy Registrars to supply vaccinators with quarterly returns of births and deaths; vaccinators to report breaches of the Act to Superintendent of Police.
1898	Vaccination Act (62 Vict. No. 9)	All medical practitioners to be vaccinators unless they object, to vaccinate gratuitously and to be remunerated by the Parliament; vaccinators to keep a register of vaccinations; parents to cause children to be vaccinated within 12 months of birth or to complete a statutory declaration of conscientious objection to vaccination, or be liable to a penalty of up to £5; calf lymph to be used if demanded; Registrar to supply Central Board of Health with quarterly returns of births and deaths; eruptive diseases to be reported by the occupier of the house in which it presents; persons arriving on board vessels in which smallpox has existed to be vaccinated or revaccinated.

A source of much medical debate was the length of time for which vaccination provided protection against smallpox. Jenner had confidently claimed life-long immunity with vaccination, the same protection as having survived smallpox itself. However, it rapidly became clear that some of those who had undergone vaccination were later contracting smallpox. Jenner and some of his supporters claimed that this resulted from imperfectly performed vaccination, or the use of 'spurious' lymph. A lack of understanding of the principles underpinning vaccination led to a great deal of disagreement over the correct methods of procuring lymph, administering it and maintaining supplies. Jenner made a

distinction between 'true' and 'spurious' cowpox, and argued that only the former would serve to protect from smallpox.[114] While critics somewhat justifiably accused Jenner of using 'spurious' lymph as a devious excuse for cowpox's failures, he was in fact vindicated in his belief that other bovine infections transmissible to humans would not work, that lymph poorly stored would degenerate and fail to work, and that lymph taken from an advanced lesion would be ineffective.[115]

The need for revaccination was only gradually acknowledged in the English-speaking world, gaining prominence in both Britain and the Australian colonies during the 1863 English epidemic.[116] Although the medical profession were initially concerned about the negative side-effects of adult revaccination – the high profile case of Sir Culling Eardley's death following revaccination, for example, was widely discussed among colonial authorities – it had become a standard recommendation by the 1880s for revaccination seven to ten years after the initial operation, although most medical men stopped short of recommending compulsory revaccination.[117] While revaccination of contacts was sometimes enforced during outbreaks, general revaccination was never made compulsory in the colonies. By the end of the nineteenth century, however, it began to be recognised that even revaccination did not perfectly protect against smallpox, but rather substantially decreased the likelihood of contracting smallpox and modified any subsequent case to a milder than usual instance.

Maintaining supplies of lymph and the related issue of lymph storage were two of the greatest problems facing the early vaccinators. Vaccine matter stored as dried lymph on lancets, ivory points or cotton threads, or between glass plates lost efficacy over time and was adversely affected by heat, and so arm-to-arm transmission was the preferred means of maintaining supplies, from a pragmatic perspective, for most of the nineteenth century. Over time, concerns began to be raised in the colonies about the safety and efficacy of the lymph produced in this way, including its deterioration through repeated

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[114] E. Jenner, *Further Observations on the Variolae Vaccinae* (London: Sampson Low, 1799).
[115] From a modern perspective, this was because of the effects of the host defence mechanism and bacterial contamination. Baxby, (1981), *op. cit.*, pp. 134-149.
[116] 'Medical Society of Victoria', *AMJ*, 1863 (8), pp. 280-283.
[117] 'Smallpox in Victoria', *AMJ*, 1869 (14), pp. 86-90; 'Vaccination', *VPD*, LA, 1881, Vol. 37, p. 229; *The Australasian Sanitary Conference of Sydney, NSW, 1884, Report, Minutes of Proceedings and Appendix,* (Sydney: Government Printer, 1884).

transmission from arm-to-arm, and the potential for secondary diseases, such as syphilis and erysipelas, to be transferred from the vaccinifer to the next patient along with the vaccine matter.[118] Peaking in the early 1880s, these concerns led to a general shift away from humanised lymph and towards calf lymph, which was lymph obtained directly from a calf that had been inoculated with vaccine.

Calf lymph was produced in Tasmania and Victoria from 1882, after several attempts to import it from Britain failed as the lymph lost its potency during the voyage.[119] Tasmanian production faltered soon after, and Victoria supplied both Tasmania and New South Wales with calf lymph from the quantities that it produced at its Government-run Model Farm, situated in the north-western corner of Royal Park in Melbourne. Cowpox was not found naturally among Australian cattle, so lymph was obtained from France, Belgium and Italy, then propagated through Australian cows.[120] The time and temperature fluctuations in transit resulted in a significant proportion of this lymph was ineffective when it arrived in the neighbouring colonies. The 1887 Launceston outbreak provided sufficient stimulus for local production to begin again in Tasmania, but although the medical men of New South Wales pressed for the establishment of a calf lymph depot on numerous occasions, they continued to rely on supplies from Victoria and, later, New Zealand.[121] The storage of calf lymph proved to be as problematic as humanised lymph. Furthermore, there remained concerns about secondary diseases, this time of a cross-species nature, in the transfer of matter between cows and humans.

These concerns were addressed to some extent by the introduction and increased use of glycerinated calf lymph. Glycerol, used as a suspension for vaccine lymph for its

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[118] 'The Regeneration of Vaccination', *AMJ*, 1860 (5), pp. 297-299; 'Small Pox', *VPD*, LA, 1880-81, Vol. 36, p. 2874; 'Vaccination. Memorandum by the Central Board of Health on the advantages of vaccination, the alleged danger of transmitting disease, etc.', *VPP*, 1880-81, Vol. 4, No. 96, pp. 1152; 'Vaccination Report for 1882', *NSWLCJ*, Vol. 36, 1883-4, Part 1, p. 1287; 'Compulsory Vaccination', *NSWLCJ*, 1881, Part 2, pp. 217-271; G. Turnley, 'Vaccination: Report for 1880', *TPP*, 1881, No. 38, p. 3.

[119] G. Turnley, 'Vaccination: Report for 1882', *TPP*, 1883, No. 24; 'Vaccination', *VPD*, LC, 1882, Vol. 39, p. 629; 'Vaccination', *VPD*, LA, 1882, Vol. 40, p. 1058; 'Vaccination', *VPD*, LA, 1882, Vol. 41, pp. 2788-9; 'Vaccination', *VPD*, LA, 1882, Vol. 41, pp. 2876-7; 'Vaccination', *VPD*, LA, 1882, Vol. 42, p. 284.

[120] O. Penfold, *Calf-Lymph Culture and Vaccination*, (Melbourne: Stilwell and Co., 1887).

[121] C.E. Barnard, 'Vaccination: Report for 1887', *TPP*, 1888, No. 24, p. 3; A. Cumming (ed.), *Animal Vaccination: being information supplied by the Government of Bombay to that of New South Wales, on the subject of animal lymph and vaccination, and embodying the Bombay Act No. 1 of 1877, for the Compulsory Vaccination of children in the City of Bombay*, (Sydney: Government Printer, 1882); H.N. MacLaurin, 'Vaccination', *NSWLCJ*, Vol. 42, 1887, Part 3, pp. 563-4; J. Ashburton Thompson, 'Vaccination', *NSWLCJ*, Vol. 55, 1896, Part 1, p. 721.

usefulness as a bulking agent and preservative from the mid-nineteenth century, was shown to have an anti-bacterial effect by Copeman in 1891.[122] Glycerinated calf lymph became increasingly popular towards the close of the nineteenth century, and after the Royal Commission advocated its use in its final report, became the standard vaccine preparation until a freeze-drying technique was developed between 1919 and the introduction of Collier's standard method in the early 1950s.[123] These developments in vaccination technology occurred in response to both pressures from the public and scientific advances.

Part of the reason for the many persistent debates surrounding vaccination was the degree of uncertainty surrounding the nature of lymph, how it worked and why it sometimes failed to work. Although Jenner and his contemporaries used the word virus to describe the cause of the diseases smallpox and cowpox, they meant it to refer to particular infective poisons, of which they had little understanding.[124] Public scepticism over the utility of introducing one form of poison into the body to prevent the attack of another is entirely understandable from this perspective. It was, however, recognised that one case of smallpox would protect the sufferer from further cases, if they survived. The viruses, or poisons, that caused cowpox and smallpox when introduced into the human body were thought to be so similar that they were able to produce the same immunity against each other. Before 1880, this cross-immunity was frequently described in terms of seed-and-soil or fire metaphors, that explained the process through exhaustion or depletion of essential nutrition.[125] After 1880, and with the rise of bacteriology, direct analogies were drawn between smallpox vaccination and the new vaccines, produced by Pasteur and Haffkine, awarding it new scientific credibility.[126] Yet at the same time, the fact that the 'germs' of smallpox and cowpox had not been identified left the medical community

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[122] A.S. MacNalty and J. Craigie, 'Sydney Arthur Monckton Copeman, 1862-1947', *Obituary Notices of Fellows of the Royal Society* 6(17) (1948), pp. 39-40.
[123] Fenner *et al.*, *op. cit.*, pp. 266-267, 282-288; D. Baxby, 'Development of a stable smallpox vaccine: an appreciation by Derrick Baxby', *Epidemiology and Infection* 133(2005): S25-27.
[124] Baxby, *op. cit.*, pp. 118-133. Miller argued that experience with variolation over the eighteenth century contributed to a shift from the material origin of disease being located inside to body to an external origin, and that this was associated with increasing belief, commonly held by the mid-nineteenth century, that smallpox was a specific disease attributable to a specific material cause. G. Miller, *The Adoption of Inoculation for Smallpox in England and France* (Philadelphia: University of Pennsylvania Press, 1957), pp. 241-266.
[125] M. Worboys, *Spreading Germs: disease theories and medical practice in Britain, 1865-1900* (Cambridge: Cambridge University Press, 2000), pp. 117-124.
[126] *Ibid.*, pp. 240-247.

open to concerns about the relationship between the two diseases, the possibility of spontaneous mutation from one to the other and the nature of vaccine lymph. Medical developments in the colonies were closely linked to those in Britain, and public discussion over these issues reflected English arguments while simultaneously demonstrating local originality and innovation, as will be seen in Chapter Four.[127]

Smallpox was not a major disease in the Australian colonies in terms of either morbidity or mortality. Authorities, however, remained ever mindful of the possibility of its introduction and were genuinely anxious about its potential impact if it were to become firmly established in the colonies. Present in ports around the world, smallpox threatened invasion from many of the countries the Australian colonies communicated with on a regular basis. That it failed to become established, they attributed to luck, dedicated individual health officials and the geographical benefits of living on relatively isolated islands. As travel times decreased and shipping became heavier, concerns about the ability of quarantine measures to prevent the introduction of smallpox grew. This fear was made more urgent by their view that it was theoretically possible to perfectly protect the population through the use of vaccination, and yet many remained unprotected. Therefore, although the number of smallpox cases in Australia during the nineteenth century seemed to belie the validity of the fears expressed by the health authorities, there were in fact good reasons for them to dread its introduction. On the other hand, elsewhere in the world, smallpox had been viewed as unexceptional because it was continually present – an attitude that was never attained in the colonies because of its unfamiliarity and its preventability.

The behaviour of health officials, politicians, medical representatives and the general public when faced with smallpox compared with their reactions to other, arguably more important, diseases boiled down to the difference in impact between epidemic versus endemic disease. An epidemic is difficult to define accurately because it is, in some ways, a matter of judgement.[128] However, it is usually distinguished by a greater than normal amount of illness or death caused by an infectious disease within a limited space

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[127] J. Morton, *Vaccination and its Evil Consequences, Cow-Pox and its Origin, Small-Pox, &c.*, (Parramatta, NSW: C.E. Fuller, 1875); D.K. Brown, *Small-Pox! A Treatise*, (Sydney: J.G. O'Connor, 1881).
[128] Bashford, (2004), *op. cit.*, p. 43.

and time, and closely associated with noticeable changes in public attitudes and actions. It is therefore almost by definition that incidences of epidemics caused public alarm. However, smallpox – an epidemic rather than endemic disease in the Australian colonies – had a greater impact than simply creating panic. The disturbance to public peace of mind, and the consequent economic and social dislocation, was so significant that outbreaks of smallpox provided the stimulus necessary for great leaps forward in the development of public health.

Why did smallpox, of all diseases, have such a significant impact on the development of colonial public health? In England, similar effects were achieved by cholera, suggesting that it was, to a large extent, the result of chance; that is, whichever disease happened to occur in the appropriate place at the critical time, coinciding with other important factors, would be the one responsible for catalysing public health advancement. Smallpox was the epidemic disease present at the appropriate time to provide the impetus for health reforms to occur in colonies that were otherwise ready for them. It needed, however, to satisfy two additional criteria. First, it invoked fear; it was highly infectious, its potential consequences were sufficiently severe and it was adequately unfamiliar to reliably create public panic. Secondly, it was generally viewed as an avoidable evil; it was not endemic to Australia, quarantine was reasonably – although not totally – effective against it, and vaccination provided a further barrier to its introduction. These additional qualities ensured that the general contemporary attitude towards smallpox was that it was undesirable, it could and should be avoided, and – crucially – it was the state's duty to achieve that end.

Safeguarding the public health was, however, no easy task. Given the perception of smallpox within the colonies in the nineteenth century, it is unsurprising that vaccination was initially viewed as a positive addition to the limited array of tools available for disease management. An assessment of the success of efforts to implement vaccination in New South Wales, Victoria and Tasmania is the subject of the next chapter.

2.3: The promise and progress of vaccination: an 'inestimable blessing'?[129]

Although favourably disposed towards vaccination in principle, the three colonies employed three markedly different approaches in implementing the operation. An obvious measure of their relative success in this endeavour is a comparison of the number of people vaccinated in each colony over time. The patterns exposed in a statistical analysis of colonial vaccination should also be able to suggest popular attitudes towards vaccination, and indicate which factors were influential in determining uptake. To these ends, then, this chapter will examine the quantitative evidence available regarding vaccination and its implementation in New South Wales, Victoria and Tasmania.

Statistical analysis has long formed an important part of debates surrounding smallpox and its preventive strategies. The establishment of variolation in England and France was, to a significant extent, attributable to the statistical studies of men such as John Arbuthnot, Thomas Nettleton, James Jurin, Alexander Monro Secundus, Daniel Bernoulli, Jean le Rond d'Alembert and Denis Diderot.[130] Despite these men encountering more difficulties than certainties in their mathematical pursuit of validity, their efforts were emulated throughout the nineteenth century by those on both sides of the vaccination debate, who sought to use figures to 'prove' either the worth or danger of the operation.[131] Alfred Russell Wallace, a prominent English anti-vaccinationist, stated

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[129] S. Scofield, *A Practical Treatise on Vaccinia, or Cow Pock* (New York: Southwick and Pelsue, 1810), and oft-repeated by supporters of vaccination.

[130] K. Pearson, *The History of Statistics in the 17th and 18th Centuries against the Changing Background of Intellectual, Scientific and Religious Thought*, E.S. Pearson (ed.), (London: Charles Griffin & Co., 1978), pp. 543-573; G. Miller, *The Adoption of Inoculation for Smallpox in England and France* (Philadelphia: University of Pennsylvania Press, 1957), pp. 111-123; R.H. Shryock, *The Development of Modern Medicine: an interpretation of the social and scientific factors involved* (New York: Alfred A. Knopf, 1947), pp. 135-150, 225-228.

[131] See, for example, A.J. Taylor, *Some Facts and Figures Relating to Vaccination, Illustrating Errors of the Anti-vaccinationists* (Hobart: Calder, Bowden & Co., 1891); Aesculapius Peripateticus, *Cancer – a result of vaccination*, with introduction and notes by Ernst Mëyer (Melbourne: J.C. Stephens, 1898); *Vaccination. Facts about small-pox and vaccination* (Melbourne: Government Printer, 1898); J.P. Ryan, *Small-Pox and Vaccination* (Melbourne: Government Printer, 1881); An M.P., *Compulsory Vaccination: weighed and found wanting. An array of Facts and Figures versus Fads and Follies* (Hobart: Propsting and Cockhead, 1888); *Why do Doctors Vaccinate? Common-place comments on a Surgeon's Assertions* (Hobart: Calder, Bowden & Co., n.d.[post-1883]); J.S.C. Elkington, *Vaccination and Commonsense*, (Hobart: Department of Public Health, 1903).

that 'the utility or otherwise of vaccination is purely a question of statistics', and Alfred Taylor, a pro-vaccinationist from Hobart, was 'prepared to agree with him in this if statistics are rightly used. But it is an easy thing to misuse statistics.'[132] Numerical representation of data was used extensively within the vaccination debate as a kind of rhetorical device to lend credibility and persuasiveness to arguments on all sides. Although statistical evidence possessed connotations of objectivity and truth, it was by no means a clear-cut relationship and there was widespread awareness of the potential for manipulation or misuse.

From a more general perspective, Miller has argued that the growing interest of the state in public health was at least partly the result of medical advances, such as variolation and then vaccination, in conjunction with the use of statistics for political purposes.[133] The combined perspectives of mercantilism and political arithmetic, as the nascent field of statistics was known, contributed to a formulation of the wealth of a country that incorporated the economic worth of the lives of citizens, making 'the preservation of life and the increase of population as important for the state as the increase and sale of goods.'[134] More specifically, medical statistics, in the form of arithmetical statements concerning causes of death and linked to data regarding baptisms and burials, began in England with John Graunt and William Petty in the seventeenth century, from whom a line can be drawn to the vital statistics of William Farr in the nineteenth century.[135] It was in this tradition that vaccination figures were collated in colonial Australia, as information about the health of the people was used for political purposes.

Statistical returns were compiled by each of the Colonial Secretary's Departments, and formed the basis of the reports made by the various medical positions associated with the governments, such as Superintendent of Vaccinations, Health Officer and Medical

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[132] A.J. Taylor, *Is it Good to be Vaccinated? Some reasons for answering the question in the affirmative* (Hobart: Tasmanian News Office, 1903), p. 1.
[133] Miller, *op. cit.*, pp. 273-4.
[134] *Ibid.*, p. 274; G. Rosen, 'Mercantilism and health policy in eighteenth-century France', *Medical History* 3 (1959): 259-277; M.J. Lewis, *The People's Health: public health in Australia, 1788-1950* (Westport, Connecticut: Praeger, 2003), pp. xvi-xvii, 3-4, 32. Modern statistics is the descendant of political arithmetic rather than statistics as it was known in the seventeenth century, which was more closely related to inventories. M.G. Kendall, 'Where shall the history of statistics begin?', in E.S. Pearson and M.G. Kendall (eds.), *Studies in the History of Statistics and Probability* (London: Griffin, 1970): 45-46.
[135] Major Greenwood, 'Medical statistics from Graunt to Farr', in E.S. Pearson and M.G. Kendall (eds.), *Studies in the History of Statistics and Probability* (London: Griffin, 1970): 47-120.

Adviser. These reports were rarely unaccompanied by analysis and interpretation of the figures they provided and could not be said to be unencumbered by a medical agenda. Nevertheless, the point of providing these statistics was, at least purportedly, to work from disinterested facts, which lent credibility to the conclusions of the Medical Officers as it situated their claims within the realm of the scientific method.

The figures produced as part of the administration of vaccination programs in the colonies formed an important part of early histories of smallpox and vaccination in Australia. Produced from the late nineteenth century onwards, these histories were usually produced by or for the medically affiliated, were frequently didactic in intent and presented an overwhelmingly positivist perspective of Jenner, his discovery and the progress of vaccination throughout the world and over time.[136] Late nineteenth- and early twentieth-century historians of vaccination, such as Mullins, Tidswell and Cumpston, used statistical evidence to evaluate the adoption of vaccination in the colonies, drawing on the annual reports of Chief Medical Officers, Boards of Health and other medical officials to the Parliaments. More recent histories have tended to accept Cumpston's figures and to focus on specific instances, generally a particular epidemic, rather than looking at wider patterns in public participation in vaccination initiatives.[137]

This chapter seeks to address this issue by re-evaluating the vaccination statistics for each colony between 1853 and 1903, comparing them to Cumpston's figures, and evaluating the effectiveness of government vaccination programs and overall community attitudes to the procedure. Similar projects have been undertaken using English and

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[136] F. Tidswell, *A Brief Sketch of the History of Small-Pox and Vaccination in New South Wales* (Sydney: Government Printer, 1899); J.B. Cleland, *Some Diseases Peculiar to, or of Interest in, Australia* (reprint from the *Journal of the University of Sydney Medical Society*, 1912); *The History and Effects of Vaccination, with illustrations of cases of smallpox which occurred in Sydney from the Edinburgh Review, April, 1899*, (Sydney: Government Printer, 1901 and 1913); R. Jones, *Small Pox & Vaccination* (Melbourne: Board of Public Health, n.d.); and J.H.L. Cumpston, *The History of Smallpox in Australia, 1788-1908* (Canberra: Government Printer, 1914).

[137] A. Bashford, 'Epidemic and Governmentality: smallpox in Sydney, 1881', *Critical Public Health* 9(4) (1999): 301-316; A. Mayne, ''The dreadful scourge': responses to smallpox in Sydney and Melbourne, 1881-2', in R. MacLeod and M. Lewis (eds.), *Disease, Medicine, and Empire: perspectives on western medicine and the experience of European expansion* (London: Routledge, 1988): 219-241; P.H. Curson, *Times of Crisis: epidemics in Sydney, 1788-1900* (Sydney: Sydney University Press, 1985), pp.43-44; M. Roe, 'Smallpox in Launceston, 1887 and 1903', *Tasmanian Historical Research Association Papers and Proceedings* 23(1976): 111-148.

Welsh data by Williams and Clark.[138] Williams concentrated on three points: the extent of infant vaccination, the timing and spread of resistance to vaccination, and the demographic effects of the vaccination coverage.[139] She found that in the years before compulsion, vaccination rates reflected the threat of smallpox; it was markedly higher in urban areas than in agricultural regions. After the 1853 Act, all areas improved their rates, even without an effective monitoring system. Interestingly, however, once the compulsory provisions were tightened through further legislation, the north-south trend was reversed, with agricultural areas becoming better vaccinated than the manufacturing regions.

Williams argued that her figures closely aligned with MacLeod's analysis, with infant vaccination rates reflecting popular opinion.[140] She stressed that rates were at their highest during the 1870s, despite growing anti-vaccination feeling, because of the strengthened legislation, and that it was only in the 1880s that resistance really started, with rates falling all over the country, not just in London and other urban centres. Because the decision to prosecute non-compliance lay with local magistrates, severity of punishment varied. Williams noted a negative association between prosecutions and vaccinations, in that areas with low rates often were not vigorous in chasing offenders, in contrast to areas with high rates.[141] These inequalities were exploited by anti-vaccinationists. However, smallpox incidence dropped markedly, clearly demonstrating the effectiveness of vaccination, particularly among infants, but was less pronounced among older people because of a lack of emphasis on re-vaccination.

While Williams used the records of central authorities for her analysis, Clark focused more narrowly on local records to investigate similar themes. Clark used the vaccination registers of Hollingbourne to provide a statistical analysis of vaccination, class, occupation and administration as part of a case study into vaccination legislation in rural

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[138] N. Williams, 'The implementation of compulsory health legislation: infant smallpox vaccination in England and Wales, 1840-1890', *Journal of Historical Geography 20*(4) (1994): 396-412; A. Clark, 'Compliance with infant smallpox vaccination legislation in nineteenth-century rural England: Hollingbourne, 1876-88', *Social History of Medicine* 17(2) (2004): 175-198.
[139] *Ibid.*
[140] *Ibid.*, p. 403; R. M. MacLeod, 'Law, medicine and public opinion: the resistance to compulsory health legislation 1870-1907', *Public Law*, Summer 1967: 107-28, 189-211.
[141] Williams, *op. cit.*, p. 404. This association was not statistically significant, and so can be more accurately described as a trend.

England.[142] Her conclusions highlighted the importance of administrative factors in maintaining high levels of compliance, and noted that the labouring classes were more compliant than professional and trade groups for the period 1876-88, but that domestic servants tended to imitate their employers' stance on vaccination compliance. Clark identified only one significant limitation of her sources, in that vaccination was recorded in the district of the child's birth, not residence, so that family migration negatively impacted upon the validity of some compliance figures. The close political, economic and cultural ties between England and the colonies suggest that many of the themes identified by Williams and Clark will also be relevant to the Australian experience.

The statistics collected by Cumpston, Mullins and Tidswell have their origins in the returns of the public vaccinators in each of the colonies for each year and are therefore reasonably reliable. Nevertheless, a collation of the figures available in the Parliamentary Papers of the various colonies reveals discrepancies with the figures presented by the early medical historians.[143] Although all three early histories match, they do not agree with the numbers presented in Table 4. As Cumpston, Mullins and Tidswell were investigating smallpox and its possibilities in relation to Australia, it was logical for them to record only those vaccinations deemed successful. By the standards of the day, that meant the appearance of vesicles by the eighth day. The number of vesicles deemed necessary varied between doctors; the preferred number was four or more, but in practice, one perfect vesicle was generally considered sufficient. This, on the other hand, is an investigation into popular reactions to vaccination, and so the number of people who submitted to the procedure is a more useful indicator for these purposes. Hence, it is unsurprising that most of the earlier results are slightly lower.[144] Also, the distinction between total successful vaccinations and the overall total is sometimes not made, or could not be made if families did not return on the eighth day,

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[142] A. Clark, 'Compliance with infant smallpox vaccination legislation in nineteenth-century rural England: Hollingbourne, 1876-88', *Social History of Medicine* 17(2) (2004): 175-198. Some District Vaccination Registers for Victoria are extant, and cover a longer period than Clark's Hollingbourne records. However, they do not provide the same level of detail, lacking the social class and occupational data that is vital to Clark's study, and therefore precludes comparison. Similarly, the Tasmanian records provide district figures for only two years, 1863-4, and omit class or occupational information.

[143] For comparative figures, see Cumpston, *op. cit.*, (1914), pp. 130-1; Mullins, *op. cit.*, (April 10, 1898) p. 148; Tidswell, *op. cit.*, p. 6.

[144] For those years in which there are larger discrepancies, I have taken care to search the parliamentary papers thoroughly, and am confident that they reflect Cumpston's errors, not mine.

and so seeking the overall total is generally more achievable. Similarly, in years of panic, revaccinations were sometimes performed, and these have been included in the totals, but were probably omitted by Cumpston.

Even after these discrepancies are accounted for, the figures should not be taken as the true number of vaccinations during this period because the collation method used by administrators was far from perfect. Often the figure given is the number of vaccinations performed by Public Vaccinators and does not include those performed by private practitioners, unless specifically provided by them to the Vaccination Superintendent. As Dr Edward Swarbreck-Hall, Superintendent of Public Vaccinations for Tasmania, wrote in the 1864 Statistical Return,

> Many of the above Returns [from private medical practitioners] were only for one or two quarters. 33 of the Medical Practitioners made no response to the Circular, and yet, from the Lymph supplied by me, I must suppose that more private vaccinations than those returned in the above Table were performed.[145]

That is, the statistical returns were dependent on the cooperation of all medical practitioners in Tasmania, meaning that the true figures are probably slightly higher than those recorded. Nevertheless, it is likely that the difference was proportionate over time, and therefore does not detract from the usefulness of the statistics. Rather, they are representative of trends of attitudes towards vaccination.

[145] E. Swarbreck-Hall in *Statistical Returns of Tasmania*, (Hobart: Parliament of Tasmania,1864), p. 99.

Table 4: Number of vaccinations recorded in Victoria, New South Wales and Tasmania between 1853 and 1903.

Year	Victoria	New South Wales	Tasmania
1853		2885	
1854		1842	
1855		954	
1856		1523	
1857		3640	
1858		1174	
1859		1580	
1860		1604	
1861		2520	
1862		3254	
1863		13788	2829
1864		11069	8034
1865		8820	421
1866		7849	547
1867		7110	8
1868		11656	74
1869		22228	937
1870		7464	0
1871		6803	0
1872		16007	146
1873	22376	3316	0
1874	22291	5024	0
1875	21927	3323	0
1876	21504	4545	0
1877	22453	17251	9558
1878	21778	3570	805
1879	22100	5638	274
1880	19132	5159	412
1881	27245	60339	12870
1882	20081	2188	1718
1883	18536	896	2326
1884	21317	7199	1648
1885	20818	2230	1707
1886	21506	1763	1520
1887	25855	3261	10186
1888	23071	2187	2329
1889	25331	2445	1187
1890	25502	2238	137
1891	25538	1582	6
1892	26904	4049	173
1893	25397	2555	99
1894	25441	2013	19
1895	23429	2475	83
1896	24343	951	68
1897	21596	253	81
1898	14665	747	219
1899	16630	1133	120
1900	20695	911	1164
1901	19243	2081	1405
1902	16117	896	3296
1903	20935	605	25621

These figures begin to give an impression of how widespread the practice of vaccination was in each of the colonies, although they are subject to several qualifications. No comprehensive records have been found for vaccinations performed in Victoria prior to 1873.[146] The figure for 1895 does not appear in the Victorian Parliamentary Papers published in 1896, and as the figures for the years either side match Cumpston's, his figure is used for the intervening year. Vaccination continued to be performed extensively in Victoria until 1920, when the legislation was amended to give parents the option of opting out of compulsory vaccination by completing a statutory declaration that they conscientiously believed that vaccination would be prejudicial to the health of their child. From 1920 to 1932, most parents chose to complete the statutory declaration. During the late 1920s and early '30s, the Act fell into abeyance. The figures available for New South Wales are remarkably complete, given that it was the one colony that did not possess compulsory vaccination legislation, and indicates that it was not vaccination that was opposed to in this colony, but rather compulsion. Vaccination was made available by the government, but uptake was dictated by personal choice and the influence of individual medical men. In Tasmania, vaccination was ostensibly compulsory from 1853, but unlike Victoria little effort was put into enforcing compulsion. Cumpston does not give figures for Tasmania prior to 1877 because later reports to the Parliament indicate that vaccination was entirely suspended between 1868 and 1877, and he could find no figures for before 1868.[147] However, the *Statistical Returns of Tasmania*, compiled from official records from the Colonial Secretary's Office, provide vaccination totals from 1863.

Raw numbers of vaccinations, while useful in their own way, are not particularly meaningful, particularly for comparative purposes. In order to give these figures some context, Medical Officers and Vaccination Superintendents would often convert them to vaccinations per hundred births. This measure was chosen because vaccination was supposed to be an infant procedure, ideally to be performed within the first six months of life. Of course, it was not restricted to those in the first year and so it was possible to have more than one hundred vaccinations per hundred births. Indeed, this occurred on several occasions, especially in New South Wales and Tasmania,

[146] Some Vaccination Registers by District for the pre-1873 period are extant, demonstrating that public vaccination was extensively practised in Victoria between 1857 and 1872. However, they are incomplete and official totals (such as those used for post-1873) are unavailable. Nevertheless, these Registers indicate that a relatively organised system of compulsory vaccination was used before 1873, that it was enforced by the Police Department working in conjunction with the Registrar-General's Office, and numbers are likely to have been reasonably consistent with the known figures subsequent to that time. 'Registers of Vaccinations', PROV, VPRS3654/P0000/1-5.
[147] Cumpston (1914), *op. cit.*, p. 132.

where there was a substantial backlog of unvaccinated people, and especially during years when there was either smallpox present in the colonies or an increased threat that it would establish itself. Nevertheless, it is a more useful measure of attitudes towards vaccination than a per capita conversion because a significant but unquantifiable proportion of the population would either have had smallpox or been vaccinated in Britain or elsewhere, rendering them ineligible or at least considerably less likely to present for vaccination. The introduction of this additional variable would affect the figures by tending to under-represent popular engagement with vaccination and by affecting each of the colonies to a different extent. It would therefore imperfectly reflect community attitudes.

By using vaccinations per hundred births, differences in population size, both over time and between colonies, are taken into account and allow for reasonable comparison and analysis, and the results are presented numerically in Table 5 and graphically in Appendix B.

Table 5: Vaccinations per hundred births in Victoria, New South Wales, and Tasmania between 1861 and 1903.[148]

Year	Victoria	New South Wales	Tasmania
1861		17.17	
1862		21.08	
1863		87.94	24.36
1864		65.57	265.06
1865		51.03	13.72
1866		46.31	19.5
1867		38.82	0.27
1868		63.06	2.47
1869		115.51	32.77
1870		37.99	0
1871		33.77	0
1872		79.05	4.85
1873	79.63	15.46	0
1874	83.18	22.65	0
1875	82.06	14.75	0
1876	80.33	19.51	0
1877	86.32	72.33	297.66
1878	81.93	14.1	22.99
1879	82.34	20.93	7.69
1880	73.17	18.32	11.02
1881	100.37	204.47	328.48
1882	75.08	7.37	42.49
1883	67.3	2.86	54.61
1884	73.89	21.21	36
1885	69.45	6.36	36.81
1886	69.77	4.86	32.85
1887	78.25	8.76	215.08
1888	66.87	5.68	48.75
1889	69.67	6.57	24.95
1890	67.86	6.98	2.85
1891	66.32	4	0.12
1892	71.12	9.96	3.48
1893	69.48	6.35	1.9
1894	74.26	5.17	0.39
1895	69.51	6.39	1.73
1896	75.65	2.6	1.48
1897	68.97	0.68	1.73
1898	48.6	2.06	4.78
1899	53.63	3.1	2.57
1900	67.24	2.45	23.93
1901	62.06	5.5	28.5
1902	52.91	2.37	64.82
1903	70.8	1.68	484.15

[148] Population figures for New South Wales are unavailable prior to 1861, making conversion to vaccinations per hundred births impossible.

In order to examine the significance of these figures more closely, it will be necessary to direct attention to each of the colonies in turn. This will allow the numbers to be set against the three distinctly different narratives for comparative analysis.

2.3.1: Victoria

The most notable feature of the vaccination statistics for the colony of Victoria is their remarkable consistency over a substantial period of time (see Figure 4). The mean number of vaccinations per hundred births between 1873 and 1903 is 72.19, with a standard deviation of 10.25 and average deviation of 7.47. The minimum rate was 48.6 in 1898, and the maximum was 100.4 attained in 1881. Although initial success, in the period just following the introduction of the Compulsory Vaccination Act 1854, was probably due to a large extent to a generally positive attitude towards vaccination within the general public, its continued success was more a function of the effective administration of the Act.

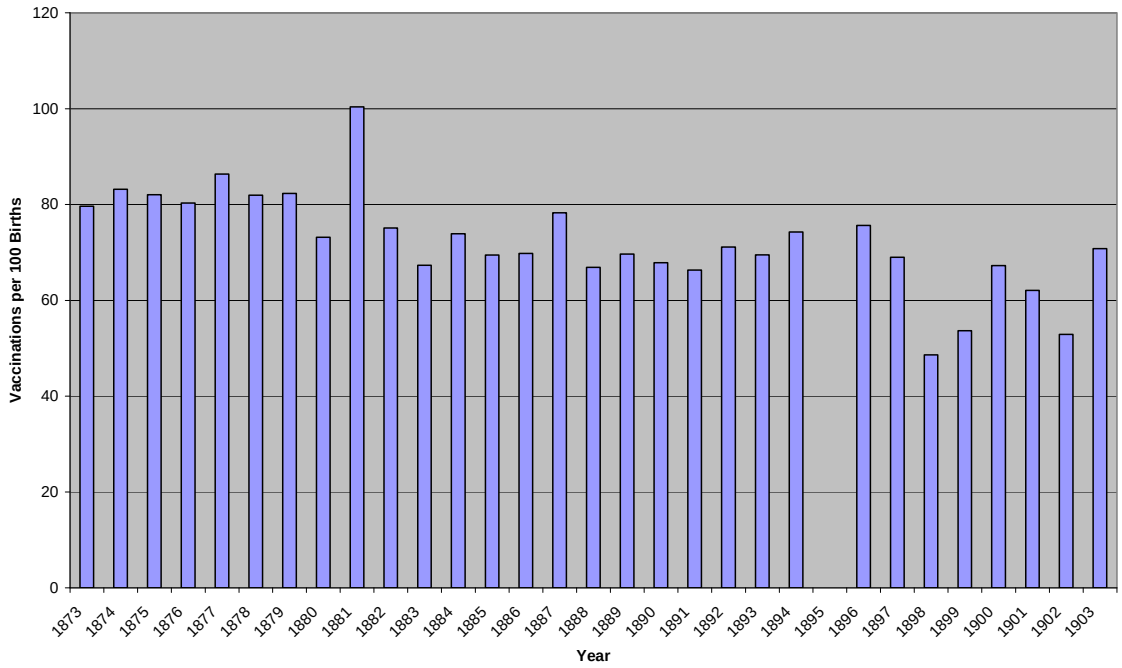

Figure 4: Vaccinations per hundred births in Victoria between 1873 and 1903.

The Act was a consequence of the 1853 smallpox epidemic in Sydney, and closely followed the English Compulsory Vaccination Act 1853. However, the appropriate administrative structures were not immediately put in place and so the Act relied on public cooperation in the early years. When smallpox appeared in Melbourne, causing a total of six deaths, in 1857-8, the Chief Secretary realised that this was not a long-term solution. He directed that the Deputy Registrars send 'lists of the names and addresses of the parents or Guardians of children whose birth has been registered six months, but who have not since then been registered as vaccinated' to the Police, who were directed to prosecute non-compliance with the law.[149] He was, nonetheless, aware of the potential problems of prosecuting everyone, and urged discretion in order to avoid injustices, and to allow for delays and problems.

How well this system worked is difficult to assess in the absence of figures, but it appears that the 1863 English epidemic created increased pressure on the system – as it did in neighbouring colonies – and resulted in revision of the administration of vaccination in 1864. Miscommunication between the Police and Registrar-General's Departments regarding instances of non-compliance caused the production of standard forms for registering vaccination. The Victorian Police Department was very keen to fulfil its obligations under the Act, but was hindered by the 'remissness on the part of Deputy Registrars', and so uniform forms were introduced across all districts, formalising modes of communication.[150] This increased attention culminated in the Compulsory Vaccination Act 1854 being repealed by the Health Act 1865, which restated and reorganised the clauses of the Act.

In 1869, smallpox was again present in Melbourne. Two males had died of smallpox in late 1868, and six more males plus two females died in 1869. Early diagnosis was confused by atypical presentation of symptoms, leading to several cases being declared chickenpox, though McCrea

[149] 'Letter from Chief Secretary to Chief Commissioner of Police, 28 May 1858', PROV, VPRS937/P0004/2.

[150] 'Letter, Registrar-General to Chief Commissioner of Police, 31 May 1864', PROV, VPRS937/P0004/2. The enthusiasm of the Victorian police for enforcing compulsory vaccination laws was perhaps partly attributable to the exceptionally high proportion – around 80 per cent of the force – of policemen born (and often trained) in Ireland, where compulsory vaccination was highly successful, was the envy of English authorities, and resulted in very low rates of smallpox. See R. Haldane, *The People's Force: a history of the Victorian Police* (Melbourne: Melbourne University Press, 1995), p. 82; D. Brunton, 'The problems of implementation: the failure and success of public vaccination against smallpox in Ireland, 1840-1873', in G. Jones and E. Malcolm (eds.), *Medicine, Disease and the State in Ireland, 1650-1940* (Cork: Cork University Press, 1999): 138-157.

later described them as 'varioloid'.[151] Early equivocation only served to increase public unease. This caused renewed attention to be paid to precautions against smallpox. Members of the Police Force were compulsorily vaccinated, to provide for their safety as they dealt with victims and their effects.[152] William McCrea, the Chief Medical Officer, outlined his recommended principles for preventing smallpox in a letter to the editor of the *Argus*, in which he advocated vaccination and revaccination, 'frequent purification of houses and premises by means of disinfectants', general cleanliness, ventilation and isolation of patients at the Government hospital in Royal Park.[153] McCrea's letter was circulated widely for the benefit of the general public, as well as being used by the Police as the guiding principles for their actions during the 1869 epidemic and again in 1871 when they reaffirmed with McCrea that this was still his opinion.[154]

During the 1869 outbreak, provisions were made for adults to be vaccinated in the public system, signifying that it was generally considered a childhood operation.[155] The panic was such that as new cases arose, an increasing amount of money was made available for the purposes of arresting the disease's progress in the colony. Also, medical men who were not officially public vaccinators were, for a limited time, remunerated at the same rate as the public vaccinators for vaccinations they performed gratuitously, such was the demand for vaccination. Although a new Vaccination Act was proposed at this time, it was not successful.

The next occasion on which attention was drawn to the state of vaccination in Victoria was in 1872, when a smallpox outbreak in New Zealand caused a considerable degree of anxiety, especially given the level of trade between the colonies, and was only exacerbated by the appearance of several cases of smallpox in Melbourne itself. The newspapers made much of these few cases to stir up panic within the community, prompting discussion within the Legislative Council about the efficacy of the quarantine regulations.[156] While the panic had prompted widespread vaccination, it had also had the effect of prompting public debate and the articulation of

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[151] PROV, CSD, 69/4127-69/4387, VPRS3991/P0000/401/4387; 'Smallpox', *VV&P*, LA, 1869, Vol. 1, No. A5, pp. 459-477; 'Small-pox: an additional report of the Chief Medical Officer', *VV&P*, LA, 1869, Vol. 1, No. A14, p. 503.
[152] 'Vaccination of Police', PROV, VPRS1200/P0000/2. Increased exposure to disease was a recognised hazard of policing, and formed a component of arguments for an increase in the pay and status of Victorian police in the 1860s. See Haldane, *op. cit.*, p. 65.
[153] *Argus*, March 15, 1869, p. 6, c. e; 'Precautions against small-pox', PROV, VPRS 1200/P0000/2.
[154] *Ibid.*
[155] 'Chief Secretary's Office: Medical section', PROV, VPRS1411/P0000/23.
[156] 'Small-pox', *VPD*, LC, 1872, Vol. 14, p. 495; *Age*, July 8, 1872, p. 4, c. f; p. 5, c. a; July 9, 1872, p. 3, c. a & b; July 10, 1872, p. 3, c. g; July 11, 1872, p. 3, c. f.

anti-vaccination sentiment. Concerns over the risk of transmitting secondary diseases through vaccination led to discussion of the possibility of offering calf lymph vaccination to those who wanted it. Increased demand for vaccination during this time resulted in greater attention being paid to the operation of vaccination by the government; vaccination figures were published in the Parliamentary Papers from this point onwards, and the legislation received a great deal of attention.

From 1873, the number of vaccinations per hundred births remained relatively constant. The proportion of males vaccinated compared to females, shown in Table 6, remained consistently higher, although generally by less than two percent. Rather than indicating anything about attitudes towards the two sexes, this probably reflects the slight difference in male versus female births.[157] This, combined with the stable numbers of vaccinations, suggests that the Victorian system of vaccination was successful in enforcing compulsory vaccination in infants. The annual totals are, on average, 72.01 per hundred births. The remaining can be accounted for by deaths (even if death did not occur in the first six months, vaccination could be delayed for illness until death occurred), moving to another colony, remote area difficulties in accessing vaccination facilities and a small percentage paying the repetitive penalties to the total of £5 because they objected to vaccination.[158] The registers show that children were vaccinated as infants, usually between the ages of three and twenty months, although there were occasional exceptions to this range.[159]

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[157] A. Chahnazarian, 'Determinants of the sex ratio at birth: review of recent literature', *Social Biology* 35(3-4) (1988): 214-235.

[158] P. McDonald, L. Ruzicka and P. Pyne, 'Marriage, Fertility and Mortality' in W. Vamplew (ed.), *Australians: Historical Statistics* (Sydney: Fairfax, Syme & Weldon, 1987): 42-61; L. Finch, 'Caring for Colonial Infants: parenting on the frontiers', *Australian Historical Studies* 29(110) (1998): 109-126; C.M. Young and L.T. Ruzicka, 'Mortality', in *Population of Australia* (Country Monograph Series No. 9, Economic and Social Commission for Asia and the Pacific, United Nations: New York, 1982): 160-182; M.J. Lewis and R.M. MacLeod, ''A Workingman's Paradise? Reflections on urban mortality in colonial Australia, 1860-1900', *Medical History* 31 (1987): 387-402.

[159] PROV, VPRS3654/P0000/1-5.

Table 6: Male and female vaccinations in Victoria between 1873 and 1903.

	Male		Female	
Year	Number of vaccinations	Percentage of total (%)	Number of vaccinations	Percentage of total (%)
1873	11332	50.64	11044	49.36
1874	11169	50.11	11122	49.89
1875	11209	51.12	10718	48.88
1876	10902	50.7	10602	49.3
1877	11457	51.03	10996	48.97
1878	11091	50.93	10687	49.07
1879	11229	50.81	10871	49.19
1880	9680	50.6	9452	49.4
1881	13848	50.83	13397	49.17
1882	10180	50.69	9901	49.31
1883	9542	50.99	9084	49.01
1884	10940	51.32	10377	48.68
1885	10569	50.77	10249	49.23
1886	11043	51.35	10463	48.65
1887	13033	50.41	12822	49.59
1888	11722	50.81	11349	49.19
1889	12894	50.9	12437	49.1
1890	12968	50.85	12534	49.15
1891	12986	50.85	12552	49.15
1892	13699	50.92	13205	49.08
1893	13104	51.6	12593	48.4
1894	12940	50.86	12501	49.14
1895	N/A		N/A	
1896	12367	50.8	11976	49.2
1897	10993	50.9	10603	49.1
1898	7472	50.95	7193	49.05
1899	8328	50.08	8302	49.92
1900	10490	50.69	10205	49.31
1901	9766	50.75	9477	49.25
1902	8116	50.36	8001	49.64
1903	10684	51.03	10251	48.97
Mean	11191.77	50.82	10832.13	49.18

Moderate fluctuations in vaccination rates can be discerned, and these coincide with events that render them explicable. A minor peak in 1877, with an increase of 6 vaccinations per hundred births on the previous year and a raw increase of 949, was the outcome of panic over the outbreak which primarily affected Sydney, with some cases elsewhere in New South Wales as well as Queensland and Victoria. A more serious reaction, however, occurred in response to the extensive Sydney epidemic of 1881. Slightly more than 100 vaccinations occurred per hundred births, which

the Victorian authorities explained by noting that a number of revaccinations were performed, hence vaccinations exceeded the births. This attitude reinforces the claim that most Victorian infants were vaccinated, as it indicates that there was not a significant backlog of older potential patients who wished to be vaccinated only when threatened by smallpox nearby.

The 1880s exhibited a general downwards trend in rates, although always indicating that over half of the population were being vaccinated. This coincided with an increase in anti-vaccination literature. Williams argued in the case of England and Wales that, although anti-vaccination sentiment grew in the 1870s, it was not until the 1880s that resistance really began, with rates falling all over the country, not just in London and other urban centres.[160] The same is true of the Australian colonies. In Victoria, doubts about the safety of humanised lymph were raised in the 1870s, but it was not until the 1880s that objections began to have any real effect.[161] Nevertheless, the Act continued to be effectively operated throughout this period, aided by several smallpox incidents. Minor peaks were caused by smallpox scares in New South Wales in 1884, 1886 and 1888, and in South Australia in 1889. A more significant increase occurred in 1887, during the Launceston epidemic. Despite being separated by a significant body of water, smallpox in Launceston presented a significant threat to Melbourne because of the large amount of shipping traffic between the two. The government was aware of the increase in opposition to vaccination, and especially to humanised lymph, and some Members of Parliament argued that this, combined with the fact that an Imperial Royal Commission was investigating the worth of vaccination, indicated that the Act should be suspended until the Commission published its Report.[162] However Alfred Deakin, the Chief Secretary, deemed it inappropriate to change anything until the Commission presented its findings, thereby amply demonstrating that compulsory vaccination had the support of the government.

The Royal Commission, however, took considerably longer than any of these politicians expected, producing a long period of indecision. The Victorian authorities nevertheless continued to implement the Act with substantial success, despite the periodical publication of reports that hinted

[160] Williams, *op. cit.*
[161] The vicissitudes of anti-vaccination sentiment in Victoria, New South Wales and Tasmania during this period are discussed in more depth in Part Four.
[162] Beginning in 1889, the Royal Commission on Vaccination sat for seven years. It published several interim reports and published the Final Report in 1896.

at the Commission's less than total support for compulsory vaccination, until 1898 when the English Compulsory Vaccination Act was amended to include a conscientious objection clause. This had been able to occur because of a combination of fewer smallpox cases, long-term resistance from anti-vaccinationists and the publication of the Commission's Final Report.[163] The Final Report, presented in 1896, found that vaccination protected against smallpox but that secondary diseases could be transmitted through humanised lymph and so calf lymph was to be preferred.[164] It advised against repetitive penalties for non-compliance with the Act and recommended the introduction of a conscientious objection clause, although ambiguous wording led to unequal implementation.[165]

The Final Report contributed to vaccinations reaching their nadir in 1898 and greatly influenced debate in Victoria in subsequent years. Despite the introduction of a number of bills seeking to make vaccination non-compulsory, however, none passed and the existing Act continued to be enforced. Numbers of vaccinations per hundred births were down somewhat from the 1870s, but the reappearance of smallpox in Launceston reinforced the need for protection against smallpox. Public opinion was not so forcefully endorsing anti-vaccinationism as to create sufficient pressure for a change in legislation, although it seems likely that a considerable number of parents would not have had their children vaccinated had it been entirely optional. Efficient administration of the Act was the main factor in maintaining high levels of infant vaccination in the later decades, and this point becomes especially clear when, in 1920, parents were given the option to complete a statutory declaration of their conscientious objection to the operation and the vast majority of parents availed themselves of this opportunity.[166]

State support for compulsory vaccination in terms of providing funding and administrative structures for consistent and effective implementation of the legislation, then, was crucial to the success of the procedure in Victoria. Although panic caused by the appearance or threat of smallpox and anti-vaccinationism both influenced uptake to some extent, the overriding factor in

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[163] Durbach, *Bodily Matters, op. cit.*, p. 176.
[164] 'Final Report of the Royal Commission Appointed to Inquire into the Subject of Vaccination', *British Parliamentary Papers*, 1896.
[165] See Durbach, *Bodily Matters, op. cit.*, pp. 176-188.
[166] 'Registers of Vaccinations', *op. cit.*

determining the pattern of public participation in the vaccination program was state intervention in the form of efficiently administered legislation.

2.3.2: New South Wales

The significance of the role played by the state in the vaccination debate becomes especially clear when examining the colony of New South Wales. Vaccination was supported by the state in terms of funding, administration and promotion, but compulsory vaccination was not. No legislation was ever passed in New South Wales making the procedure compulsory, making it a rare example in the western world. This was the case despite nearly every single medical adviser to the government repeatedly calling for the introduction of compulsory vaccination legislation. Vaccination rates for New South Wales, therefore, purely reflect public attitudes. The patterns exhibited by the data are quite predictable, especially for the early period (see Figure 5). Vaccination had been practised in the colony, to varying degrees, since 1804. By the 1850s, when Cumpston's figures begin, the number of applicants was steady enough to maintain supplies of humanised lymph.[167] In the period from 1853 to 1905, the mean number of vaccinations per hundred births was 27.51, with a standard deviation of 38.75 and an average deviation of 26.31. Hence, the mean is not particularly representative, as figures fluctuated wildly. Indeed, figures ranged from 0.68 vaccinations per hundred births in 1897 to 204.47 in 1881.

Responsibility for health matters lay, as in other Australian colonies, with the Colonial Secretary and he was therefore accountable for the appointment of vaccinators. Although vaccination was not compulsory, the government provided gratuitous vaccination if it was desired through the system of public vaccinators. This public endorsement and underwriting of vaccination by the state did not approach the position occupied by Victoria, but it allowed rapid response to public demand during times of panic, when pressure on vaccination resources was high. In 1847, Arthur Savage, in his capacity as Health Officer for the New South Wales colonial government, established a Vaccine Institution for the purpose of maintaining the supply and quality of lymph, distributing it to medical practitioners and vaccinating any applicants. Savage encountered significant logistical problems in the running of the Institution, particularly in preserving lymph in

[167] Cumpston (1914), *op. cit.*, p. 130.

an active state in the heat of an Australian summer. During summer, it was ineffective to store lymph on glass or ivory and so continuous arm-to-arm transmission was necessary to sustain supplies.

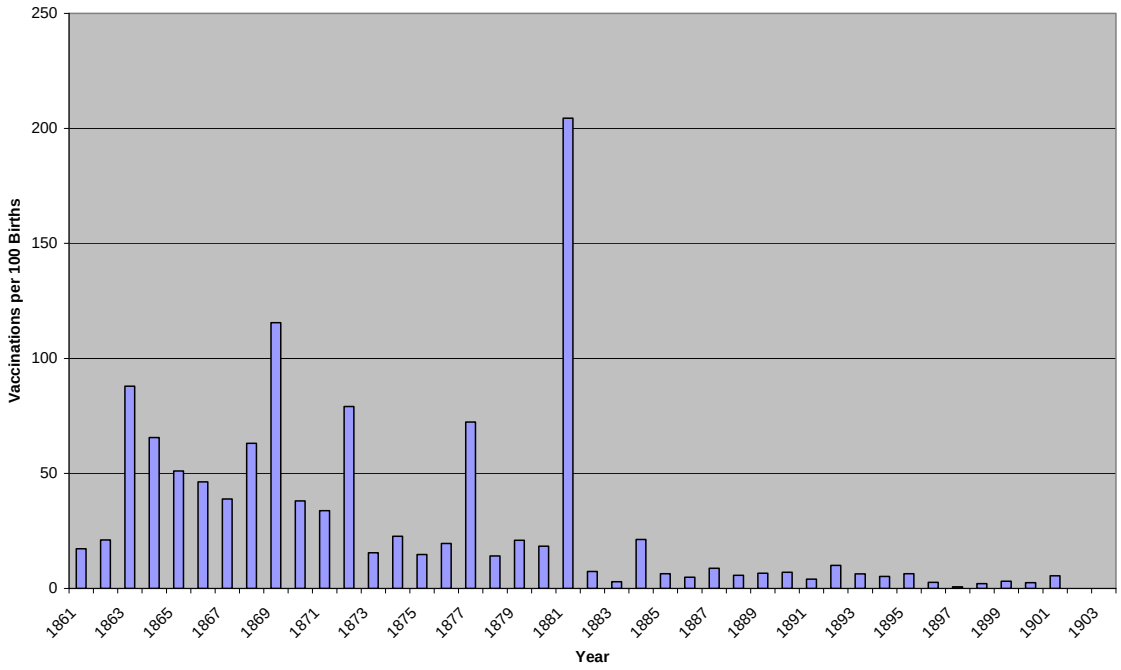

Figure 5: Vaccinations per hundred births in New South Wales between 1861 and 1903.

The number of vaccinations performed during the early years of the Vaccine Institution is difficult to determine because, although Savage's records are extant, few medical practitioners sent their returns to him at the end of each year. In 1848, for example, Savage vaccinated 204 people and distributed 300 points of lymph. From each of these points, an unknowable number of vaccinations could occur. He showed his confidence in those to whom he sent lymph when he wrote that 'the profession in Sydney, although not favoured by all their returns, have, I am aware, been very zealous in so good a work.'[168] Although vaccination may not have been wholeheartedly embraced by the population, it was at least sufficiently tolerated to allow its continuance given the enthusiasm of its practitioners. Without this enthusiasm, supplies were easily lost. Individual doctors who allowed this to happen needed to reapply to Savage for a new supply, and if Savage failed to keep his lymph in continuance, then application to other colonies became necessary.

[168] A. Savage, 'Vaccine Institution', *NSWV&P*, LC, 1850, Vol. 1, p. 593.

These practical difficulties impacted on the number of vaccinations performed, even in times of crisis. Savage became ill and then died in 1852, and was replaced as Superintendent of the Vaccine Institution by John Yates Rutter. The effect of the transition was that the supply of lymph was exhausted and Rutter was forced to source his own, with significant difficulty.[169] The timing was particularly bad, as smallpox had appeared in the colony in late 1852, and Rutter had been unable to meet the public demand that was fuelled by anxiety. He had distributed lymph to medical practitioners in Sydney, outback New South Wales, Victoria, New Zealand and elsewhere, and took the large numbers of requests for lymph to mean that 'Vaccination had been practised very extensively'.[170] This indicates that the figure given by Rutter for 1853 is not particularly accurate, or only refers to the vaccinations he definitely knew had taken place, which explains why the peak is not larger than it is. The Colonial Secretary, concerned about the potential impact of smallpox if it were to gain a foothold in the colony, established five places of gratuitous vaccination within the greater Sydney area from 1 October 1853, and funded travelling vaccinators for the regional centres.[171] Further, the Sydney vaccinators were required to 'make personal visitations at the houses in their respective divisions of the City and Suburbs, in order that they may assure themselves that the inhabitants have been brought under the influence of the Vaccine protection.'[172]

How this worked in practice is unclear. O'Brien, the Medical Adviser to the Government, merely noted that a large number of people had been vaccinated, most of them in the last quarter of the year (that is, since the inception of the government program of vaccination) and that those areas with lower numbers were generally either only recently established, had been affected by the prevalence of scarlatina or measles, or had vaccinated thoroughly through private medical practitioners, prior to the government plan being implemented.[173] Although the available figures indicate a slight peak for this year, it does not approach the level suggested by other sources, because of the lack of inclusion of vaccinations performed by private practitioners and reliance on returns.

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[169] J.Y. Rutter, 'Vaccine Institution', *NSWV&P*, LC, 1853, Vol. 1, pp. 411-412.
[170] *Ibid.*, p. 411.
[171] 'Vaccination', *NSWV&P*, LC, 1853, Vol. 2, pp. 574-579.
[172] *Ibid.*, p. 579.
[173] B. O'Brien, 'Vaccination', *NSWV&P*, LC, 1854, Vol. 2, pp. 853-854.

Vaccinations remained low in the years between 1854 and 1862, signalling the dissipation of the panic of 1852 and 1853 and indicating that most people no longer felt an immediate incentive to protect themselves. The perception that the scare was over and that vaccination could, to some extent, be rolled back was not limited to the public. The government cut funding to the project by disallowing the salaries of the vaccinators at Parramatta, Goulbourn and Windsor, while the others were retained.[174] A small increase in applicants was noted in 1857, when it was rumoured that several passengers from an infected ship that had landed at Melbourne had made their way to Sydney.[175] This increase, however, made only a small dent in the unprotected population. The Government reappointed the vaccinators at Parramatta, Windsor and Goulbourn in 1859, but it made little difference. Those who could afford to were encouraged to go to their private practitioners for vaccination while the lower orders went to the Vaccine Institution.[176]

The first significant peak in vaccinations that is represented by the available figures did not occur until 1863, when 87.94 vaccinations per hundred births were reported. With 'continual accounts brought from England of epidemic small-pox in London', the public vaccinators of New South Wales were forced to contend with an unprecedented number of applicants.[177] Panic was exacerbated by the fact that smallpox had been introduced into New Zealand as a direct result of this outbreak, heightening awareness of the possibility of smallpox being introduced into New South Wales as well. This prompted the government to appoint many more public vaccinators and to pay them more per successful case, in a bid to protect the colony.[178] However, once the panic died away, vaccination numbers decreased steadily. Further, in 1865, the government reduced the vaccination fee paid to doctors per vaccination from 3s. 6d. to 2s. 6d. and this was seen as a major contributing factor in the decrease in vaccinations in that year.[179]

During this time, the medical profession pushed hard for the introduction of compulsory vaccination legislation to combat the apathy of parents which resulted in low numbers of

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[174] R. Greenup, 'Vaccination', *NSWV&P*, LC, 1855, Vol. 3, p. 737.
[175] Colonial Secretary: Letters Sent, 'Copies of letters to the Health Officers, 4 Mar 1839-5 Oct 1859', *SRNSW*, SRC, CGS 975: 4/3735, microfilm copy SR Reel 2861; R. Greenup, 'Vaccination', *NSWV&P*, LA, 1858, Vol. 3, pp. 1249-1250.
[176] R. Greenup, 'Vaccination', *NSWJLC*, 1862, Vol. 1, p. 485.
[177] R. Greenup, 'Vaccination', *NSWJLC*, 1863-4, Vol. 2, p. 111.
[178] Colonial Secretary: Main Series of Letters Received, 1826-1982, *SRNSW*, WSRC, 1863, 4/504/3528; 1864, 4/522/1828.
[179] R. Greenup, 'Vaccination', *NSWJLC*, 1866, Vol. 1, p. 481.

vaccinations during times when smallpox did not present a threat. The cycle of panic and apathy that seemed to dominate the public uptake of vaccination was confirmed when cases of smallpox appeared in Melbourne late in 1868 and through 1869, resulting in a significant increase in voluntary participation in vaccination programs in New South Wales.

This pattern was repeated three times over the subsequent decade: consistently low numbers of vaccinations were interspersed with high peaks in years that corresponded to outbreaks of smallpox that threatened New South Wales. These peaks occurred in 1872, when smallpox was in New Zealand and Melbourne; in 1877, when smallpox emerged in Port Jackson; and in 1881, which was the year that began what Cumpston described as 'the most serious outbreak of small-pox ever recorded in Australia'.[180] This predictable pattern concerned health authorities because the years of apathy created a largely unprotected population, while the years of panic placed undue pressure on the vaccinators, making it difficult to obtain enough lymph.[181]

However, the 1881 epidemic marked a turning point in public opinion regarding vaccination in New South Wales. The bulk of smallpox cases occurred in 1881, but scattered cases occurred over the following years, and in 1884 smallpox became more generalised, affecting New South Wales, Victoria and South Australia. This time, however, vaccinations did not peak in New South Wales. The undercurrent of anti-vaccination sentiment that had long been present among the public in that colony grew stronger in the wake of the 1881 epidemic.

Although the experience of 1881 highlighted how unprepared the colony was for dealing with epidemic disease, it also aggravated existing doubts regarding vaccination by focussing attention on the operation. The forcible vaccination of residents of government institutions, such as the Darlinghurst Gaol, caused a great deal of controversy and polarised public opinion.[182] During this time, the government conducted a ministerial enquiry into compulsory vaccination and, although the expert advice they received was overwhelmingly in favour of vaccination, the ministers retained serious reservations about imposing compulsory vaccination.[183]

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[180] Cumpston (1914), *op. cit.*, p. 11.
[181] E.S.P. Bedford, 'Vaccination', *NSWJLC*, 1874, p. 195.
[182] 'Vaccination at Darlinghurst Gaol', *NSWPD*, LA, 1881, Vol. 2, p. 1712.
[183] 'Compulsory Vaccination', *NSWJLC*, 1881, Part 2, pp. 217-271.

Vaccination fell into a terminal slump following these events. A very small proportion of parents chose to vaccinate their children, and even the threat of smallpox failed to induce greater numbers to participate. The year 1887, in which there was an outbreak in Launceston, saw only 8.76 vaccinations per hundred births, and a scare in Sydney the following year actually coincided with a decrease in applicants. The Final Report of the Imperial Royal Commission in 1896 had no effect on numbers of vaccinations, because they were already so low. The next serious outbreak, the 1903 epidemic in Launceston, also failed to raise numbers. It was not until 1913, when an extensive alastrim epidemic occurred in Sydney, that large numbers again vaccinated. In fact, Cumpston estimated that approximately 500,000 were vaccinated that year.[184] Vaccination remained optional, and numbers soon fell again.

State support for vaccination provided the necessary funding and basic structures to make the operation available to those who wanted it, although this was sometimes limited by the availability of lymph. Thus, uptake of vaccination was governed by cycles of panic and apathy, depending on the perceived proximity of smallpox, until 1881. Individual medical practitioners had the ability to influence numbers to some extent through personal persuasion, although their dedication was sorely tested by inadequate remuneration by the government. These were issues that were repeatedly raised by medical advisers to the government.[185] Between 1882 and the end of the period under examination here, however, these cycles ceased to apply. Some other factor – whether anti-vaccinationism or densensitisation or indifference, or some combination of these – became a more powerful force during this period, limiting applicants even in years when smallpox threatened the colony.

2.3.3: Tasmania

Although Tasmania possessed a Compulsory Vaccination Act from 1853, the vaccination statistics for this colony clearly demonstrate that it was not effectively carried out (see Figure 6). The mean number of vaccinations per hundred births between 1863 and 1903 was 52.31, which would seem

[184] Cumpston and McCallum, *op. cit.*, p. 99.
[185] For example: C. Rolleston, 'Vaccination. (Report of the Registrar-General)', *NSWV&P*, LA, 1856-7, Vol. 2, pp. 741-2; R. Greenup, 'Vaccination', *NSWV&P*, LA, 1858, Vol. 3, pp. 1249-50; R. Greenup, 'Vaccination', *NSWJLC*, 1865, p. 699; E.S.P. Bedford, 'Vaccination', *NSWJLC*, 1870-71, Vol. 1, p. 1065; and E.S.P. Bedford, 'Vaccination', *NSWJLC*, 1874, p. 195.

to indicate a reasonable level of success. However, given that the standard deviation was 106.70 and the average deviation was 65.55, this figure is quite misleading. During several years in the 1870s, no vaccinations were recorded. On the other hand, at its zenith, vaccinations reached 484.20 per hundred births. Although from a legislative perspective, it might have been expected that the Tasmanian experience would reflect that of Victoria, in fact it more closely resembles New South Wales and even outdoes that colony in its extremes.

Figures are not available for the first ten years of ostensibly compulsory vaccination in Tasmania. However, the response of the government to the presence of smallpox in Melbourne in 1855 and 1857 indicates that the 1853 Act had not been implemented. The appearance of smallpox in 1855 caused an increase in demand for vaccination, and this reaction resulted in some discussion of the efficacy of the Act in Parliament, although the Colonial Secretary made it clear that the government had no intention of making any amendments.[186] During the 1857 outbreak, local government requested guidance from the colonial government regarding preventive action, with the result that gratuitous vaccination commenced at the General Hospital and Cascade Factory, in Hobart, and at the Cornwall Hospital in Launceston.[187] Parents were required to make a deposit of 2s.6d., which was returned if they came back on the eighth day to have the vesicles checked, highlighting the importance of arm-to-arm transfer of lymph. There was some objection to this system from the medical community, who argued that it was injurious to their interests and that the public had been happily availing themselves of vaccination through private practitioners, but the government was unmoved. Deputy Registrars were requested to notify parents registering births that there was a £5 fine for every child not vaccinated. There is some evidence that prosecutions were made for non-compliance with the Act during this time, although it is weak.[188] This flurry of action illustrates the unprepared state that the Tasmanian government found itself in, and suggests that the Act had been largely inoperative prior to this point, when the stimulus provided by the presence of smallpox so close to home initiated debate and activity.

[186] 'Vaccination. Report from the Select Committee', *TPP*, 1863, No. 90, p. 4; *TV&P*, LC, 1855, No. 9.
[187] Correspondence 1855-1860, AOT: CSD1/99/2784.
[188] The Index to CSD correspondence (AOT: CSD3/2) describes a file for 'Return of convictions under the Vaccination Act' (AOT: CSD1/108/3368) but the file is either missing or incorrectly indexed.

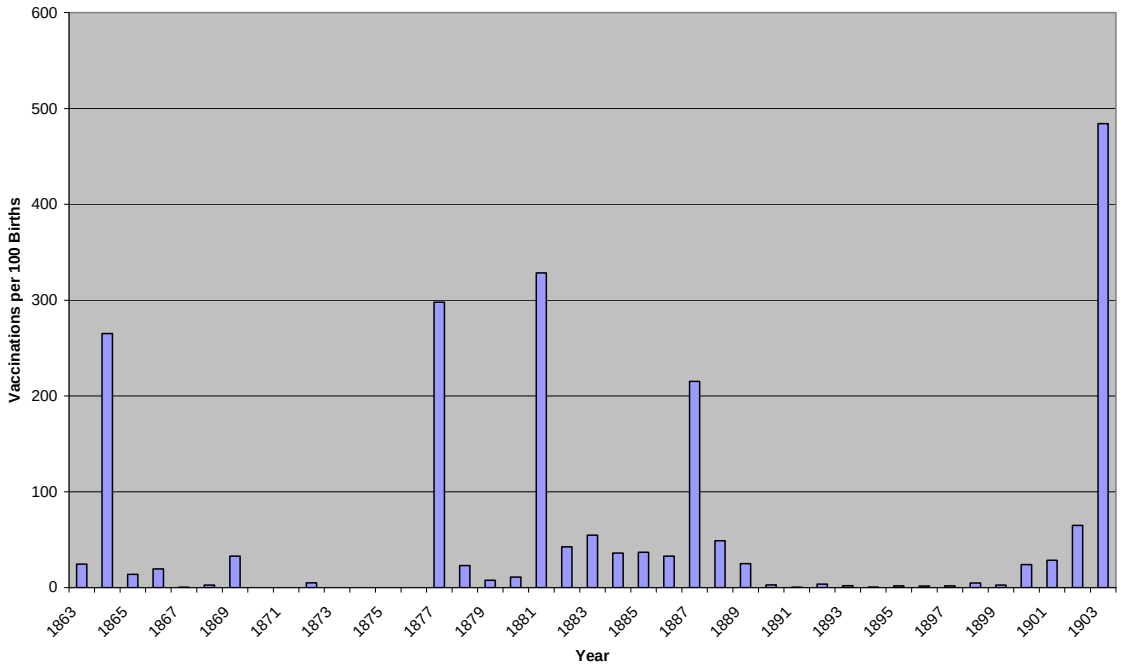

Figure 6: Vaccinations per hundred births in Tasmania between 1863 and 1903.

Lasting change to the operation of the Act did not transpire until 1863, when a particularly severe epidemic in England caused panic in the colonies. Although England was a long way away and the time necessary to make the voyage was considerable[189], there was still a distinct possibility that smallpox could be introduced through English shipping, and indeed this happened to New Zealand, deepening existing anxiety.[190] Perhaps more importantly, however, the attention paid to the epidemic in English publications that reached the colonies and the constant reporting on the epidemic in the colonial newspapers had the effect of focussing interest onto the unprotected state of the colonies against smallpox. The colonists had inherited a deep fear of the disease from their British heritage and this greatly influenced their reactions to the prospect of disease.

A Select Committee was appointed to investigate the 'altogether unsatisfactory, useless, and inoperative' Act, and amending legislation was introduced into Parliament, but not passed.[191] The

[189] Between the early 1850s and the late 1870s, the average time taken for the mails to reach Australia from London dropped from around 90 days to approximately 45 days. See G. Blainey, *The Tyranny of Distance: how distance shaped Australia's history* (rev. ed.) (Melbourne: Sun Books, 1982), p. 221.
[190] From the 1870s, English emigrants to the Australian colonies were required, as a condition of embarkation, to be vaccinated if smallpox was present in the region from which they came. *Australasian Sanitary Conference of Sydney, NSW, 1884, Report, Minutes of Proceedings and Appendix*, (Sydney: Government Printer, 1884), p. 19.
[191] 'Vaccination. Report from the Select Committee', *op. cit.*, p. 3.

government instead implemented a scheme whereby medical practitioners around Tasmania could become Public Vaccinators, and they provided gratuitous vaccination to all who asked for it, and were remunerated by the government for each case. In this way, a large number of Tasmanians were vaccinated between 1 November 1863 and 30 September 1864, which was the duration of the program. Nevertheless, it was not a compulsory system; it relied upon voluntary compliance with the law and the impetus provided by the scare. James Whyte, the Colonial Secretary, declared in June 1863 that the provisions of the Vaccination Act would be rigidly enforced, and instructed the Police to see that the Act was not evaded.[192] However, the medical profession continued to call for prosecutions, indicating that Whyte's orders were not entirely followed.[193] Thus, when the number of Public Vaccinators was reduced in late 1864 and the panic dissipated, vaccination levels dropped rapidly.

Amending legislation was again introduced in 1865, but did not pass, and on 31 January 1867, the two remaining Public Vaccinators had their positions abolished as a consequence of poor results, a lack of immediate threat and a desire to economise.[194] Interestingly, the presence of smallpox in Victoria in 1869 did not cause anywhere near the same level of panic as the 1863 English epidemic had done. Vaccination peaked only moderately, with 32.77 per hundred births. The government showed no interest in addressing the issue, in spite of sustained pressure from the medical community.[195] The operation fell into disuse, with only a very small number vaccinating in 1872, when there was a smallpox outbreak in New Zealand, plus a few cases in Melbourne. No vaccinations were recorded for any other year between 1870 and 1876, although a few may have been performed privately.

In 1877, there was a large outbreak of smallpox in Port Jackson, New South Wales, spurring the government into action. Public Vaccinators were again appointed and measures were adopted to

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[192] AOT: CSD4/42/525. Whyte's stance on vaccination was consistent with his attitudes towards a range of controversial issues, including the Carriage Duties Act and the Scab Act, in which he sought to enforce the rule of law for the public good, sometimes at the expense of individual interests. See S. Petrow, 'Carriages and Scab: elite contention against the law in nineteenth-century Tasmania', *Newcastle Law Review* 2(1) (1997): 70-91.

[193] E.S. Hall, *Statistical Returns of Tasmania*, (Hobart: Parliament of Tasmania, 1864), p. 101.

[194] E.S. Hall, 'Vaccination. Petition of Dr. E.S. Hall', *TPP*, 1869, No. 69; *Statistical Returns of Tasmania*, (Hobart: Parliament of Tasmania,1866), p. 153.

[195] Particularly notable were the efforts of Edward Swarbreck Hall, who petitioned government on his own in 1869, and with the support of other practitioners in 1873, as well as exerting pressure in his reports as Superintendent of Vaccinations. Hall, 'Vaccination. Petition', *op. cit.*; 'Vaccination Bill. Petition from medical practitioners', *TPP*, 1873, No. 78.

carry out both the Vaccination Act 1853 and the Quarantine Act 1841.[196] Tasmania's insular and isolated nature had rendered smallpox a minor threat, but with significant consequences. Without smallpox actually having occurred in Tasmania, the government felt unable to justify practical compulsion of vaccination and instead used a combined approach of mass voluntary vaccination at times of immediate threat and quarantine. Effectively administered compulsory vaccination would have been a far costlier alternative and until the system failed, there was little incentive for the government to accept the dire warnings of the medical profession. Nevertheless, 1877 marked a change in the government's attitude towards vaccination as, from that year forwards, vaccination reports were submitted to Parliament, and the Health Officers monitored the diseases, sanitary conditions and vaccination of their respective areas.[197]

The system of vaccination implemented in February 1877 had caused over nine thousand operations to be performed within the first four months, but after June, 'vaccination entirely ceased in nearly all the districts'.[198] The cycle of panic and apathy evident in New South Wales was amplified in Tasmania, causing similar problems in maintaining the supply of active lymph. Tasmanian vaccinations peaked in 1881, during the Sydney epidemic, and during the two Launceston outbreaks in 1887 and 1903. The peaks reached by the Tasmanian populations outstripped those of New South Wales, and far exceeded those of Victoria. It is true that periods of apathy created backlogs of unvaccinated people, allowing the Tasmanian peaks to range between 200 and 500 vaccinations per hundred births. However, the same could be said of New South Wales, so clearly there were other factors at work. Partly, the extremes can be explained by Tasmania's smaller population and correspondingly smaller number of annual births, meaning that fluctuations of a few thousand people had a much larger effect on the number of vaccinations per hundred births. The differences, however, go deeper than this, and are indicative of a different view of smallpox as a threat. Tasmania's island status had important implications for the perceived danger of exotic diseases. Smallpox could only be introduced by shipping and so quarantine measures offered more protection to Tasmania than they did to Victoria or New South Wales. It was also easier to underrate the threat of smallpox in between periods of panic because of these geographical differences.

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[196] *TV&P*, HA, 1877, No. 4.
[197] G. Turnley, 'Vaccination Report for 1877', *TPP*, 1878, No. 24; E.S. Hall, 'Officer of Health: Report, New Town, Sandy Bay, and Wellington', *TPP*, 1878, No. 23.
[198] Turnley, 'Vaccination Report for 1877', *op. cit.*, p. 3.

The decrease in vaccinations evident in Victoria and New South Wales during the 1880s was not so pronounced in Tasmania, where the average level was actually higher than during the 1870s, when state provisions for vaccination had been minimal. The 1887 Launceston outbreak, however, did not produce quite as many vaccinations as might have been expected for the first appearance of smallpox on the island. While this may be accounted for, to some extent, by a smaller proportion of unvaccinated among the population owing to reasonably high rates over the preceding six years, it is likely that it also reflects the emergence of anti-vaccinationism in Tasmania. This sentiment became even clearer in the aftermath of the 1887 outbreak, as Tasmanian vaccination levels entered a prolonged lull, extending to the turn of the century. During this time, there were quite a number of smallpox scares within the colonies, usually involving shipping, but these failed to raise the number of vaccinations.

The government postponed making any decisions regarding the Act until the reports of the Imperial Royal Commission on Vaccination filtered through to the colonies, recommending that compulsory vaccination legislation be altered to include provision for conscientious objection. The Central Board of Health recommended that the law in Tasmania be amended in line with the findings of the Royal Commission.[199] Vaccination levels had been so low over the past few years that the medical men of the colony considered a properly enforced compulsory Act with a conscientious objection clause to be preferable to an entirely inoperative Compulsory Vaccination Act. Hence, the Vaccination Amendment Act was passed in 1898. However, the regulations formulated by the Central Board of Health for the administration of the Act were not approved by the Governor in Council until December 23 1899, rendering the Act inoperative for a considerable time longer.

With the new regulations finally in force, the Board took the resumption of widespread vaccination in 1900 for granted. They noted that, in England, the conscience clause had been expected to negate the value of the Vaccination Act, but instead it was found that:

> …the other new provisions have more than countervailed; for though about quarter of a million "conscientious" declarations were made during the year, the effect of

[199] A. Mault, 'Central Board of Health: report for the year 1896', *TPP*, 1897, No. 45.

> supplying calf lymph and domiciliary vaccination has been such as to increase the total number of vaccinations.[200]

However, a decade of inoperative legislation and overt anti-vaccinationism had taken their toll on the reputation of the procedure. The new system involved every medical practitioner being appointed a Public Vaccinator in his district by the Governor in Council, unless he expressed his objection.[201] Although the number of vaccinations per hundred births rose from 2.57 in 1899 to 23.93 in 1900, the Board was perplexed by the

> …almost unaccountable difference between the quantity of work done by the Vaccinators, varying from 312 successful vaccination by Dr Hoskins, at Fingal, to none at all done in 19 districts.[202]

The Board underestimated the depth of feeling against vaccination at this time, but their sustained efforts over the next few years saw vaccinations continue to rise, albeit slowly. While there were cases of smallpox interstate, these had long since lost their panic value, and no cases appeared in Tasmania, so the credit for the turnaround in figures lies fairly with the Board. They pale into insignificance, however, when compared with the 25,621 vaccinations performed in 1903 when smallpox once again appeared in Launceston.

J.S.C. Elkington argued that this outbreak demonstrated that:

> Tasmania possesses no magic talisman by which her history of comparative freedom (with two expensive exceptions) from epidemic invasion will be continued indefinitely, and many good commercial and other reasons exist for attempting to reduce endemic diseases within her borders to their lowest possible limits.[203]

Nevertheless, the number of vaccinations dropped steeply following the successful control of the 1903 outbreak, and vaccination fell into abeyance.

The state's half-hearted support of vaccination played a large role in determining vaccination patterns in Tasmania during the second half of the nineteenth century. Although it possessed compulsory vaccination legislation, little effort was put into giving effect to that legislation and

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[200] A. Mault, 'Central Board of Health: report for the year 1899', *TPP*, 1900, No. 72.
[201] A. Mault, 'Central Board of Health: report for the year 1900', *TPP*, 1901, No. 51. 51 doctors acted as Public Vaccinators in 44 districts out of 100 registered medical practitioners.
[202] *Ibid.*
[203] J.S.C. Elkington, 'Department of Public Health: report for the year 1904-5', *TPP*, 1905, No. 26, p. 1.

vaccination rates were greatly influenced by cycles of panic and apathy until 1887. From the early 1880s, anti-vaccinationism began to affect compliance with the law, and this became especially important throughout the 1890s. The impact of the medical profession was most clearly discernable at the turn of the century, although it was not nearly as effective as the presence of smallpox for encouraging vaccination.

The three colonies thus exhibited a diverse range of vaccination patterns that shared only one common feature: public anxiety caused by the presence or threat of smallpox tended to increase the demand for vaccination. This was true also of the English experience, where significant spikes in the infant vaccination rate were experienced in 1855, 1863 and 1871, coinciding with increased incidence of smallpox.[204] However, Williams accords a greater part of the credit for these peaks to administrative changes, and responsibility for decreases in vaccination rates to anti-vaccination sentiment.[205] These trends were reflected in the Australian colonies, where the administratively efficient Victoria achieved consistently high vaccination rates, the administratively lax Tasmania remained at the mercy of cycles of panic and apathy, and all three colonies demonstrated lower vaccination rates in the late nineteenth century that coincided with increased anti-vaccinationism. The figures relating to vaccination rates in the colonies have proved to be a rich source of information, yet they cannot provide the whole picture, even from a statistical viewpoint. What these figures have made abundantly clear is the importance of effective administration of the legislation in predicting vaccination rates. Therefore, the next logical step is an analysis of the statistics relating to prosecution in the two colonies in possession of compulsory vaccination legislation.

2.3.4: Prosecutions for non-compliance

Possession of compulsory vaccination legislation was not sufficient to ensure widespread vaccination, as was made patently clear in the case of Tasmania. Enforcement entailed prosecuting those who failed to comply with the law. An examination of prosecutions for non-compliance with the Compulsory Vaccination Acts in Victoria and Tasmania should help to clarify both the level of

[204] Williams, *op. cit.*, p. 400.
[205] *Ibid.*, pp. 400, 403.

state support for the system and the level and intensity of resistance to it.[206] References from the Law and Crime Returns in the Parliamentary Papers seem to indicate that there were very few prosecutions for non-compliance in either colony. These records are not particularly reliable, however, for two main reasons.

First, classification methods changed over time, particularly in Victoria, where prosecutions were sometimes reported in terms of non-compliance with the Health Act and sometimes listed separately under the 'Vaccination Act', which was really a section of the Health Act. When included under the prosecutions under the Health Act, non-vaccinators were conflated with other, unrelated health offences. Secondly, cross-referencing with other sources points to serious incompleteness. For example, in Victoria, three or fewer prosecutions were unambiguously recorded in the Parliamentary Papers in 1861, 1894, 1896, 1897, 1898, 1900, 1901, 1903 and 1904. However, debates in the Assembly suggest that this does not reflect the true extent of enforcement. For instance, not only were there prosecutions in 1887, but they were numerous enough to spark controversy.[207] This revolved around interpretation of the clauses of the Health Act which stated that vaccination could be certified by legally qualified medical practitioners. Some people were prosecuted for non-compliance for having been vaccinated by a non-medical man with lymph of suspect (in the eyes of the profession) origin, such as those who went to Graham Mitchell, a veterinarian who produced calf-lymph at the Model Farm. The number of cases became quite large, although the magistrates were, on the whole, not inclined to decide in favour of the prosecution. The Chief Secretary subsequently halted all prosecutions until the point of ambiguity could be resolved and made consistent. After the decision had been made by the Supreme Court, it was deemed appropriate for the Government to return the fines, although not the legal expenses, of those parents who had been fined unjustly under the Act.[208] In the 1890 Act, this experience was expressed in the clause that deemed the certificate of a duly qualified medical practitioner, that declared a child either successfully vaccinated or insusceptible to vaccination, sufficient even if the operation was not performed by a Public Vaccinator or a medical practitioner.

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[206] One of the sources not fully exploited in this thesis is the Court Record. It is possible to search through the records of the Courts of Petty Sessions for cases of non-compliance with the Vaccination and Public Health Acts in both Victoria and Tasmania and, indeed, detailed figures of prosecutions would add greatly to this statistical discussion. However, the sheer number of courts, combined with the fact that cases are listed by date and name, not offence, means that the task of compiling the relevant data would be a mammoth one, and unequal to the possible rewards.

[207] 'Vaccination', *VPD*, LA, 1887, Vol. 54, p. 261; 'Vaccination', *VPD*, LA, 1887, Vol. 54, p. 489; 'Vaccination', *VPD*, LA, 1887, Vol. 54, p. 757.

[208] 'Vaccination', *VPD*, LA, 1887, Vol. 55, p. 1283.

In December 1891, W.T. Carter declared that 'over 1,000 parents in Victoria are at present determined to go to gaol rather than have their children vaccinated' and that one man had already been gaoled after having been repeatedly fined for non-compliance.[209] While his strong anti-compulsory vaccination stance may have led to some exaggeration, it seems clear that there were a significant number of parents who both objected to vaccination and were prosecuted, at least once, for failing to comply with the law. In the Victorian system, when a child was vaccinated, a vaccination certificate was completed in duplicate, and one copy was sent to the District Registrar. They would register the information and cross-reference it with birth registers to discover those children who had not yet been vaccinated, and this information was forwarded to the Police, who prosecuted those parents. Although this system took a while to coalesce into a smoothly running operation, correspondence between the Registrar-General's Office and the Police Department indicates that prosecutions were relatively common from as early as 1858.[210]

Similarly, in Tasmania, the Law Returns in the Parliamentary Papers seem to suggest that there were few years in which vaccination was properly enforced. As vaccination was always under its own piece of legislation, separate from any more general Health Acts, it should be easier to identify prosecutions for non-compliance with the Compulsory Vaccination Act than in Victoria. Prosecutions are recorded for only three years: 1888, 1889 and 1899. The first two followed the 1887 Launceston outbreak; the first appearance of smallpox in Tasmania naturally resulted in greater attention being paid to the operation of the Act. 792 parents were prosecuted in 1888 and, of these, 326 were summarily convicted, the remainder having had their case dismissed or withdrawn. In 1889, 1025 were prosecuted, with only 317 being convicted. 4777 and 4757 births were recorded in 1888 and 1889 respectively, indicating quite a high level of resistance, although the large number of cases withdrawn and dismissed suggests that in many cases only a small amount of pressure was needed to convince the parents to have their child vaccinated.

In fact, the records of the Hobart Lower Courts reveal that in many cases the parent was willing to get the child vaccinated, and so the case would be adjourned *sine die* to allow the operation to take

[209] 'Compulsory Vaccination', *VPD*, LA, 1891, Vol. 68, p. 3115.
[210] PROV, VPRS3654/P0000/1-5; PROV, VPRS937/P0004/2.

place.[211] Many cases were withdrawn, as the threat of prosecution induced slow parents to have their child vaccinated before the case came to be heard. These two points indicate that only those parents who refused to have their child vaccinated were actually convicted under the Vaccination Act. Those found guilty were fined 10s. and costs of between 7s.6d. and 8s.6d. Although relatively small, 6.82 and 6.66 convictions per hundred births remain significant levels of resistance. Further, the sudden focus on prosecution for non-compliance does not seem to have had the desired effect; vaccinations steadily declined following the 1887 epidemic regardless of efforts to enforce the law.

The other year in which prosecutions were recorded was 1899, immediately following the Final Report of the Royal Commission and the subsequent amending Act. Four parents were prosecuted and all were summarily convicted. However, as regulations for the operation of this Act were not approved until the end of 1899, these prosecutions probably reveal some attempt by the Central Board of Health to draw attention to vaccination by making an example of these four, under the auspices of the previous Act. On several other occasions, however, the government indicated that it desired enforcement of the Vaccination Acts. In 1857, the Chief Secretary requested that the Deputy Registrars of Births, Deaths and Marriages inform parents that children had to be vaccinated and that there was a £5 fine for each one not. There is no evidence that the Police were informed of this, nor any evidence that a system for identifying and prosecuting non-compliers was established at this time.[212] It therefore seems likely that few parents were fined during these early years.

In 1863, the Chief Secretary declared that the provisions of the Vaccination Act were to be 'rigidly enforced, and that instructions to that Effect have been issued to the Police throughout the Colony.'[213] More thought, and a great deal of correspondence, went into the operation of the Act during this smallpox scare. If any prosecutions took place during 1863, by 1864 the effort had dwindled, and Hall was again complaining that parents were not vaccinating their children because they did not believe it would be enforced, a belief Hall argued was well founded as no prosecutions had occurred during the first quarter of 1864. Although it is likely that some prosecutions have not

[211] 'Record of cases heard in District Courts', AOT: LC250/1/1.
[212] AOT: CSD1/99/2784; AOT: CSD1/108/3368 is supposed to contain returns of convictions under the Vaccination Act, but the file is missing.
[213] AOT: CSD4/42/525.

been recorded in the Parliamentary Papers through disorganised record keeping (population statistics, for example, are not available until 1885), it is also clear that the number of prosecutions that are likely to have occurred prior to 1887 were not very numerous. The government only showed an interest in enforcing the Act when it appeared that smallpox threatened the colony, and this feeling quickly evaporated each time. In 1881, methods other than prosecution for non-compliance were used more heavily to encourage widespread vaccination, perhaps in an effort not to alienate sections of the community through heavy-handed enforcement, including offering both humanised and calf lymph, and inclusion of medical staff at the hospitals in discussions of the best way to ensure vaccination.[214]

Overall, it appears that prosecutions for non-compliance with the various laws relating to compulsory vaccination were more common in both Victoria and Tasmania than the law returns would seem to suggest. Victoria, in particular, possessed an organised system by which offenders could be readily identified and dealt with, and the prosecutions that resulted from this system contributed greatly to the long-term success of the Victorian vaccination scheme. The Tasmanian case, on the other hand, was less consistent. Prosecution was only used for short periods of time, during smallpox scares, and no lasting systems were established to allow enforcement to continue beyond emergency measures. Further, the government did not support prosecution during every smallpox scare, sometimes preferring other means of encouragement. Prosecution was not found to be the most effective means of promoting vaccination amongst the Tasmanian population, as the decline in numbers following the 1887 Launceston outbreak demonstrated. By only enforcing compulsory vaccination sporadically, the government set themselves up for failure, as the public never got used to the idea. It therefore had the effect of highlighting the injustice of prosecuting those who conscientiously objected to vaccination. Conversely, the consistency of administration in Victoria contributed to its long-term success and lower levels of anti-vaccination sentiment.

Williams found similar themes in the English experience. She found a non-statistically significant negative association between vaccinations and prosecutions, which meant that there was a general trend suggesting that where there were more prosecutions, there were also more vaccinations.[215] This association can be seen more clearly in the Australian colonies, when comparing Victoria with

[214] AOT: CSD13/55/147; AOT: CSD13/38/525; AOT: CSD13/36/479.
[215] Williams, *op. cit.*, p. 404.

Tasmania. Further, Williams argued that unevenness between the districts in the implementation of the English Acts contributed to the growth of anti-vaccinationism, which can also be seen in the Tasmanian situation, where the law was unevenly applied in a temporal rather than spatial sense.

Initially viewed with such optimism, the realities of implementing wide scale vaccination quickly came to bear upon the Australian colonies. Cycles of panic and apathy played a dominant role in determining uptake of vaccination in the absence of competing influences, and were still discernible as an influence – albeit muted – when vaccination was efficiently administered. The presence or absence of compulsory vaccination legislation was not sufficient to guarantee increased vaccination rates; rather, the crucial difference was the presence or absence of organised and efficient bureaucratic structures to effectively administer the legislation. It was this that allowed Victoria to maintain relatively high and consistent vaccination levels throughout the second half of the nineteenth century and largely to negate the effects of the anti-vaccination movement that gathered strength towards the close of the century. New South Wales and Tasmania, however, lacked this crucial element and were therefore at the mercy of panic and apathy cycles, mass desensitisation to the threat of smallpox, and anti-vaccinationism.

2.4: Conclusion

Smallpox was an infrequent intruder in the Australian colonies. Nevertheless, the substantially immigrant population believed that potentially terrible consequences would follow if it were to become properly established. Quarantine was an obvious precaution to take against an exotic infectious disease, especially as the colonies were ideally geographically suited to such a measure. However, over the course of the nineteenth century, communication between the colonies and the rest of the world became both faster and more frequent, reducing the practicality and efficacy of quarantine measures. Advances in shipping technology, the opening of the Suez Canal and the connection of Australia to Java – and therefore the world – via telegraph, all contributed, among other things, to a general sense that the world was feeling smaller and more interconnected, increasing the threat of disease introduction.

Smallpox was singular among infectious diseases in that period for having a specific preventive measure in vaccination. It was therefore not merely a dreadful disease, but an avoidable evil. For this reason, vaccination was initially viewed with significant optimism by authorities, who sought to encourage its adoption in the colonies. When it became clear that the public would not consistently cooperate with vaccination programs run on a voluntary basis, the three colonies of New South Wales, Victoria and Tasmania responded by each following distinctly different paths. An examination of the vaccination statistics from each colony, set against the respective narratives, revealed the nature of public demand for vaccination as based on phases of panic and apathy, directly associated with the magnitude of the perceived threat of smallpox at a given time. Towards the close of the century, this correlation became less pronounced, as factors such as anti-vaccinationism and desensitisation became more influential. Effectively administered compulsory vaccination legislation was important in negating this basic trend. Members of the medical profession played significant roles in both initiating the introduction of such legislation and in the administration of vaccination programs. Medical responses to the vaccination debate, and the impact of smallpox and vaccination upon the medical profession, are discussed in the next chapter.

CHAPTER THREE:
Vaccination and the Medical Profession

3.1: Introduction

The nineteenth century witnessed significant changes in the way that allopathic medicine was organised and in the extent of its influence upon all levels of society. The hierarchy of physician, surgeon and apothecary evolved into a new division, between general practitioner and consultant. The proportions of the population with access to a medical practitioner increased dramatically through this period, as society became increasingly medicalised and the organisation of healthcare approached an allopathic monopoly. These changes required medical ambition, state support and public confidence in medicine. The efforts of the doctors towards professionalisation and the growth of state support for medicine moved in advance of public confidence because of the cultural and spatial gap between university-trained doctors and the majority of the population, and the lack of any demonstrable superiority of orthodox medicine over its competitors.[216]

Vaccination against smallpox was the earliest medically-administered public health measures aimed at reaching the entire population, and that demonstrated the value of orthodox medicine over competing health care providers. For this reason, many authors have pointed to the importance of vaccination programs in the medicalisation of society in a range of cultural contexts.[217] The period of time encompassed by the vaccination debate is common to significant developments within the

[216] R.H. Shryock, *The Development of Modern Medicine: an interpretation of the social and scientific factors involved* (New York: Alfred A. Knopf, 1947); E. Freidson, *Profession of Medicine: a study of the sociology of applied knowledge* (New York: Dodd, Mead & Co., 1970); S.E.D. Shortt, 'Physicians, Science, and Status: issues in the professionalisation of Anglo-American medicine in the nineteenth century', *Medical History* 27 (1983): 51-68; P. Starr, *The Social Transformation of American Medicine* (New York: Basic Books, 1982); G. Rosen, *The Structure of American Medical Practice: 1875-1941* (Philadelphia: University of Pennsylvania Press, 1983).

[217] G.D. Sussman, 'Enlightened health reform, professional medicine and traditional society: the cantonal physicians of the Bas-Rhin, 1810-1870', *Bulletin of the History of Medicine* 51(4) (1977): 565-584; C. Huerkamp, 'The History of Smallpox Vaccination in Germany: a first step in the medicalization of the general public', *Journal of Contemporary History* 20(4) (1985): 617-635; R.J. Evans, *Death in Hamburg: society and politics in the cholera years, 1830-1910* (Oxford: Clarendon Press, 1987), pp. 218-226; A. Bashford, *Imperial Hygiene: a critical history of colonialism, nationalism and public health* (Houndmills, Basingstoke: Palgrave Macmillan, 2004), pp. 40-41; N. Durbach, *Bodily Matters: the anti-vaccination movement in England, 1853-1907* (Durham: Duke University Press, 2005), pp. 14-25; A. Jannetta, *The Vaccinators: smallpox, medical knowledge, and the "opening" of Japan* (Stanford: Stanford University Press, 2007).

medical profession, including professionalisation, medicalisation and the establishment of medical dominance over healthcare. This chapter therefore has the twin aims of assessing the influence of professional developments on medical responses to vaccination, and the significance of vaccination for the medical profession.

The first section summarises medical responses to vaccination in New South Wales, Victoria and Tasmania, and traces their development over the nineteenth century. Section 3.3 outlines historical and sociological scholarship regarding the history of the professionalisation of medicine and the medicalisation of society, in both international and colonial contexts. The final two sections examine medical responses to vaccination in light of the contemporaneous developments in professionalisation and medicalisation, dividing the analysis between developments internal to the profession and those that took place in the social and public spheres. The chapter ends with conclusions regarding the nature and extent of the influence of the developments of the medical profession that occurred in this period on medical responses to vaccination in colonial Australia, and an assessment of the impact of vaccination on the medical profession.

3.2: Colonial medical responses to vaccination

It was the enthusiasm of three surgeons – Thomas Jamison, John Savage and John Harris – that accounted for the establishment of vaccination in New South Wales in 1804, and the dedication of Jamison in particular that resulted in large numbers of children undergoing the operation in the early nineteenth century.[218] This early experience set a pattern for medical responses to vaccination that was to be repeated frequently for the remainder of the century, in which medical responses to vaccination would be characterised by support for the operation and the efforts of individual medical men would have a significant impact on the coverage and popularity of vaccination amid the community. For the first half-century, especially, the availability of vaccination depended on the commitment of individual doctors to maintaining supplies of lymph through continuous arm-to-arm transmission and their ability to persuade parents to submit their children to the initial operation, bring them back after eight days and then allow them to be used as vaccinifers for the next group of children. It is a measure of their belief in the value of vaccination, even in a colonial setting, that this difficult objective was pursued by medical men, albeit with varying degrees of success.[219]

Vaccination became topical at mid-century for a combination of reasons: increased pressures on the public health had highlighted how unprepared the colonies were against infectious disease, the successful passage of a new Compulsory Vaccination Act through the British parliament provided an exemplar, the granting of self-government was attended by optimistic enthusiasm for the passing of legislation, and the presence of smallpox in Sydney provided the catalyst for action. These factors combined to focus state attention on the issue and to allocate resources for the encouragement of vaccination on a wide scale. Medical practitioners were vocal in their support of vaccination, and optimistic in their prognoses.

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[218] G.L. Mullins, 'A Brief History of Smallpox and Vaccination in New South Wales, from the Foundation of the Colony to the Present Day', *AMG* (December 21, 1896), pp. 502-503; (February 20, 1897), p. 75; V. Parsons, 'Jamison, Thomas (1753?-1811)', *Australian Dictionary of Biography*, Vol. 2 (Melbourne: Melbourne University Press, 1967), pp. 12-13; B.H. Fletcher, 'Harris, John (1754-1838)', *ADB*, Vol. 1 (Melbourne: Melbourne University Press, 1966), pp. 519-520; V. Parsons, 'Savage, John (1770-)', *ADB*, Vol. 2 (Melbourne: Melbourne University Press, 1967), p. 419.

[219] J.H.L. Cumpston, *The History of Smallpox in Australia, 1788-1908* (Canberra: Government Printer, 1914), p. 140; *Historical Records of Australia*, Series III, Vol. 1, (Sydney: Library Committee of the Commonwealth Parliament, 1920), p. 346; W.G. Rimmer, *Portrait of a Hospital: the Royal Hobart* (Hobart: Royal Hobart Hospital, 1981), p. 53; A. Savage, 'Health Officer', *NSWV&P*, LC, 1852, Vol. 1, p. 1161.

Arthur Savage was a naval surgeon born in Britain and trained in London, who ran the Vaccine Institution in New South Wales in his capacity as Health Officer from 1847 to 1852. He hoped that 'by drawing public attention to this Establishment, and by continued exertion on my part, I shall…declare that, to the best of my knowledge, the true cow-pock is being actively diffused throughout this Colony'.[220] Similarly, E.S.P. Bedford, a medical practitioner in Hobart, urged the Lieutenant-Governor to establish a system of public vaccination to bring the importance of the operation to the public's attention and to encourage its widespread application.[221] Both Savage and Bedford were absolute in their belief in the value of vaccination and viewed the existing low participation rates as the product of ignorance and apathy, requiring only a better system of delivery to ensure universality. They had thought that public awareness of the availability of vaccination would be sufficient to ensure widespread application and were disappointed when this failed to occur. Only then was legislative compulsion thought desirable, and even then, it was not necessarily thought that such a law would require much enforcement to be efficacious. Bedford suggested that a compulsory act, similar to the one recently introduced in England, might be useful in overcoming the 'carelessness' of some parents, giving a fairly innocuous start to what was to become a highly controversial topic.

It was at this time that Victoria and Tasmania passed their first Vaccination Acts, and that New South Wales gave serious consideration to the possibility. From this point forth, compulsory vaccination would remain a more or less contentious issue. In the nineteenth century, medical practitioners contributed to the compulsory vaccination debate in three main ways: direct lobbying of the government, via existing medical positions within the state, and encouraging the public to participate on individual and collective levels. Each of these contributions took a number of forms.

Lobbying of the government took place on three levels: by individual doctors; by loose coalitions of medical practitioners, temporarily allied by a specific issue; and by formal groupings of practitioners, such as colonial branches of the British Medical Association or Medical Societies. Individual doctors had few options and little power, and their requests were therefore generally limited in scope. The most common form taken by lobbying on this level was a letter from a

[220] A. Savage, 'Vaccine Institution', *NSWV&P*, LC, 1848, p. 310.
[221] E.S.P. Bedford, 'Small-pox. Enclosure in His Excellency the Lieutenant-Governor's Message No. 22', *TPP*, 1853, No. 58.

doctor to the Colonial or Chief Secretary relating to public vaccinator positions, duties, scope and remuneration, or requests for lymph. With such limited aims, it was generally possible for the Chief Secretary and the individual doctor to negotiate an outcome acceptable to the needs of both.[222]

When practitioners wished to influence policy decisions, they tended to band with like-minded associates for additional impact. Occasionally these groups would address the Colonial or Chief Secretary directly, such as when a group of Launceston doctors wrote to the Tasmanian Chief Secretary in 1857 protesting against gratuitous vaccination, claiming that it was injurious to the interests of the medical profession.[223] These doctors argued that the public had been happily availing themselves of vaccination by private practitioners, that there was no pauper class, and therefore no extra encouragement was necessary. This instance was entirely unsuccessful, and subsequent group efforts were directed towards Parliament, such as when a group of Hobart doctors petitioned the House of Assembly in 1873 to amend the Vaccination Bill under consideration at that time to include more stringent clauses and greater clarity.[224] These doctors felt strongly about this issue, partly because they considered it to be an area within their expertise and partly because they would be expected to participate in its administration, should it have passed both Houses. As entitled as they may have felt to be offering their expert opinions on the content of the Bill, this petition proved unpersuasive to the Parliamentarians. As the nineteenth century progressed, direct approaches by groups of doctors to the Chief Secretary or the Houses of Parliament became rare in all of the Australian colonies, as official medical positions were formalised within the state bureaucracy, and health correspondence was directed through them.

More force was needed to achieve greater influence and professional societies, whose memberships greatly exceeded those of the petitioners, could claim greater representativeness and authority as a result. The most successful of these were the Medical Society of Victoria, existing in one form or another since 1846, and the colonial branches of the British Medical Association, established in Victoria in 1879, in New South Wales in 1880 and in Tasmania in 1911.[225] Among the many

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[222] AOT: CSD1/99/2784; AOT: CSD13/55/147; SRNSW, WSRC: CS, Main Series of Letters Received, 1877, 1/2364/1691.
[223] AOT: CSD1/99/2784.
[224] 'Vaccination Bill. Petition from medical practitioners', *TPP*, 1873, No. 78.
[225] The Medical Society of Victoria had its origins in the Port Phillip Medical Association, established in 1846, which became the Victorian Medical Association in 1852, then merged with the Medico-Chirurgical Society of Victoria to

functions performed by these societies, branches could use their size and organisational base to support their attempts to affect health policy, and separate associations sometimes joined forces over a specific issue in the interests of the profession.[226] The publications of medical societies provide insight into medical opinion regarding all aspects of the vaccination debate, and the way they developed over time.

A longitudinal study of the *Australian Medical Journal*, for example, is particularly useful, because it was published between January 1856 and the end of 1895, covering almost the whole of the period under investigation. Additionally, while it was published under the auspices of the Medical Society of Victoria, the *AMJ* was distributed widely, and aimed at medical practitioners throughout the colonies. These two qualities, of longevity and popularity, are not equalled by any other contemporary colonial medical journals, making it an ideal case study. The distribution of articles relating to smallpox and vaccination in the *AMJ* is shown in Figure 7 below.

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become the Victoria Medical Association in 1855, and then finally becoming the Medical Society of Victoria in 1861. The Victorian Branch of the British Medical Association was inspired in reaction to a request from the President of the BMA to attempt the founding of Australian branches, and given impetus by the dissatisfaction of some practitioners with the Medical Society of Victoria. The New South Wales Branch was formed under the same instructions from Britain as the Victorian Branch, and followed only a few months behind. However, an Australian Medical Association had existed in New South Wales, between 1859 and 1869, but from 1863 onwards it was practically defunct. From 1876, there was a medical section of the New South Wales Royal Society, where papers on medical science were read and discussed. An attempt was made to establish a Tasmanian Branch of the BMA in 1887, but the group petered out. In southern Tasmania, medical practitioners formed a medical arm of the Royal Society of Tasmania in 1896, while in northern Tasmania, doctors formed a sub-branch of the Victorian Branch of the BMA, in 1897, but this lapsed by 1904. When a more robust Tasmanian Branch was formed in 1911, it was separated into Northern and Southern Divisions. J. Breheny, 'As it was in the beginning… the British Medical Association (Victorian Branch)', *MJA*, (June 2, 1979): 504-506; F.R. Fay, 'History of the British Medical Association in Tasmania', *MJA*, (June 2, 1979): 506-508; 'The British Medical Association in Australia', *MJA*, (March 21, 1959): 383-398; A. Tovell and B. Gandevia, 'Early Australian Medical Associations', *MJA* (May 19, 1962): 756-759.

[226] 'Our Melbourne Letter', *AMG*, (March 1882): 88-89.

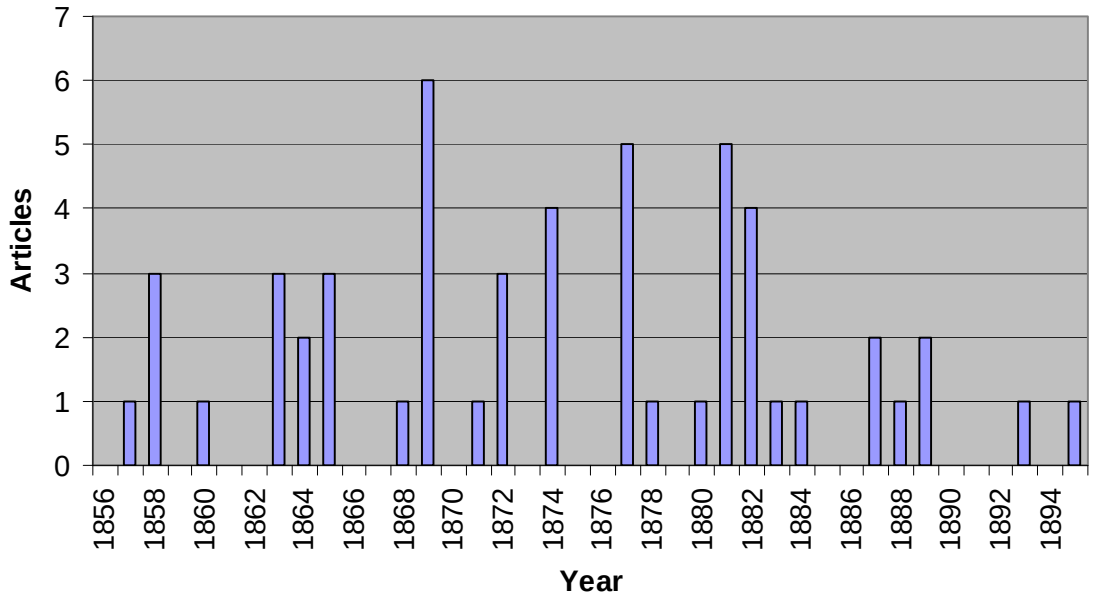

Figure 7: Smallpox and vaccination articles in the *Australian Medical Journal*, 1856-1895.

These references included a wide range of items, including: original articles, reprints from international journals, medical society reports, correspondence, reviews of books and pamphlets, news, histories, and parliamentary reports. Some, naturally, are more substantial than others; two of the references from 1877 were comprised of multiple letters all regarding the history of smallpox among the Aboriginal population thirty years previously and spanned many pages, whereas one summary of international literature in April 1863 regarding smallpox and glanders stretched to a mere six lines.[227] The one constant throughout these references is the belief in the power of vaccination to prevent smallpox and the desirability of universal vaccination.

Predictably, more articles appeared in years when smallpox was present somewhere in the colonies, and when vaccination was being discussed in the colonial parliaments. Sometimes these were straightforward news articles or epidemiological reports; more frequently, however, they addressed the controversial elements of vaccination. These changed over time. In the late 1850s, discussion revolved around the proposed amendments to the Victorian Vaccination Act, which applied a penalty not exceeding £20 to practitioners who failed to report cases of smallpox to the

[227] *AMJ*, 8 (1863), p. 153; 22 (1877), pp. 12-23; 46-59.

Local or Central Boards of Health, and the potential for 'regenerating' deteriorated humanised lymph by 'a return to the original source, the cow, for a renewal of its enfeebled virtue'.[228]

During the mid-1860s, in the wake of the panic caused by the 1863 London epidemic, there arose a significant amount of debate over the value of revaccination. This included an experimental study conducted by the surgeon at the Orphan Asylum in Melbourne who concluded that it was both safe and desirable to be repeatedly vaccinated, and the minutes of a special meeting of the Medical Society of Victoria which was less certain. After extensive debate, in which the safety of revaccination was placed in serious doubt, the meeting recommended revaccination where the primary scar was less than perfect.[229] There was also, at this time, discussion over non-medical vaccinators, which were highly unpopular within the medical community, and saturation vaccination, in which it was decided that four punctures were optimal.[230]

Revaccination became topical again around 1870, following the 1869 Victorian outbreak. William McCrea, the Victorian Chief Medical Officer, urged the public to vaccinate and revaccinate as the 'primary and most powerful means' of checking the spread of smallpox was universal vaccination.[231] He explicitly warned of the need for revaccination as its protection wore off over time and refuted earlier concerns about the safety of repeated vaccinations. A new Vaccination Bill in 1874 revived the debate over non-medical vaccinators in rural areas, with McCrea in a medical minority of one in supporting the move. The rest of the profession viewed the plan as both dangerous for the public and injurious to the interests of the profession.[232]

During the course of the alarm produced by smallpox in Sydney in 1877, a great deal of interest arose in the appearance of smallpox among Aborigines 30 years previously, sparking a torrent of correspondence as medical practitioners across the colonies added their remembrances to the discussion.[233] This extended discussion highlighted the importance of the history of smallpox and vaccination to the vaccination debate and to the medical profession generally as a focal point for

[228] *AMJ*, 3 (1858), pp. 30-31; 61-65; 80-81; 4 (1860), pp. 297-299. This was not a call for the general use of calf lymph, but an occasional use of vaccination from the cow to strengthen the potency of the lymph strain in use in humanised transmissions.
[229] *AMJ*, 8 (1863), pp. 264-265; 280-283.
[230] *AMJ*, 10 (1865), pp. 378-379; 269; 301-302.
[231] *AMJ*, 14 (1869), pp. 86-90.
[232] *AMJ*, 19 (1874), pp. 194-198; 205-206; 225-229; 252-253; 284-285.
[233] *AMJ*, 22 (1877), pp. 12-23; pp. 46-59.

bonding. This was also evident in Alexander Stuart Paterson's series of articles on the 'Early History of Vaccination'.[234] An Edinburgh medical graduate who lectured on lunacy at the University of Adelaide, Paterson presented Jenner in an heroic role, attributed all alleged negative outcomes of vaccination to inefficient performance of the operation and supported calf lymph only if it would encourage more vaccination, but pointed to the practical difficulties associated with it as significant limitations to its general use. The 1877 smallpox alarm had also brought to light the prejudices against vaccination held by some portions of the community, and these too received attention in the journal. The benefit to be gained from universal vaccination was again reiterated, and the communication of secondary diseases through vaccination was admitted possible, but only through extreme carelessness and malpractice.[235] This position highlighted the necessity for the restriction of the performance of vaccination to trained professional medical men.

The 1880s were important years for the vaccination debate, as smallpox was present in several colonies for much of this decade and anti-vaccinationist sentiment strengthened at the same time. These facts, and the establishment of a Select Committee on Vaccination in Victoria in 1881, served to focus attention on the relevance of vaccination for the Australian colonies. Medical opinion as expressed in the *AMJ* argued that those who believed that there was 'but an infinitesimal risk of small-pox ever gaining a footing' in the colonies were not sufficiently acquainted 'with the horrors that attend epidemics of small-pox' and that they put the public at risk by 'thrust[ing] their ill-considered notions upon public attention.'[236] Further, they stressed the importance of vaccination and revaccination, regardless of the state of quarantine, and recommended the use of calf lymph to those concerned about secondary diseases.[237] Calf lymph was not unequivocally recommended, because 'it is often attended with great local irritation'; however, in the interests of rejuvenating the quality of the lymph, 'a rule… of resorting again to bovine lymph after every ten or twenty removes from man to man' was deemed desirable.[238] Nevertheless, over this period calf lymph became increasingly accepted within the medical community, owing to pressures from the

[234] *AMJ*, 17 (1872), pp. 265-275; 306-315.
[235] *AMJ*, 22 (1877), pp. 111-117.
[236] *AMJ*, 2 (1880), pp. 321-322.
[237] *AMJ*, 3 (1881), pp. 182-185; 221; 311-314; 334.
[238] *AMJ*, 3 (1881), pp. 311-314.

public and growing medical experience with it.[239] Cases of smallpox, their diagnoses, treatment and the actions of the Central Board of Health were all topics of discussion during these years.[240]

The next point of dispute was the appropriate age at which children should be vaccinated. Doctors considered the question with consideration for local conditions, such as a less settled population, hot summers, and less urgency for early vaccination in the absence of smallpox.[241] The period ended with a restatement of continued medical support for vaccination, this time in opposition to the anti-vaccinationist arguments presented in Edgar Crookshank's 1894 publication on the prevention of smallpox:

> Even with Professor Crookshank and Dr. Creighton against them, medical men are almost unanimous in the belief, that the protective influence of vaccination is real, that its dangers are trifling, and that it should be kept up.[242]

For all their disputes over matters of detail – the correct number of punctures, the appropriate age, the use of calf lymph, the necessity and safety of revaccination – medical opinion in the colonies was overwhelmingly in favour of the operation for the entirety of this period. Its value was so self-evident, to them, that anyone who failed to be vaccinated was either ignorant or apathetic. Whether or not vaccination should be made compulsory by law was not discussed in the *AMJ*, because it was not an issue; universal vaccination was necessary for the good of the public, there was no conceivable rational opposition to it and its universality needed to be encouraged through whatever means necessary. As one article author noted, 'Luck and *laisser-faire* will not always save us.'[243]

Medical journals were not the only outlet for medical societies to participate in the vaccination debate. Although their efforts often went unrewarded – as the persistent lobbying of the New South Wales branch of the BMA demonstrated with its efforts to secure the passage of a compulsory vaccination act – this did not dampen their enthusiasm. Many members believed that rather than the association having to instigate communication with the government, the 'co-

[239] *AMJ*, 5 (1882), pp. 381-383; 9 (1887), pp. 490-494.
[240] *AMJ*, 4 (1882), pp. 47; 194-219; 221-222; 248-263; 6 (1884), pp. 268-269; 9 (1887), pp. 323-326; 10 (1888), pp. 193-195.
[241] *AMJ*, 11 (1889), pp. 360-364; 386-387.
[242] *AMJ*, 17 (1895), pp. 189-190.
[243] *AMJ*, 9 (1887), pp. 323-326.

operation of the association ought to have been sought' on matters pertaining to health.[244] In fact, medical expertise was often sought by the government during Select Committee investigations into health issues, but these were individual doctors invited by the Committee to participate and a range of opinions was consciously sought, resulting in some practitioners being included who were not a part of, nor approved of by, the professional societies.[245] Nevertheless, the trend towards a greater amount of legislation concerning public health and medical matters towards the end of the nineteenth century is indicative of the increasing extent to which these societies influenced government.

The opinions expressed by medical participants in the Select Committees generally reflected that presented in the medical journals. One of the earliest, in 1853 in Tasmania, did not even question the value of vaccination; rather, its purpose was to focus on determining the best way to encourage it to become universal. It concluded that a pecuniary penalty on parents or guardians of unvaccinated children between the ages of six months and fourteen years would be the most effective method of ensuring the general vaccination of the population. Older people were not to be legislated for, as they believed 'it to be unnecessary to do more than to awaken the attention of the adult community to the extreme importance of taking steps which will obviously be so conducive to their own personal safety'.[246] By 1863, they had realised that vaccination uptake was linked to cycles of panic and apathy related to the presence or absence of smallpox. The medical practitioners interviewed as part of this investigation considered the poor to be the most apathetic in between panics, and believed a properly administered system of compulsory vaccination, combined with house-to-house visitation, to be the best way to ensure complete coverage.[247]

Medical opinion, as expressed through the interviews and submissions of the Select Committees, remained steadfastly in favour of universal vaccination. However, over time many issues of detail arose, over which the profession expressed disparate opinions. These included questions of

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[244] 'Amending Health Act', *AMG*, June 1883, p. 192.

[245] 'Report from the Select Committee upon Vaccination Law; together with the Proceedings of the Committee, Minutes of Evidence, and Appendices', *VPP*, 1880-81, Vol. 2, No. D 13, pp. 739-776; W. Champ, 'Small-pox. Report from the Select Committee appointed to take into consideration His Excellency's Message, No. 22', *TPP*, 1853, No. 77; 'Vaccination. Report from the Select Committee', *TPP*, 1863, No. 90; 'Report from the Select Committee on the Quarantine Laws with Minutes of Evidence and Appendix', *NSWV&P*, LC, 1853, Vol. 2, pp. 780-781; *AMJ*, 3 (1881), pp. 182-184.

[246] W. Champ, 'Small-pox. Report from the Select Committee appointed to take into consideration His Excellency's Message, No. 22', *TPP*, 1853, No. 77.

[247] 'Vaccination. Report from the Select Committee', *TPP*, 1863, No. 90.

revaccination and the appropriate number of punctures, leading the 1881 Victorian Committee to comment that 'the opinions expressed by the various medical men are so conflicting and contradictory on many points as to render their testimony of little practical value'.[248] The *AMJ*, however, thought that lack of agreement was a function of the poor composition of the expert panel.[249] Unanimity was, nevertheless, expressed on two points: infants should not be vaccinated during January and February, owing to the complications produced by the heat at that time of year; and that some diseases could be communicated through the arm-to-arm method.

Committees such as these, however, were an extraordinary occurrence, motivated by extreme circumstances. On a general day-to-day level, if the government was desirous of obtaining a medical opinion on an issue, it would turn to salaried government medical officials, such as the Medical Officer of Health, the Vaccination Superintendent, the Health Officer, members of the Central (or sometimes Local) Board of Health, and Medical Adviser. Not all of these positions existed for the whole of this period in all of the colonies.

New South Wales possessed Health Officers from the early nineteenth century. Their duties principally involved quarantine matters, but were expanded to include responsibility for vaccinations in December 1846. The position of Health Officer and Superintendent of the Vaccine Institute were separated in 1852.[250] From 1848 to 1904, Medical Advisers to the Government were appointed to supervise the medical institutions of the colony and to handle correspondence from medical officers. When New South Wales's first Board of Health was formed in 1881 under the provisions of the Infectious Diseases Supervision Act, the Medical Adviser shared responsibilities with the Board, eventually combining to become President of the Board of Health. The initial *raison d'etre* of the Board was to 'advise and assist the Government in preventing the spread of Smallpox', thereby formalising medical advice regarding smallpox management within the bureaucratic hierarchy.[251]

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[248] 'Report from the Select Committee upon Vaccination Law; together with the Proceedings of the Committee, Minutes of Evidence, and Appendices', *VPP*, 1880-81, Vol. 2, No. D 13, p. 746.
[249] *AMJ*, 3 (1881), pp. 182-184.
[250] H.G. Alleyne, 'Health Officer', *NSWV&P*, LC, 1852 Vol. 2, pp. 1161-1163; J.Y. Rutter, 'Vaccine Institution', *NSWV&P*, LC, 1853, Vol. 1, pp. 411-2.
[251] SRNSW, WSRC: Board of Health, minutes of proceedings, 1881-1973, CGS 587/5/2913, 18 July 1881.

In Victoria, the Gold Rush had sparked earlier public health organisation. The Medical Department (1837-1854) included the Chief Medical Officer, District Surgeons, medical staff at Pentridge and the goldfields hospitals, the Secretary to the Medical Board and the Health Officer.[252] Smallpox and vaccination were reported upon by the Chief Medical Officer annually, and the Health Officer did the same for quarantine. The Central Board of Health was established in 1855 under the Public Health Act 1854 with the Chief Medical Officer as chairman. In 1890, the CBH was replaced by a Department of Public Health, and the Board of Public Health comprised the Chairman, the medical inspector and seven municipal representatives.

Responsibilities were less formalised in Tasmania, where the term 'Medical Department' was used to describe the civil functions of the imperial medical staff. A Central Board of Health was formed in 1886, but encountered a great deal of opposition from Local Boards and suffered from a lack of funding from the government, and was replaced by a Department of Public Health in 1904.[253] A Vaccination Department existed occasionally, but usually only lasted as long as the panic did. Nevertheless, there was a Vaccination Superintendent from 1877, who reported to Parliament, and Health Officers had their duties more rigidly defined from the same year forth.

Medical officials, and health generally, were the responsibility of the Colonial or Chief Secretaries, until the late nineteenth and early twentieth centuries, when health became a separate ministry in each colony. All of the positions outlined above reported, and were answerable, to the Secretary of their colony. Their reports usually contained recommendations as to potential improvements to the administration and legislation of health matters, and members of Parliament were at least annually apprised of the concerns and opinions of these medical practitioners. However, they occupied an unusual position; in a Venn diagram of allegiances, theirs lay in the overlapping region of both medical and state affiliation. Hence, there were occasions when one of these officers, who enjoyed a significant level of influence with government, espoused views that were at variance with the

[252] M.J. Lewis, *The People's Health: public health in Australia, 1788-1950* (Westport, CT: Praeger, 2003), pp. 72-76, 99-100; R.J. Inall, *State Health Services in Victoria* (Sydney: University of Sydney Press, 1971), pp. 1-3.
[253] Lewis, *op. cit.*, pp. 88-89; S. Petrow, *Sanatorium of the South: Public Health and Politics in Hobart and Launceston 1875-1914* (Hobart: Tasmanian Historical Research Association, 1995); B. Harris, *From Plagues and Pestilence to Public Health: a brief history of public and environmental health in Tasmania* (Hobart: Department of Health and Human Services, 2004).

majority of the profession, such as when McCrea attempted to implement a system of lay vaccinators against the wishes of the rest of the profession.[254]

Despite this tendency towards occasional unrepresentativeness, salaried medical officials possessed the greatest access to government of all members of the profession (with the possible exception of members of Parliament who were also medical practitioners). Their opinions on health issues were actively sought by the government and, as a general rule, they ensured that Parliamentarians were aware of the medical stance on a given issue.[255] More specifically, a great deal of advice was proffered regarding vaccination administration, smallpox management and quarantine practices. In New South Wales and Tasmania, the reports of the medical officials tended to focus on the need for more efficient vaccination programs, or effectively administered compulsory legislation. Francis Campbell, the Vaccination Officer for New South Wales, argued in 1868 that 'vaccination, to become general, must be compulsory. Many of the native-born who are married and have never been vaccinated, do not see any necessity in having their children vaccinated'.[256] That is, he blamed parental apathy based on ignorance for poor vaccination attendance. Edward Swarbreck Hall contended that, in Tasmania, 'as everywhere else, the voluntary system has utterly failed to keep the children of the Colony protected by Vaccination from the possible invasion of Small-pox.'[257] As a result of this failure, he argued that vaccination needed to be compulsory and free, supported by the state for the benefit of the whole community. His sentiments were echoed by a later Vaccination Superintendent, C.E. Barnard:

> …the benefit to be derived from universal vaccination is National, - for the good of the State, - for the security of the community against the incursion of a plague, - and it behoves the individuals of the State to make sacrifices for the good of the whole… for, in the presence of an epidemic of smallpox, every unvaccinated person is a source of danger to his neighbour, as the infectious disease is more likely to spread among this class than the vaccinated.[258]

The vaccination debate was not played out between the medical profession and the state exclusively, however. A great deal of it took place in the public sphere and, to this end, the

[254] 'Evidence taken at the Bar of the Legislative Council on the Vaccination Bill, in committee of the whole council', *VV&P*, LC, 1874, pp. 171-185.
[255] There were, during this period, a significant number of parliamentarians in each colony who had trained as medical practitioners: 20 in New South Wales, 23 in Victoria, and 15 in Tasmania.
[256] F. Campbell, 'Vaccination', *NSWLCJ*, 1867-8, Part 1, No. 67, p. 833.
[257] Hall, 'Vaccination. Petition', *op. cit.*, p. 4.
[258] C.E. Barnard, 'Vaccination: Report for 1886', *TPP*, 1887, No. 24, p. 4.

profession aimed to influence public opinion on both individual and collective levels. It was widely recognised that a doctor could achieve a great deal by exerting his personal influence on their patients and encouraging them to have their children vaccinated. This is clear across the colonies from the extreme differences between quantities of vaccinations performed by different practitioners, by the general push for unity among the profession on the issue in order to promote vaccination among the public, as well as from clear assertions of the scope of individual influence.[259]

When attempting to reach a wider audience in the public arena, however, extensive use was made of print media. Doctors advertised times for vaccinations in newspapers and on posters, and posters were also used to alert parents to the compulsory nature of vaccination in Victoria and Tasmania. When a child's birth was registered in Victoria, the Registrar was required to give a pamphlet bearing such information to the parents. Medical practitioners sometimes wrote letters to the editors of newspapers, offering their opinion on vaccination and urging others to follow their advice.[260] More detailed expositions were published as pamphlets, either by individual doctors or by more formal bodies, such as the Boards of Health or colonial branches of the BMA.[261] These increased in incidence between 1854 and 1898 as the medical profession became increasingly aware of anti-vaccination sentiment and the need to counter this with their own pro-vaccination propaganda.

The overwhelming majority of extant medical contributions to the compulsory vaccination debate were pro-vaccination. In their efforts to expound the pro-vaccination case, many doctors described the potential impact of smallpox upon the unprotected colonies in almost apocalyptic terms. Francis Campbell, Vaccination Officer in New South Wales, for example, wrote in his report on vaccination for the year 1867:

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[259] A. Mault, 'Central Board of Health: report for the year 1900', *TPP*, 1901, No. 51, pp. 9-10; *TV&P*, HA, October 4, 1900, No. 60; Once a Public Vaccinator, 'Letters to the Editor: Vaccination', *AMG*, March 1891, pp. 177-178; A. Mueller, 'On Small-Pox, Vaccination and Certain Reforms Required in the Latter', *AMG*, April 1891, pp. 185-190; 'The Hon. Dr. Beaney, M.L.C., on the Consequences of Vaccination', *AMG*, October 1894, p. 15; A. Mault, 'Central Board of Health: report for 1893', *TPP*, 1894, No. 54, p. 9.

[260] For example, *Mercury*, June 25, 1863, p. 2, c. f; February 7, 1877, p. 2, c. c-d; *Age*, 4 August, 1881, p. 5, c. g-h; *Sydney Morning Herald*, 20 August, 1881, p. 3, c. f.

[261] Board of Public Health (Victoria), *Vaccination. Facts about small-pox and vaccination* (Melbourne: Government Printer, 1898); *State Vaccination* (Melbourne: Stilwell and Co., 1896); J.P. Ryan, *Small-Pox and Vaccination* (Melbourne: Australian Health Society, 1881).

> Let this noisome pestilence once get a footing on our shores, and it will laugh to scorn all subsequent efforts to erase it from the catalogue of your epichorial diseases. The dismal chasms made in families by the devastations of the small-pox, the frequent impairment of the constitution, and the sad transformations effected by it in the most beautiful of all God's handiwork – the human countenance, which many British practitioners still living must have witnessed in the early part of this century, will bear him out in his strong expressions on this subject.[262]

Medical practitioners repeatedly expressed fears that the Australian populations underestimated the risk of smallpox appearing, and becoming endemic, in the colonies. Most doctors at this time had received their training in Britain, and had experience of smallpox and vaccination in that country. These factors motivated emotive appeals, emphasising the risks of death and disfigurement posed by smallpox among the unvaccinated. Edward Swarbreck Hall, Tasmanian Officer of Health and ardent pro-vaccinationist, supported Campbell's position:

> When the day comes…to restrain the slaughter of the people from Small-pox, as all past experience shows that it will come sooner or later, there will be weeping and wailing and gnashing of teeth, and deep humiliation, sorrow, and remorse for those who ought to have averted such a calamity.[263]

The best way to avoid the ravages of smallpox, they posited, was universal vaccination, and most efficiently achieved through compulsory vaccination legislation, adequately administered and enforced. They emphasised that the colonies' comparative freedom from smallpox was attributable to luck more than anything else, and that quarantine was a useful supplementary measure, but not one that could be relied upon as the sole measure of defence. Vaccination, they repeated, was the only sure preventive measure against the almost inevitable threat of smallpox.

There were differences of opinion over details of implementation and procedure, such as how many cicatrices were optimal and whether humanised or calf lymph were preferable. However, most doctors agreed that vaccination, in principle, was a good thing, and the best way to prevent infection with the smallpox virus. Of the minority who professed anti-vaccinationist views, many had reached this stance after witnessing negative outcomes of vaccination.

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[262] F. Campbell, 'Vaccination', *NSWLCJ*, 1867-8, Part 1, No. 66, p. 830.
[263] E.S. Hall, 'Officer of Health – Hobart Town and Suburbs: report for 1879', *TPP*, 1880, No. 35, p. 6. See also, E.F. Haynes, *Edward Swarbreck Hall: medical scientist and social reformer in colonial Tasmania* (M.A. thesis: University of Tasmania, 1976), pp. 280-295.

John Le Gay Brereton, of Sydney, was a prime example. He believed that one of his children had died, and that another had suffered permanent debility, as a direct result of vaccination and he therefore regarded 'vaccination itself as an evil greater than that of small-pox'.[264] Brereton also practised homoeopathy in addition to allopathy, but this had not contributed to his opposition to vaccination. Indeed, many homoeopaths believed that vaccination vindicated their methods and were therefore supportive of the cause. These included practitioners such as Carl Frank Fischer, who was interviewed as part of the same ministerial enquiry as Brereton, and Harry Benjafield, a highly successful homoeopath who championed calf lymph in Tasmania.[265] On the other hand, Brereton's openness to heterodox medical practices, including hydropathy as well as homoeopathy, may have contributed to his willingness to depart from orthodox medical opinion on vaccination, when added to his personal experiences.[266]

In a similar case, John Morton produced an anti-vaccination pamphlet in 1875, in which he described himself as a general practitioner who had changed his mind about vaccination as a result of his observations and practical experience gained as a vaccinator.[267] Acting upon similar foundations, a group of Victorian doctors who petitioned the Legislature for the repeal of the Compulsory Vaccination Act in 1880 did so based on two objections: 'the uncertainty of its protective power, and that it may be the means of communicating other diseases'.[268] They had reached these conclusions in the course of acting as vaccinators, and communicating with members of the public.

It is difficult to quantify anti-vaccinationist medical practitioners, but the available evidence suggests that they were a small minority. In 1881, Brereton could only provide the names of two doctors besides himself, opposed to vaccination in New South Wales which, of all the colonies, was the most anti-vaccinationist in character. A Tasmanian survey of forty-five practitioners in

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[264] 'Compulsory Vaccination', *NSWLCJ*, 1881, Part 2, pp. 217-271, p. 240.
[265] *Ibid.*; M. Roe, 'Benjafield, Harry (1845-1917)', *ADB*, Supplementary Volume (Melbourne: Melbourne University Press, 2005): 26-27.
[266] H.P. Heseltine, 'Brereton, John Le Gay (1827-1886)', *ADB*, Vol. 3 (Melbourne: Melbourne University Press, 1969): 227-228. Durbach argued that anti-vaccinationism was aligned with alternative medicine and that heterodox practitioners, opposed to the legislative privilege and expanding monopoly of allopathic medicine, were among the earliest members of the anti-vaccination movement in England, although there is less evidence for trends of this kind in colonial Australia. See Durbach (2005), *op. cit.*, pp. 26-36.
[267] J. Morton, *Vaccination and its Evil Consequences, Cow-Pox and its Origin, Small-Pox, &c.*, (Parramatta NSW: C.E. Fuller, 1875).
[268] G. Turnley, 'Vaccination: Report for 1880', *TPP*, 1881, No. 38, p. 3.

1881 also revealed remarkable unity of opinion: they had confidence in the quality, character and protective power of the lymph in use at the time, and only two respondents had ever encountered any secondary disease resulting from vaccination, both of a minor character.[269] Most disagreements within the profession regarding vaccination related to the specifics of the procedure, rather than the value and desirability of universal vaccination.[270] Exactly how to achieve the goal of universal vaccination was a more challenging issue; most doctors were so thoroughly convinced of the utility of vaccination that they could only conceive of failure to vaccinate in terms of ignorance or apathy. Their responses to public 'apathy' were therefore to try to educate and motivate the public and, when this failed, to support state intervention in the form of compulsion. Their persistence in pursuing these goals was rooted in their conviction regarding what vaccination offered, and what it had already achieved. As Paterson eulogised in his history:

> Small pox had been a terrible scourge, and men were prepared to embrace a scheme which on the one hand, held out a prospect of security from danger, and on the other was stamped with the accuracy of scientific truth. Within a few years its value was recognised by every civilized community under the sun, and by many that were not civilized. Its discoverer cherished the hope that it would exterminate small-pox. When vaccination becomes universal, when the conviction takes root in the common mind of humanity, that it is as necessary to vaccinate every child born into this world, as it is to feed it or to clothe it, it is hardly too much to hope that this grand result may be accomplished.[271]

Orthodox medical practitioners were, almost without exception, supportive of vaccination. Furthermore, they were overwhelmingly in favour of compulsory infant vaccination. Initially, this stance was motivated by a desire to maintain the colonies' status as smallpox-free; there was a definite sense that if everyone were vaccinated, smallpox could eventually be completely eliminated.[272] Later, as it became increasingly clear that vaccination sometimes only mitigated

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[269] 'Vaccination: enquiries from medical practitioners, and replies', *TPP*, 1881, No. 83. The two cases of secondary disease were roseola, which is an infection caused by one of the herpes viruses common amongst infants and with no long-term consequences, and erysipelas, a superficial bacterial skin infection caused by streptococcus pyogenes. Infection with the latter is more likely where there is skin trauma, such as cuts, abrasions, and vaccination sites.

[270] 'Compulsory Vaccination', *op. cit.*, 1851; 'Vaccination: enquiries from medical practitioners, and replies', *TPP*, 1881, No. 83; 'Evidence taken at the Bar of the Legislative Council on the Vaccination Bill, in committee of the whole Council', *VV&P*, LC, 1874, p. 171-185.

[271] A.S. Paterson, 'The early history of vaccination', *AMJ*, 17 (1872): 265-275, pp. 271-2.

[272] Indeed, given that smallpox has since been eradicated, the temptation is present to award these doctors visionary status. However, the final eradication programs relied on the centuries old techniques of isolation, disinfection and sanitation, in conjunction with vaccination, to stamp out outbreaks. See, for example, K.J. Pitkänen, J.H. Mielke, and L.B. Jorde, 'Smallpox and Its Eradication in Finland: implications for disease control', *Population Studies* 43(1)

rather than prevented cases of smallpox, medical focus on compulsory vaccination actually increased because unvaccinated people were held to pose a greater threat to the whole of society. Dominant thought on revaccination changed too; it developed from being a precaution taken when primary vaccination was in doubt, to a universal necessity as it became apparent that the protection offered by vaccination wore off over time. Diverse opinions were expressed on details, such as the optimal number of punctures, the best type of lymph and the right age for vaccination, but these questions were eventually resolved through debate within the profession. This dissonance of medical opinion led to the fourth, and derivative, way in which the medical profession contributed to the vaccination debate: by actively working to homogenise medical opinion for greater impact in the other three modes of contribution. The efforts to unify medical opinion formed part of the much larger strategy of the professionalisation of medicine.

(1989): 95-111; F. Fenner, D.A. Henderson, L. Arita, Z. Ježek, and I.D. Ladnyi, *Smallpox and its Eradication* (Geneva: World Health Organization, 1988), p. 1361.

3.3: The professionalisation of medicine and the medicalisation of society

Two of the most important developments in nineteenth-century medicine were the related processes by which medicine became a profession and medical services were extended into all levels of society, with a contemporaneous increase in the prestige and influence of the medical profession. Although the definition of profession is controversial, certain attributes are generally regarded as characteristic of professionalism.[273] Specialised knowledge and skills become the property of an occupational group, which self-regulates membership through educational requirements and ethical standards, and attains a position of state-legitimated monopoly over its field and the consequent financial and status benefits of that position.

Such a definition, however, encourages a trait approach to identifying professionalism and, by ignoring the historical aspects of professionalisation, fails to explain how an occupational group can work to achieve each of these characteristics and still not receive the financial and status benefits of other professions. The classic example of this is the difference between nursing and medicine. Although nursing has achieved many of the traits that constitute professionalism, it is subordinated within healthcare to medicine. On the other hand, medicine has achieved, as Willis described, economic, political, social and intellectual dominance of healthcare, and sustained it at three different levels: 'over its own work', described as autonomy; 'over the work of others', or authority; and 'in the wider health sphere', which is referred to as medical sovereignty.[274]

Traditional medical history, through focusing on heroic figures and progressive breakthroughs, has tended to suggest that medicine achieved its dominant position within healthcare as the natural

[273] For some, but by no means all, of the debate on what constitutes a profession and the process of professionalisation, see: A.M. Carr-Saunders and P.A. Wilson, *The Professions* (Oxford: Clarendon Press, 1933); E. Greenwood, 'Attributes of a Profession', *Social Work* 2 (l957): 44-55; E. Freidson, *Professional Dominance: the social structure of medical care* (Chicago: Aldine Publishing Company, 1970), *idem*, *Professionalism Reborn: theory, prophecy, and policy*, (Cambridge: Polity Press, 1994); T. Parsons, 'The Professions and Social Structure', *Social Forces* 17 (1939): 457-467; M. Larson, *The Rise of Professionalism: a sociological analysis* (Berkeley: University of California Press, 1977); T. Johnson, *Professions and Power* (London: Macmillan Press, 1972); H.M. Swick, 'Toward a normative definition of medical professionalism', *Academic Medicine* 75(6) (2000): 612-616; J.A. Gillespie, *The Price of Health: Australian governments and medical politics* (Cambridge: Cambridge University Press, 1991).

[274] E. Willis, *Medical Dominance: the division of labour in Australian health care* (rev. ed.) (Sydney: Allen & Unwin, 1989), pp. 2-3.

result of altruistically motivated technological, ethical and educational superiority.[275] More recent scholarship, however, has set these developments within the wider social, economic, cultural and political contexts. Freidson provided the basis for much subsequent work when he argued that organised autonomy was the critical feature of professions and that the legal monopoly over the occupational field, control over education and formation of a code of ethics all stemmed from this one feature.[276] His structuralist perspective emphasised the institutionalised nature of medical dominance and the hierarchy of expertise. The role of the state in supporting medical dominance, according to Freidson, was crucial and evidence of technical capability less important.

State support for medicine was preceded by the growth of cultural authority, argued Starr, who explained the growth of medical authority in America with reference to legitimacy and dependence based on social and cultural authority.[277] He argued that social authority, or dominance through legislative support, was based on medicine's cultural authority, or general acceptance of scientific medicine by the public. This view stressed the role of economic and social factors, such as the growth of hospitals, increased pressure on medical resources resulting from urbanisation and the impact of changes in transportation and communication, in allowing cultural authority to develop.[278] Rosen agreed that cultural authority was a necessary precursor to medical dominance, but identified educational reforms and advancements in knowledge and technology as playing a more substantial role in creating public support.[279] Once authority had successfully been negotiated with the public and the state and control of the market achieved, Perkin argued, the profession regulated the supply of their services, increasing their value.[280] Social status was therefore crucial to the earning ability of medical practitioners.

The professionalisation of medicine in colonial Australia perhaps more closely resembled the progress of the American medical profession than the British because colonial medical practice, as MacLeod phrased it, 'accepted but bypassed' the three way division of British medicine, exhibiting

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[275] N. Hicks, 'Medical History and History of Medicine' in G. Osborne and W.F. Mandle (eds.), *New History: studying Australia today* (Sydney: George Allen & Unwin, 1982): 69-81; P.J. Lloyd, 'A History of Medical Professionalisation in NSW: 1788-1950', *Australian Health Review* 17(2) (1994): 14-28.
[276] E. Freidson, *op. cit.*, pp. 133-137.
[277] P. Starr, *The Social Transformation of American Medicine* (New York: Basic Books, 1982).
[278] *Ibid.*, pp. 65-78.
[279] G. Rosen, *The Structure of American Medical Practice: 1875- 1941* (Philadelphia: University of Pennsylvania Press, 1983).
[280] H.J. Perkin, *The Rise of Professional Society: England since 1880* (London: Routledge, 1989), pp. 7, 16, 378-379.

instead a more general practice character and facilitating many of the changes intrinsic to professionalisation.[281] Within the Australian context, professionalisation and medicalisation have largely been addressed on a state by state basis, and much of the work has focused on Victoria. The first major study, by Pensabene, concluded that advances in medical knowledge, and the consequent public perception of medical skills, were the basis of the medical profession's increasing economic, political and social power.[282] He emphasised the importance of professional societies and journals in creating professional unity and in representing medical interests.[283] Identifying the beginning of change in medical knowledge, competence and status in the late 1870s, he traced the process of the professionalisation of medicine and the attendant rise in status and power to 1930, when he concluded that the medical profession had attained high levels of both. While Pensabene has effectively demonstrated that the professionalisation of medicine was a real phenomenon in Victoria with important consequences for the status and earning capacity of doctors, he has been criticised for not adequately detailing the process by which medical knowledge became dominant and one group of practitioners became connected to that knowledge.[284]

Willis has criticised Pensabene's approach by noting that any explanation that focuses too heavily on the role of medical knowledge in explaining the position of medicine is 'technological determinism'. Willis's structuralist approach focused instead upon relating 'the activities of doctors to the broader structural processes which impinge them' within the political and economic contexts.[285] He argued that the process of professionalisation in Australia began much earlier and finished slightly later than Pensabene suggested. He found that the hierarchy within health developed before the development of scientific medicine and that the composition of that hierarchy was largely determined by class and gender interests, particularly bourgeois individualist ideology, and the compatibility between state and medical interests leading to state patronage of medicine during this critical formative period. Willis described the subordination, limitation and exclusion

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[281] R. MacLeod, 'Colonial Doctors and National Myths: on telling lives in Australian medical biography' in M.P. Sutphen and B. Andrews (eds.), *Medicine and Colonial Identity* (London: Routledge, 2003): 125-142, p. 129.
[282] T.S. Pensabene, *The Rise of the Medical Practitioner in Victoria: Health Research Project, research monograph 2* (Canberra: Australian National University, 1980).
[283] See also, D. Dyason, 'The Medical Profession in Colonial Victoria, 1834-1901', in R. MacLeod and M. Lewis (eds.), *Disease, Medicine, and Empire: perspectives on western medicine and the experience of European expansion* (London: Routledge, 1988): 194-216.
[284] Hicks, *op. cit.*, p. 78.
[285] E. Willis, *op. cit.*, p. 215.

of occupations competing with medicine and the role of the relationship between medicine and the state in effecting these forms of control in Victoria, although he suggested that his conclusions could apply to the other Australian states. Medical dominance was thus achieved by 1933, according to Willis, through an essentially political process, in which technological and scientific developments played a supporting, not defining, role.

If developments in medical knowledge and technology were the key to professionalisation, there should have been minimal temporal differences between the Australian colonies. This was not the case: several authors have pointed out the temporal differences between Victoria and New South Wales in achieving professional unity and legislative support, and Tasmania was slower still.[286] Medical legislation struggled to negotiate successfully the New South Wales Parliament because of financial and ideological problems, as well as lack of quorum during bill discussions.[287] Differences between the medical markets included the amount of competition for services and community receptivity to unorthodox practitioners, both of which affected the ability to achieve professional regulation.[288] These problems were compounded by greater adherence to laissez-faire principles in New South Wales than the other colonies, further hindering legislative endorsement. Lewis and MacLeod explained both opposition to, and the eventual success of, the medical profession in predominantly political and social terms. Liberal ideology, political instability, the different class composition of the New South Wales, compared to the Victorian, Parliament, and lack of cultural authority combined to hinder professionalisation and establishment of dominance; whereas the growth of urban Sydney, the foundation of a medical school and increase in demand for medical skills led to increased professional unity through education, societies, and journals, and was representative of the cultural acceptance of scientific medicine.[289] Lewis and MacLeod's analysis, therefore, identified the same issues in New South Wales as had been identified in

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[286] M. Lewis and R. MacLeod, 'Medical Politics and the Professionalisation of Medicine in New South Wales, 1850-1901', *Journal of Australian Studies* 22 (1988): 69-82; W. Nichol, 'The Medical Profession in New South Wales, 1788-1850', *Australian Economic History Review* 24(2) (1984): 115-131; A.J.C. Mayne, *Fever, Squalor and Vice: sanitation and social policy in Victorian Sydney* (St. Lucia: University of Queensland Press, 1982); P.J. Lloyd, *op. cit.*; *idem.*, *A Social History of Medicine: medical professionalisation in New South Wales, 1788-1950*, (Ph.D. thesis: University of New South Wales, 1993).
[287] Mayne, *op. cit.*, pp. 75-76.
[288] Lewis and MacLeod, *op. cit.*; Nichol, *op. cit.*; K.N. White, 'Negotiating Science and Liberalism: medicine in nineteenth-century South Australia', *Medical History* 43 (1999): 173-191; P. Martyr, *A Paradise of Quacks: an alternative history of medicine in Australia* (Paddington, NSW: Macleay Press, 2002).
[289] Lewis and MacLeod, *op. cit.*

England, the United States and Victoria, and were able to explain the differences in terms of political, economic and social variations.

Similarly, Lloyd argued that urbanisation created demand for medical services on a scale that necessitated changes to medical institutions, and that the growth of the cultural authority of science assisted the rise of medicine only because changes in the doctor-patient relationship reinforced the public perceptions of medical expertise founded on appropriate scientific advancements.[290] Contrary to Willis's class-based arguments emphasising external modes of control, Lloyd contended that internal professional control was crucial to consolidating public faith in medical expertise and hence professionalisation. The medical profession in Tasmania, on the other hand, suffered from the difficulties associated with a small population and strong regional rivalry in its pursuit of professional unity. Competing medical associations existed in the north and south, and it was not until 1911 that a state-wide association was established. In spite of these obstacles, Tasmanian doctors obtained important legislative support as a result of the congruence of state and medical interests and the pressure created by Imperial and intercolonial example.[291]

Thus, it is clear that, owing to their different situations, the medical profession had varying experiences in their attempts to professionalise and establish control over healthcare. Nevertheless, there are themes that remained constant across the colonies, as well as within the Anglo-American world. Scholarship to this point contends that medicine negotiated with the state for dominance of healthcare, and that this involved issues of professional unity, legitimacy, autonomy and regulation, within which ideology, cultural authority, medical advancements, and social, political and economic developments all played roles.

The spread of vaccination throughout the world, and its subsequent implementation, occurred at the same time as these developments within the medical profession and several authors have identified connections between these movements that highlight the importance of smallpox and vaccination to the ambitions of the medical profession. The first to do so was Sussman, who argued in relation to the Bas-Rhin in Germany that the synergy of professional medicine and the government in

[290] Lloyd (1994), *op. cit.*
[291] Practice of Medicine Act 1837 (1 Vict. No. 17); Practice of Medicine Amendment Act 1840 (4 Vict. No. 24); Practice of Medicine Act 1842 (6 Vict. No. 2); Medical Practitioners Amendment Act 1867 (31 Vict. No. 34).

propagating vaccination reinforced their alliance.[292] This partnership resulted in the establishment of state funded cantonal physicians to effect vaccination in rural areas, where the private practice available was insufficient to support an independent practitioner. This meant that medical influence was extended into areas that it had not previously reached, normalising medical intervention into the life-cycle of every person, stemming from that early encounter between doctor and infant for the purposes of vaccination.

Vaccination as a tool for the medicalisation of society has been identified in diverse societal settings. In her study of the history of vaccination in Germany, Huerkamp observed that vaccination was a public health measure with the potential to bring every member of the population into direct contact with a representative of the medical profession.[293] It therefore provided an opportunity for doctors to increase their status and influence on issues of public health, as well as financial incentives, such as vaccination fees and the possibility of extending into new markets. The medical profession in the German states eventually achieved a monopoly on vaccination and, although this sometimes had the effect of strengthening popular distrust of professional medicine, Huerkamp argued that this was outweighed by its effect of medicalising the public. Evans noted specific instances of this trend in the Hamburg smallpox epidemic in 1871.[294]

Durbach extended these ideas by arguing that, in England, compulsory vaccination was representative of the growth of state responsibility for public health and the move from sanitation to preventive medicine, and that it was 'therefore central to the new state emphasis on scientific medicine as the key to public health.'[295] She further argued that vaccination was emblematic of scientific medicine and that it provided an opportunity for medical practitioners to define their expertise and establish their superior qualifications over competing practitioners. For these reasons, then, the provision of vaccination was an important component of wider debates over professionalisation. This was also true in a vastly different context, that of Japan. Medical culture in Japan differed greatly from contemporaneous Western models, in that the absence of

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[292] G.D. Sussman, 'Enlightened Health Reform, Professional Medicine and Traditional Society: the cantonal physicians of the Bas-Rhin, 1810-1870', *Bulletin of the History of Medicine* 51(4) (1977): 565-584.
[293] C. Huerkamp, 'The History of Smallpox Vaccination in Germany: a first step in the medicalization of the general public', *Journal of Contemporary History* 20(4) (1985): 617-635.
[294] R.J. Evans, *Death in Hamburg: society and politics in the cholera years, 1830-1910* (Oxford: Clarendon Press, 1987), pp. 218-226.
[295] Durbach (2005), *op. cit.*, pp. 17-25, quotation from 17-18.

universities, medical societies and medical journals restricted the transmission of medical knowledge to the private sphere and severely limited the ability of the Japanese government to respond to threats to the public health. Jannetta argued that the transmission of vaccination knowledge to Japan through the Dutch merchant community had a transformative effect on Japanese medical and social networks, contributing to the establishment of universities, publishing houses, professional societies and a government bureaucracy focussed on public health.[296]

In the Australian colonies, too, the vaccination debate ran concurrently to the processes of professionalisation and medicalisation. To what extent, then, did these movements affect each other, how significant was vaccination to the development of the medical profession in the colonies and how far does the colonial experience compare with those described internationally? To answer these questions, the following two sections use medical responses to the vaccination debate as a case study of professionalisation, with the professional projects divided into two broad categories: internal developments, including those aimed at achieving professional unity, educational standards and self-regulation; and external developments, including the control of competing healthcare providers, the medicalisation of society and its relations with the state and the public.[297]

[296] A. Jannetta, *The Vaccinators: smallpox, medical knowledge, and the "opening" of Japan* (Stanford: Stanford University Press, 2007).
[297] This division is widely accepted within literature on the professions; see D. Klegon, 'The Sociology of Professions: an emerging perspective,' *Sociology of Work and Occupations* 5(3) (1978): 259-283.

3.4: Vaccination and the medical agenda: internal developments

As part of the development of their profession, colonial medical practitioners undertook a number of projects aimed at effecting change within the profession. These internal developments included the establishment of professional societies and medical journals, standardisation of medical education, and the development of mechanisms of internal pressure for the regulation of individual practitioners. Each of these endeavours contributed to the development of professional unity, a goal that was deliberately sought by the colonial medical profession and which was critical to state patronage and public support which were, in turn, critical to professionalisation. Vaccination presented challenges to, and opportunities for, bonding and therefore medical responses to the issues involved in the vaccination debate can be used to demonstrate how these strategies worked and why the medical profession perceived them to be so important. At the same time, setting medical responses to vaccination against this background will elucidate their motivation and foundations.

Almost all medical practitioners in the colonies received their qualifications in Britain until the late nineteenth century, when medical schools began to appear in the colonial universities.[298] This had important ramifications for the identity of Australasian doctors, who were undeniably British in outlook, and had a clear impact on the attitude of the profession towards smallpox and vaccination. Having witnessed the ravages of smallpox while training or working in England, practitioners arriving in or returning to Australia were keen to impress the risk of epidemic and the responsibility of vaccination upon the colonial populations. Their British training meant that the overwhelming majority of medical practitioners in Australia were aware of British medical journals, especially *The Lancet* from 1823 and the *British Medical Journal* from 1857, and copies were to be found in the colonies. All members of the British Medical Association received the *BMJ* as part of their membership benefits. However, by the mid-nineteenth century, Australian doctors were creating an identity of their own, separate from their British counterparts. While they undoubtedly remained heavily influenced by British medicine, there was an awareness that there was much about the Australian context that was unique and that Australian doctors had plenty to offer the profession as a whole.

[298] Medical courses were offered in Melbourne from 1862, Sydney from 1883 and Hobart not until 1963.

An important aspect of this identity development was the establishment of colonial medical societies, which were instrumental in the process of professionalisation. Over the course of the nineteenth century, many medical societies were formed. While only a few thrived, the persistence with which Australian practitioners pursued the formation of colonial societies demonstrated the widespread desire for local forums for professional discussion, the development of collective professional identity in the colonial context, and the perceived need for a representative body to defend the interests of the profession.[299] These aims were self-consciously sought, as the stated goals of the Victorian Branch of the BMA, established in 1879, demonstrated:

> 1. To promote the advancement of medical science among the members of the Medical Profession, and to establish a medium through which their opinions can be easily ascertained and expressed.
> 2. To advance the general and social interests of the Profession.
> 3. To promote fair and honourable practice, and to decide upon questions of professional usage and courtesy.
> 4. To correspond with bodies or individuals in other parts of the colonies on any matter touching medical interests, and, by moral influence, and the exercise of a judicious supervision, to prevent abuses in the Profession.
> 5. To consider any subject connected with the appointment of medical men to public institutions, situations, and services.
> 6. To consider any question of medical polity.
> 7. To further the federation of the Medical Profession in the various colonies of Australasia.[300]

Local medical societies were justified, then, on several grounds: continuing medical education, political representation, self-regulation, and the promotion of internal unity. Communication was facilitated between doctors through membership of these societies and the regular meetings that were held to discuss scientific and political issues relating to medicine. One of the most important roles that societies played was to provide a forum for debate to take place safely, a function that was particularly relevant within the vaccination debate. Disputes between groups of practitioners or individual doctors were very common, and when these conflicts took place in the public arena, they were damaging to professional credibility because they provided evidence of disunity, thus undermining medical expertise. By discussing differences of opinion within the privacy of the

[299] For a fuller description of colonial medical societies, see note 10 above.
[300] Letter from Louis Henry, MD, Hon. Sec. of the Victorian Branch of the British Medical Association, to all medical practitioners in Victoria, inviting them to join, cited in J. Breheny, 'As it was in the beginning… the British Medical Association (Victorian Branch)', *MJA*, (June 2, 1979): 504-506, p. 505.

society, embarrassing exposure could be avoided and the appearance of professional unity projected. Further, once a matter was satisfactorily settled, the society could then speak on behalf of its members, negotiating with both the state and the public more effectively than any group of individual doctors could achieve in the absence of that organisational structure. Examples of when this occurred include vigorous debate over re-vaccination in 1863, the appointment of lay vaccinators in 1874, and the best age to vaccinate in 1874 and 1889.[301] Following 'two numerously attended meetings of the Medical Society to discuss the proposed changes in the Vaccination Act', the final report on the debate of 1874 concluded that:

> The final result of this discussion, however, can hardly be doubted, and we trust it will be remembered in the future that the Medical Society is now sufficiently numerous and influential to be accepted as the voice of the profession upon any subject in which our common interests or the public health is concerned.[302]

Even more effective than meetings, however, were the journals often associated with the societies. Publications such as the *Australian Medical Journal* expressly stated that their aims were to facilitate communication within the profession, to provide continued medical education through scientific articles and discussion, to represent the medical, social and political views and interests of the profession and to act as a cohesive force for a geographically disparate medical community.[303] Edited under the auspices of the Medical Society of Victoria, and published from January 1856, the *AMJ* purported to represent, and cater to, doctors throughout the Australian colonies.[304] While it was recognised that some of its aims would be beneficial to members of the profession in terms of pecuniary and status gains, this was not necessarily their prime motivation. These aims were perceived as part of the ethical obligation of medicine and hence as much in the interests of the public as in the interests of individual practitioners.[305]

The application of this attitude was exhibited in the lobbying of the medical societies and journals for legislation regulating medical practice, privileging allopathy over alternative practices. Such acts had obvious benefits for doctors, and writers for these journals were usually quite open about arguing for the interests of the profession; it was, after all, their livelihood. Equally, however,

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[301] *AMJ*, 8 (1863), pp. 280-283; *AMJ*, 19 (1874), pp. 194-198; *AMJ*, 19 (1874), pp. 225-229; *AMJ*, 11 (1889), pp. 360-364.
[302] *AMJ*, 19 (1874), pp. 205-206.
[303] *AMJ*, 1 (1856), p. 47.
[304] *Ibid.*, p. 48.
[305] *Ibid.*, p. 50.

arguments for such legislation were framed in terms of protecting an innocent and credulous public, and especially the poor:

> It is not that the wealthy and intelligent classes are prone to be duped by the nostrums of medical quackery, – the evil is greater, because the uninformed, the credulous, the poorer classes, among whom affliction is far more serious and less easily alleviated, become the victims of a system of fraud, which perils life by its ignorance and recklessness, and against which the public is afforded neither protection nor redress.[306]

Vaccination legislation was viewed in a similarly mutually beneficial manner. Anti-vaccinationists frequently pointed to the 'interested' nature of medical involvement in vaccination laws.[307] The profession, while not oblivious to the financial and professional benefits associated with compulsory vaccination, argued primarily in terms of protecting a public, usually poor and uneducated, from indifference or opposition induced by ignorance.[308] The author of the above excerpt proceeded to identify a lack of unity among the profession as the factor preventing legislation on medical reform in both Britain and the colonies, and implied that communication through the journal could go some way towards addressing that issue, thereby providing the profession with greater leverage in dealings with the state over medical legislation, which was identified as a priority of the profession.[309]

Medical journals have been reasonably numerous in Australia, considering the relatively small population. The *AMJ* later merged with the *Intercolonial Quarterly Journal of Medicine and Surgery* to form the *Intercolonial Medical Journal of Australasia*. It was joined by the *Australasian Medical Gazette* in 1881, which was produced by the New South Wales Branch of the British Medical Association. The *IMJA* folded in 1895, and although a new *Australian Medical Journal* was established in Melbourne in 1910, it merged with the *AMG* in 1914 to form the

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[306] *Ibid.*, p. 51.

[307] An M.P., *Compulsory Vaccination: weighed and found wanting. An array of Facts and Figures versus Fads and Follies*, (Hobart: Propsting and Cockhead, 1888), p. 23; *Can Disease Protect Health?* : One of the "Unscientific Mob", *The "Age" and Vaccination* ; A Physician, *The Case Against Compulsory Vaccination*, (Melbourne: A.H. Massina & Co., 1890), pp. 9-10; 'Public Health Bill', *NSWPD*, 1896, 1st series, Vol. LXXXV, p. 3772; *Mercury*, 28 August, 1881, p. 3, c. c.

[308] F. Tidswell, *A Brief Sketch of the History of Small-Pox and Vaccination in New South Wales* (read before the Australasian Association for the Advancement of Science, January 7, 1898), (Sydney: Govt. Printer, 1899), p. 7. See also, Vaccination Officer Reports.

[309] For a discussion of the role of medical journals in British medical reform, see J. Loudon and I. Loudon, 'Medicine, Politics and the Medical Periodical 1800-1850', in W.F. Bynum, S. Lock and R. Porter (eds.), *Medical Journals and Medical Knowledge* (London: Routledge, 1992): 49-69.

Medical Journal of Australia. The *MJA* represented the interests of the Australian branches of the BMA, which later became the Australian Medical Association in 1962.

These were the most important Australian medical journals, in that they enjoyed the best reputations both within and outside the colonies. However, they were not the only ones produced. The others were: the first *Australian Medical Journal*, published in Sydney between 1846 and 1847; the *Medical Record of Australia*, published in Melbourne between 1861 and 1863; the Melbourne based *(Australasian) Medical and Surgical Review*, 1863-1865 and 1873-1875; the *Australian Medical Gazette*, also in Melbourne, 1869-1871; the *New South Wales Medical Gazette*, based in Sydney between 1870 and 1875; the *Melbourne Medical Record* from 1875 to 1977; and the *Australian Practitioner*, out of Sydney, between 1877 and 1878.[310] Clearly, the medical publishing scene was dominated by practitioners in Melbourne and Sydney and the minor journals were often representative of cliques or factions within the profession, and offered viewpoints frequently at odds with those expressed in the major publications. Nevertheless, contributions were regularly received from members of the profession in the other Australasian colonies. There is a sense that the editors of the larger journals were trying to foster a collective sense of identity, despite the occasional swipes at intercolonial health policies, including differences in quarantine regulations and vaccination administration.

There were significant differences between the progress of medical societies and journals in each of the colonies, and this related to the marked variations in the speed with which medical and health legislation was introduced. Victoria was the first colony to establish a medical association and the first to produce a medical journal. The societies and journals of this colony tended to last longer, and have greater participation rates, than those of the neighbouring colonies. Despite frequent attempts, the profession in New South Wales could not match this performance until the late nineteenth century, and Tasmania was even slower to form a lasting society and its practitioners could only contribute to journals published elsewhere.

The differences are attributable to local conditions. The Gold Rush in Victoria resulted in a massive increase in pressure on health services, inspiring the Victorian government to pass

[310] J.H.L. Cumpston, 'The History of Medical Journalism in Australia', *MJA*, 2 (1939):1-4, reprinted from *MJA*, 2 (1914): 14-16; B. Gandevia, 'A Review of Victoria's Early Medical Journals', *MJA*, 2 (1952): 184-188; S. Due, 'Early Medical Journals of Australia', *MJA*, 161 (1994): 340-342.

legislation aimed at dealing with this situation and providing more than sufficient work for the practitioners of the colony. These early favourable conditions meant that a fair degree of unity already existed amongst the Victorian medical profession, a situation only enhanced by the formation of medical societies and journals. Early organisation assisted in avoiding later conflict, when Victoria attained almost the highest ratio of allopathic medical practitioners to population in the late nineteenth century, and simultaneously contributed to Victoria having an extremely low proportion of unregistered practitioners, or 'quacks'.[311] New South Wales, however, possessed a great many quacks. Although Martyr argued that it was not so great a number when compared to the population of New South Wales, this line of reasoning cannot be sustained when in 1886 New South Wales had 183 unregistered practitioners, Victoria had 13 and Tasmania only 3. Even using per capita analysis, the number of unregistered practitioners in New South Wales in the late nineteenth century far outstripped those in Victoria and Tasmania.[312]

Seeking to emulate the success of its neighbour, the medical profession in New South Wales was hampered by a 'dearth of organisational maturity and consensus' during the mid-nineteenth century.[313] Disunity among the profession was exacerbated by a 'great variety of medical backgrounds, and intense competition for patients', and these factors contributed to the failures of early New South Wales medical societies and journals.[314] Additionally, the lack of medical societies and journals from an early stage contributed significantly to the continued lack of unity amongst the medical profession in that colony. Lacking an early catalyst similar to that experienced in Victoria, these problems were not overcome in the early stages of self-government, putting medicine in New South Wales at a disadvantage in its negotiations with the state and delaying the establishment of medical dominance.

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[311] P. Martyr, 'When Doctors Fail: Ludwig Bruck's *List of Unregistered Practitioners* (1886)', *Electronic Journal of Australian and New Zealand History* 1/10/1997, http://www.jcu.edu.au/aff/history/articles/bruck.htm; *idem*, *A Paradise of Quacks: an alternative history of medicine in Australia* (Paddington, NSW: Macleay Press, 2002).

[312] In 1886, the population of New South Wales was 1,001,966 and so there was one unregistered practitioner per 5330 people. Victoria, with a population of 1,003,043, had one per 77,157 people. Tasmania had a population of just 137,211, and one unregistered practitioner per 45,737 people. These figures accept Bruck's definitions and assume that his list provides a relatively accurate representation of unregistered medical activity. It uses the population estimates produced and accepted by contemporary official statisticians. See T.A. Coghlan, *The Wealth and Progress of New South Wales, 1886-87* (Sydney: Government Printer, 1887), p. 130; *Walch's Tasmanian Almanac for 1888* (Tasmania: J. Walch & Sons, 1888), p. 241.

[313] Lloyd, *op. cit.*, p. 23.

[314] Lewis and MacLeod, *op. cit.*, p. 71.

Although Tasmania similarly lacked an early catalyst pushing the medical profession into early organisation, it was not disunity that caused it to lag behind the progress of medicine in Victoria. By far the smallest of the three colonies, in terms of population, Tasmania had correspondingly fewer doctors. The critical mass or, more importantly, geographical concentration of medical practitioners necessary for a formal association to be formed was not achieved in Tasmania until the late nineteenth century. Also, Bruck's *List* indicates that quackery did not present a major threat to the livelihood of Tasmanian medical practitioners, thereby removing one of the major impetuses to unification. Nevertheless, Tasmanian practitioners were as interested in keeping abreast of medical developments, both international and intercolonial, as their brethren in Victoria and New South Wales, and keen to promote the interests of the profession, as their involvement in medical politics through other means demonstrates. Hence, they read and contributed to journals published in Melbourne and Sydney and, in some cases, joined the Victorian branch of the BMA.

The differences between the colonial medical communities were reflected in the different extents to which medical expertise was influential in state policy formation. A more cohesive and organised profession in Victoria was particularly significant in the early enactment and implementation of compulsory vaccination, establishing precedents that were to have enduring consequences. The relative disorganisation of the medical professions in New South Wales and Tasmania, on the other hand, affected their ability to pressure the state successfully on the issue of compulsory vaccination legislation. This correlation between unity and influence was true on both general organisational and issue specific levels.

Articles concerning vaccination and smallpox were prominent within the medical press. It was an obvious means of communicating details of epidemics and the methods employed to curb them, to discuss contentious technical points, and to provide arguments for the medical readership to employ when challenged on the issue.[315] This latter point is a tacit acknowledgement of the power and influence of the individual doctor, and the important role he played in the vaccination debate. Articles were repeatedly devoted to proving the efficacy and value of vaccination, to refuting the allegations made against it, and generally establishing vaccination as an unassailable tenet of medical orthodoxy. Why do all this if the medical community was already overwhelmingly pro-vaccinationist? One reason was that it served to shore up the foundations of faith so that they

[315] *AMG*, July 1882, p. 132; *AMG*, March 1882, pp. 77-78; *AMG*, July 1882, p. 132.

would remain pro-vaccination, and not be gradually eroded by negative responses from the public, acting as peer-support networks for medical practitioners.

This was especially important for remote practitioners, with few alternative support systems. Thus, James Jamieson wrote an article in which he declared it to be 'almost a kind of slaying of the slain to prove that vaccination acts in the way of preventing small-pox', and then proceeded to do exactly that over three pages.[316] As anti-vaccinationism gathered momentum in New South Wales, a helpful article was produced that described vaccination as 'being so self-evident to all, except some few persons blinded by prejudices so erroneous, as to lead to the natural supposition that they are slightly insane.'[317] In addition to carefully scripted vitriol, the author presented arguments for compulsion, against the transmission of secondary infections, and outlined the safe way to collect and transfer humanised lymph or calf lymph, should the patient be so stubborn as to insist. In this way, every doctor had at his disposal a complete set of information and arguments ready to defend vaccination in his daily practice, and remained informed of current technical and procedural advances.

Journals were also used as a mechanism for applying pressure on dissenting practitioners and regulating their behaviour. For example, when Dr James Beaney, who was also a member of the Legislative Council in Victoria, made some very public anti-vaccination comments, he was castigated in the *AMG*. It was argued that

> …if practitioners who do not aim at a temporary notoriety, perhaps only to be obtained by some violent difference of assertion (we do not say opinion) from their professional brethren, are asked to give their experience, it will be that they have never, or but very seldom, seen the diseased state which has followed vaccination really proved to have been a consequence of it, the evidence being when sifted generally in favour of its having arisen from some other cause.[318]

Further, it was argued that Beaney's comments had been 'vague and rash, and unworthy of a man of standing in the profession' and that he should, 'in the interests of the public, not make mere assertions'.[319] This article, although embarrassing for Beaney on a superficial level, served two

[316] *AMG*, November 1881, pp. 17-19.
[317] *AMG*, April 1883: 150-151.
[318] *AMG*, October 1884, p. 15.
[319] *Ibid.*

main purposes: it made it clear to Beaney, and others who may have been harbouring similar thoughts, that orthodox medical opinion would not condone his actions, and it clearly identified the perpetrator to the medical community, who could then decide how to deal with him in future, both professionally and personally. These, too, were means of regulating the behaviour of individual practitioners.

A component of this self-regulation was the characterisation of dissenters as being outside the boundaries of expertise. As with Beaney, those who expressed anti-vaccinationist opinions were described as possessing little practical experience on which to base their assertions, marking them as little better than quacks. Therefore, true membership of the medical profession relied to an extent on acceptance of developing orthodoxy, or what was increasingly referred to as medical science. One aspect related to medicine's affiliation with science, and the scientific method, was the importance of progress through the acquisition of empirical knowledge. Medical journals were a key means of disseminating this knowledge.

Empirical knowledge of vaccination was acquired through structured experimentation, as in the case of F.T. West Ford's experiments on the safety and value of revaccination, and through the sum of individual experiences obtained in the course of ordinary medical practice.[320] In this way, practical and technical problems encountered by physicians affected medical responses to vaccination. For example, the use of lymph 'direct from the cow's udder' presented many practical inconveniences, caused greater local irritation at the puncture site, and early indications suggested that it was no more effective than humanised lymph.[321] These experiences influenced medical attitudes to the general use of calf lymph as they were publicised within medical literature, generalising reluctance to use calf lymph. Similarly, discussions about the best age at which to vaccinate focused firmly on competing practical considerations, especially as they related to local conditions.[322] Doctors reported that vaccination during the hot summer months usually failed to take properly and caused more fever, and so a longer period was desirable to allow for delays.[323]

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[320] *AMJ*, 8 (1863), pp. 264-265. Ford was the surgeon to the Orphan Asylum in Melbourne. By repeatedly vaccinating the orphans in his care, he demonstrated that a 'true vesicle' could often be produced in successive operations, with no ill-effects, and he concluded that annual revaccination was both safe and desirable.
[321] *AMJ*, 3 (1881), pp. 183.
[322] *AMJ*, 19 (1874), pp. 194-198; 205-206; 225-229.
[323] One other argument was put forth in defence of the six month limit, which was that the extra time would allow congenital syphilis to present itself prior to vaccination, so the operation would not be blamed for the disease. Many

In addition, rural areas prone to flooding regularly required extensions up to seven months before they could access medical services. However, the migratory proclivity of the colonial population and the desire to avoid vaccination of children while teething weighed against these arguments. Practitioners on both sides emphasised their experience, citing the number of vaccinations performed or years employed as vaccinators, to add authority to their arguments. Despite lengthy and energetic debate, ultimately all participants were seeking a consensus that could and would be adhered to by the whole profession.

By providing information on how to vaccinate using different types of lymph or how to distinguish smallpox from other eruptive skin diseases, the journals acted as a form of continuing education, and an effective means of relating current theories of best practice. These issues were also discussed in branch meetings, as part of the scientific content, but journals had the ability to reach a far greater audience by including those who lived too far out of the metropolitan districts to attend meetings. Another advantage of print media for distribution of medical knowledge was illustration. Early journals occasionally made use of engravings and hand-painted prints, but the advent of photography was of particular importance for discussing smallpox and vaccination. Smallpox has been described as a 'photogenic' disease, and its distinctive rash made solely visual diagnosis possible.[324] Smallpox only infrequently appeared in the colonies, and many practitioners had little or no practical experience of it. Photographs such as those taken by John Ashburton Thompson served the dual purpose of visually presenting the horrors of the disease, far more effectively than could ever be conveyed in words, and educating doctors across the continent in recognising different types of smallpox, in order to avoid confusing it with other eruptive diseases.[325] Victorian vaccination expert Owen Penfold also used photographs to accompany his written instructions for calf lymph propagation, depicting both the practical aspects of working

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doctors believed syphilis was attributed to vaccination in many cases to hide 'the sins of the fathers'. *AMJ*, 11 (1889), pp. 362-363; 'Non-Compulsory Vaccination Bill', *VPD*, LA, 1899, Vol. 92, p. 1526.

[324] F. Fenner, 'Smallpox, "the most dreadful scourge of the human species": its global spread and recent eradication', *MJA* (November 24, 1984): 728-735, (December 8/22,1984): 841-846, p. 728. In fact, much later these same principles were used when the World Health Organisation's Smallpox Eradication Unit used Smallpox Recognition Cards showing photographs of smallpox afflicted children as a tool for its campaign to eradicate smallpox.

[325] *The History and Effects of Vaccination, with illustrations of cases of smallpox which occurred in Sydney from the Edinburgh Review, April, 1899*, reprinted and distributed by direction of the Hon. John See, M.P., Premier and Chief Secretary of the State of New South Wales (Sydney: Government Printer, 1901).

with a large animal and providing a visual guide to assessing vesicles for the harvesting of lymph.[326]

Vaccination was included in medical courses, and texts written on it for student use, indicating that a level of standardisation was desired.[327] Most Australian practitioners in the nineteenth century received their qualifications in Britain, where smallpox was a constant presence, allowing some familiarisation. This contributed to the heightened sense of the disastrous potential of smallpox, if it ever achieved a foothold in the colonies, that was displayed by so many practitioners.[328] Medical schools were founded in Melbourne in 1862 and in Sydney in 1856 (although teaching did not commence until 1883), and the curricula followed English and Scottish models.[329] Tasmania did not found a medical school until 1963; a product of a small population and the relative ease of attending the Melbourne school, compared with Britain.[330] The establishment of local medical schools was a goal eagerly pursued by the medical societies from the mid-nineteenth century onwards.[331] The schools were simultaneously symbols and producers of a distinct Australian medical identity, which helped to foster unity within the profession. Although heavily influenced by British practice, Australian medical education pioneers selected the parts they wanted, and formed their own tradition. The clearest examples of this were that Australian courses lasted for five years, not four as in England, and all medical schools were affiliated with universities rather than hospitals.

All of the internal professional projects undertaken by the medical profession in the Australian colonies during this period were fundamentally related to the pursuit of professional unity. Although this was a general aim, it can be discerned clearly in the specific goal of medical

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[326] *AMJ*, 5 (1883), p. 383.
[327] W.M. Wanklyn, *How to Diagnose Smallpox* (London, 1913); *idem.*, *Administrative Control of Smallpox* (London, 1913); 'Appointment of Unqualified Vaccinators', *AMJ*, 9 (1864), pp. 378-379.
[328] *AMJ*, 22 (1877), pp. 111-117; *IMJA*, 3 (1898), pp. 545-554; R. Greenup, 'Vaccination', *NSWV&P*, LA, 1858-59, Vol. 2, pp. 1033; F. Campbell, 'Vaccination', *NSWLCJ*, 1867-68, Part 1, No. 67, p. 833; E.S. Hall, 'Officer of Health – Hobart Town and Suburbs: report from 1879', *TPP*, 1880, No. 35, p. 6; *AMG*, May 1896, pp. 174-175; J.P. Ryan, *Small-pox and Vaccination*, (Melbourne: Australian Health Society, 1881).
[329] E. Ford, 'A History of the Melbourne Medical School', *MJA*, 2(23) (1977): 759-760; S. Sunderland, 'Australian Medical Schools: some historical considerations', *MJA*, 2(3) (1975): 79-81; R.R. Stawell, 'The Foundation of a Medical School and the Progress of Medical Education', *MJA*, 1 (1931): 1-8.
[330] A.G. Baikie, 'Tasmania's Medical School', *Lancet*, 2(7677) (1970): 811-815; A. Rand and K. Kirkby, *The Medical Faculty of Tasmania: a history, 1965-1990* (Hobart: Faculty of Medicine, University of Tasmania, 1990).
[331] The first proposal for a medical school in Sydney arose in 1838, but funding prevented it becoming reality for a significant length of time. Sunderland, *op. cit.*

unanimity on vaccination. Professional societies and their print extensions, the medical journals, combined with standardised education and peer pressure tactics to endeavour to achieve and maintain an orthodox medical opinion on the topic. It was a crucial part of the professionalisation process, and although it was not ever totally achieved, or indeed achievable, an appearance of unanimity was developed so that dissenters could be effectively characterised as fringe-dwellers, or even total outsiders, in the realm of quackery. This strengthened the profession's ability to negotiate with the state and the public.

When diversity of opinion was evident, this was seized upon by anti-vaccinationists and used as a weapon against medicine. An anonymous critic of Dr C.E. Barnard's pro-vaccination pamphlet *Why do Doctor's Vaccinate?*, for example, demanded to know: 'Who is right, in Tasmania, DR. BENJAFIELD, who swears by the calf, or DR. CROWTHER, who dislikes it?'[332] By drawing attention to the lack of medical agreement on whether calf or humanised lymph was preferable, the author undermined the pro-vaccination case and introduced doubt over the whole procedure. Similarly, in 1888 'An M.P.' compiled 'opinions of Medical and Scientific men distinctly opposed to a continuance of its legal enforcement, as well as admitting grounds for grave doubts of even its efficacy.'[333] By using the words of 'Medical and Scientific men', he lent credibility to the anti-vaccination cause. At the same time, he emphasised the wide variety of positions held by the supposed experts, undermining the pro-vaccinationist case. As most of the experts cited in this pamphlet were international, and generally British, it had the additional effect of portraying the colonial profession as backward and out of touch with developments in medical science.

A lack of medical unity was not just present in theoretical debates, but also in the most practical of matters: diagnosis and the recommendation of an appropriate course of treatment. In a particularly serious instance of this in 1869, an ill man who arrived on the *Avonvale* was sent to the Melbourne Hospital initially, and later to the Immigration Hospital, a temporary hospital in Bourke Street.[334] However, the disease appeared to be contracted by some residents of nearby Shamrock Alley, a densely populated area inhabited by members of the poorer class. Owing to the atypical

[332] *Why do Doctors Vaccinate? Common-place comments on a Surgeon's Assertions* (Hobart: Calder, Bowden & Co., n.d. [post-1883]), p. 3.
[333] An M.P., *Compulsory Vaccination: weighed and found wanting. An array of Facts and Figures versus Fads and Follies* (Hobart: Propsting and Cockhead, 1888).
[334] 'Smallpox', *VV&P*, LA, 1869, Vol. 1, No. A5, pp. 459-477.

presentation of symptoms, opinion was split among the doctors assembled to appraise the situation on whether the cases were smallpox or chickenpox and whether the Immigration Hospital was an appropriate venue for their treatment. Although the majority believed the latter to be true, the patients were moved to Royal Park, with the assistance of the police in keeping the public a safe distance from the hospital, because acting as though it were the more severe disease seemed the most prudent course.

Despite these precautions, Henry Simmer, a wood carter who frequently made trips to the city but resided in Greensborough, fell ill and was diagnosed with severe chickenpox. It did not take long for the disease to spread to his family and neighbours. The Chief Medical Officer, William McCrea, sent Dr Helm to investigate, and his report was adamant that all cases were chickenpox, especially as eleven of the twelve victims had been vaccinated. A group of five independent doctors took it upon themselves to investigate the cases for themselves, and finding the disease to be smallpox, wrote to the *Age* to announce it. This article being forwarded to the Chief Secretary, orders were made to vaccinate the whole neighbourhood, isolate all cases and disinfect all property. At this point, McCrea remained in doubt as to the nature of the disease, but needed to respond as if it were smallpox to control public reaction. After two deaths occurred, he pronounced himself certain that it was smallpox, albeit with atypical presentation. New cases were rumoured to have appeared, and the correspondence of the authorities became increasingly frantic.

Because the profession lacked the tools definitively to diagnose cases of an ambiguous nature, and a satisfactory theoretical basis to explain aberrations such as these, the doctors involved were slow to react, leading to the disease spreading further than it might have had they diagnosed smallpox from the outset. Disagreement within the profession further hampered their reactions, and reduced their usefulness as experts. How could the authorities be expected to act on medical advice if it might be contradicted soon? This was not only true of responses to outbreaks, but of legislation development. A Victorian Member of Parliament argued in 1895 that:

> If vaccination were upheld by all the medical authorities, and no one impeached it, there might be some shade of reason for making it compulsory; but when they all knew from their own practical experience that the highest medical authorities differed on the subject it was the grossest injustice to continue to inflict such

> tremendous penalties on persons who had a right to have their objections regarded.[335]

While complete unanimity would not necessarily have guaranteed that the state heeded medical advice, a lack of blatant disunity avoided criticism of the foundations of the claim to expertise. Internal modes of control, then, were integrally linked to the success of external modes of control.

[335] 'Non-Compulsory Vaccination Bill', *VPD*, LA, 1895-6, Vol. 78, p. 2482.

3.5: Vaccination and the medical agenda: external developments

Examples of external developments in the professionalisation of medicine in which the vaccination debate played a significant role include efforts to achieve control of competing health-care providers, thereby achieving exclusive control of and autonomy within a self-defined 'medical' domain, the linking of medicine to science, and the medicalisation of society. The role of the state was crucial in this external dynamic.[336] In the Australasian colonies, as elsewhere in the western world, the profession toiled to obtain, and later to refine, legislation that defined, legitimated, and restricted entry to medicine in order to give them an advantage over other healthcare providers, such as homoeopaths, chiropractors and suppliers of patent medicines. Smallpox vaccination legislation formed a subsidiary, but nevertheless representative, part of this overall strategy, and the following discussion examines its role by dividing external projects into two contexts: medical responses to the vaccination debate as they intersected with medical autonomy; and the contribution of vaccination to the developing relationships between medicine, science and society.

3.5.1: Vaccination and medical autonomy

The medical profession in the eastern Australian colonies during the nineteenth century was pro-vaccination and representatives of the profession sought compulsory vaccination legislation to combat the apathy of the public and ensure complete coverage. The medical advisers argued that it was not sufficient to rely on panic in the presence of smallpox, because that placed too great a strain on the supply of lymph, as Bedford pointed out in relation to Tasmania:

> …when alarm is aroused by the nearness of the disease it is difficult to obtain the amount of virus that is suddenly required, and thus the means of spreading the benefits of vaccination are checked.[337]

Hall argued that 'the voluntary system has utterly failed to keep the children of the Colony protected by Vaccination from the possible invasion of Small-pox', and that free, universal vaccination in Tasmania should be regarded 'as a wise precaution of State medicine for the general

[336] D. Klegon, 'The Sociology of Professions: an emerging perspective' *Sociology of Work and Occupations* 5(3) (1978): 259-283.
[337] E.S.P. Bedford, 'Vaccination', *NSWLCJ*, 1874, p. 195.

welfare of the people. *Salus populi lex suprema est*.'[338] It was argued for in altruistic terms, in an attempt to overcome the incompatibility of compulsory vaccination with the dominant state ideologies of liberalism and individualism, which maintained reservations regarding any law that significantly impinged upon the liberty of the individual.

Medicine's argument that compulsory vaccination was in the best interests of the welfare of the people was consistent with the development of the ethical foundation of medical professionalism, which Freidson identified as one element of the identity of professionalism that underpinned medicine's autonomy.[339] That is, medical practitioners characterised their occupation as caring and altruistic as part of their justification for self-regulation, supported by exclusivity of knowledge and skills. Furthermore, altruistic reasoning could be used to support the interests of the profession.

An obvious example of this is the dispute over the appointment of lay vaccinators. Faced with the problem of how best to provide vaccination in remote and regional areas, where there was no resident medical practitioner, McCrea presented two options to the Victorian Legislative Council.[340] The first, and McCrea's clear preference, was for the appointment of two or three itinerant vaccinators. However, that plan was estimated to cost £2000 per annum, and was therefore unpopular with the members. His second proposal was the appointment of non-medical men as public vaccinators. This had earlier been suggested to the Chief Secretary by Henry Walker, who reasoned that vaccination was a simple procedure, and that many in more isolated parts of the colony had to travel great distances to find a medical man to perform the operation, perhaps it would be possible to employ 'chemists and druggists, or other competent persons' to remedy the situation.[341] Similarly, the Police Magistrate of Coonabarrabran, in New South Wales, emphasised the necessity of appointing a public vaccinator in that town, 'to treat many children – I should say some hundreds – who have never been vaccinated.'[342] He suggested John Cater,

[338] E.S. Hall, 'Vaccination. Petition of Dr. E.S. Hall', *TPP*, 1869, No. 69, p. 3.
[339] E. Freidson, *Profession of Medicine: a study of the sociology of applied knowledge* (New York: Dodd, Mead & Co., 1970), p. 135.
[340] 'Evidence taken at the Bar of the Legislative Council on the Vaccination Bill, in committee of the whole council', *VV&P*, LC, 1874, pp. 171-185.
[341] 'Vaccination', *VPD*, LA, 1872, Vol. 14, p. 994.
[342] SRNSW, WSRC: CSD 1/2388/9364, 1877.

because 'although he is not a duly qualified medical man I believe he has had great experience in medical matters and in the absence of a duly qualified practitioner he might be appointed.'[343]

In all three cases, the response from the profession was extremely negative. Although it was generally agreed that vaccinators were desirable in the country, appointments were not to be at the expense of standards. They argued that 'the appointment of unprofessional men as public vaccinators was undesirable, on the ground that it might result in permanent injury to the health of many children.'[344] Lay vaccinators, they stressed, could not be expected to accurately assess the vaccinifer child's health, judge the quality of lymph, safely perform the operation, nor gauge its success, as an appropriately qualified and registered medical practitioner could.[345] For more than half a century, medical advocates of vaccination had explained reports of cases of smallpox in vaccinated people by imputing that the operation had been incorrectly performed in the first place.[346] The importance of medical supervision of the vaccination process intensified as concerns about the transmission of secondary diseases grew, and doctors argued that 'the only safeguard against such contamination is skilful care and inspection by the vaccinator.'[347] Although medical acceptance of the fact of vaccinal syphilis was slow to spread, there was a trend among practitioners to ascribe documented instances of this kind to violation of the 'laws' of vaccination 'by ignorant and careless operators', so that the 'vaccinator is then at fault and not the vaccination.'[348] For these reasons, then, it was considered vital that the practice of vaccination remain solely under medical control, even at the expense of vaccination coverage.

It was suggested that the employment of lay vaccinators would 'introduce the very undesirable practice of accepting medical certificates from non-medical men' and 'encourage irregular practice generally.'[349] They argued that members of the medical profession possessed expertise and sound ethics that acted as a guarantee against their unsupervised work, which laymen could not offer. Medical arguments for the delineation of their professional domain were, then, simultaneously

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[343] *Ibid.*
[344] 'Vaccination', *VPD*, LA, 1872, Vol. 14, pp. 994-995.
[345] 'Evidence taken at the Bar of the Legislative Council on the Vaccination Bill', *op. cit.*, pp. 179-184; *AMJ*, 9 (1864), pp. 378-379; *AMJ*, 19 (1874), pp. 194-198, 205-6, 225-229.
[346] E. Jenner, *Further Observations on the Variolae Vaccinae* (London: Sampson Low, 1799); *AMJ*, 2 (1857), p. 304.
[347] *AMJ*, 9 (1864), pp. 378-379.
[348] *AMJ*, 17 (1872), p. 312.
[349] *AMJ*, 19 (1874), pp. 194-198; *AMJ*, 19 (1874), pp. 225-229.

altruistic and self-interested, and the two motivations are simultaneously paradoxical and inseparable. As Freidson noted,

> Expertise is not mere knowledge. It is the practice of knowledge, organized socially and serving as the focus for the practitioner's commitment. …He develops around it an ideology and, with the best of intentions, an imperialism that stresses the technical superiority of his work and his capacity to perform it. This imperialistic ideology is built into the perspective that his training and practice create. It cannot be overcome by ethical dedication to the public interest because it is sincerely believed in as the only proper way to serve the public interest.[350]

The 'professionalism' of medicine, as it was being constructed in the colonies during this period, was not then quantifiable solely in terms of their abstract knowledge or technical skills. Rather, it was associated with the development of social conditions that fostered trust in the medical profession. The conflation of medical and public interest as developed over the course of the nineteenth century was demonstrated in the presidential address of Dr Gustave Hogg, on 21 February 1914, when he declared that the BMA's

> …chief aim has been to uphold the honour and dignity of the profession, to defend its interests and in doing so to promote the welfare of mankind.
> A section of the public are apt to think that our aims are selfish ones. I know of no more unselfish profession than ours, whether it be in our organizations, or our every day work; in our research, we spend not only money, but what is far more valuable than money, brains, bodies and too often our lives in the attempt to lessen the aggregate of disease, suffering and death.[351]

The protection of medical interests served the best interests of the public welfare and obtaining a degree of state and public assent to this idea was central to the establishment of medical dominance of healthcare.

As it was for professional demarcation, so it was for remuneration. While some doctors, like Bedford and Beamish, felt strongly enough about vaccination to make it a personal crusade, employing all of their persuasive arts to vaccinate as many people as possible, regardless of personal benefit, others took a more prudent approach.[352] In 1863, for example, four Launceston doctors protested against gratuitous vaccination because they perceived it to be injurious to the

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[350] Freidson (1970), *op. cit.*, pp. 159-160.
[351] Cited in R.A. Lewis, 'British Medical Association, Tasmanian Branch: our founders', *MJA*, (June 24, 1961), p. 929.
[352] R. Greenup, 'Vaccination', *NSWLCJ*, 1865, pp. 699-700; E.S.P. Bedford, 'Vaccination', *NSWLCJ*, 1868-74.

interests of the profession, and that the public had been availing themselves of vaccination by private practitioners.[353] Additionally, in 1865, the vaccination fee received by vaccinators from the New South Wales government per case was reduced from 3s. 6d. to 2s. 6d., and this was seen as a major contributing factor in the sharp decrease in vaccinations in that year.[354] As a comparison, in 1872 a recommended scale of fees was published in the *AMJ* that listed private vaccination at 10s. 6d.[355] This was the same price as an 'Ordinary visit or advice', but otherwise was the most inexpensive service rendered by medical practitioners on the short list, and it suggests that vaccination was considered a basic medical service and a core business, particularly in small urban practices.

The situation in the country was different. The profession was eager to promote the use of vaccination throughout the colonies, including remote and rural areas where the likelihood of smallpox appearing was small. State administrators complained that country doctors refused public vaccinator positions, to which the medical profession countered that the amount paid for each public vaccination was insufficient recompense in general, but particularly so in rural areas where large distances needed to be travelled for only a few vaccinations.[356] One country-based vaccinator complained that 'the Government fee is so small for country districts, that there is no inducement to medical men in the country to carry out the system very widely.'[357] Therefore, one way to increase the numbers of vaccinations was to raise the amount paid for each operation. Haynes Gibbes Alleyne strongly urged the government to alter the scale of fees to encourage doctors to make more effort, adding that as there was 'no wide-spread or deep-rooted feeling against the practice, the protection of the whole country against the infection of small pox is simply a matter of money.'[358]

In their reactions to administrative developments that appeared to threaten their professional interests, the colonial doctors reflected the attitudes exhibited by their brethren in the mother country. Public vaccinator posts were eagerly sought in England, especially by young practitioners

[353] AOT: CSD1/99/2784.
[354] R. Greenup, 'Vaccination', *NSWLCJ*, 1866, Vol. 1, p. 481.
[355] 'A Scale of Fees', *AMJ*, 17 (1872), pp. 218-219.
[356] *AMJ*, 17 (1872), p. 195; *AMJ*, 19 (1874), pp. 197, 225-226; F. Campbell, 'Vaccination', *NSWLCJ*, 1867-8, Part 1, No. 66, p. 829; H.G. Alleyne, 'Vaccination', *NSWLCJ*, 1877-8, p. 629; F. Norton Manning, 'Vaccination', *NSWLCJ*, Vol. 45, 1889, Part 2, p. 1219.
[357] F. Campbell, 'Vaccination', *NSWLCJ*, 1867-8, Part 1, No. 66, p. 829. See also *AMJ*, 9 (1887), p. 493.
[358] H.G. Alleyne, 'Vaccination', *NSWLCJ*, 1876-7, Part 2, p. 259.

trying to establish themselves in the profession, and the Poor Law Guardians exploited competition within the profession to reduce the amount paid for each operation.[359] The Guardians sometimes hired unqualified or alternative practitioners, implying that medical qualification signified little, and only paid for 'successful' vaccinations, a practice reminiscent of 'no-cure-no-pay' quackery. In these ways, Barrow argued, 'public vaccination threatened a still tender professionalism.'[360] Further, he argued that the small number of prosecutions for non-compliance with the compulsory law relative to offenders, and the identity of those who were prosecuted, 'had perhaps as much to do with the needs of the vaccinator as with the demands of the law.'[361] Doctors who performed private vaccinations were reluctant to report instances of non-compliance because this action might jeopardise future business, and targeted for prosecution those whose actions imperilled the supply of lymph.

Colonial anti-vaccinationists often argued that doctors could not be trusted to give impartial counsel regarding vaccination, because they were 'the very men who instituted the disgusting "rite," and who profit by its propagation and the other diseases engendered by its operation.'[362] Even if one did not subscribe to the view that vaccination produced secondary infections from which doctors could profit, there is no doubt that they received financial compensation for vaccination and that they were at pains to prevent anyone outside the profession competing for that reward. From the medical perspective, however, appropriate remuneration on a fee-for-service basis was the rent for their services as professionals, backed by the guarantee of expertise and morality. Their ethical perspective and sense of duty, however, often led to practitioners acting gratuitously or for less than their services were perhaps worth. For example, before the Tasmanian government had instituted a system where it paid doctors to vaccinate the public, the profession organised gratuitous vaccination to be made available through the Hobart and Launceston General Hospitals.[363] This system had the benefit of making vaccination widely available, and giving medical students the opportunity to gain valuable experience in vaccinating while being supervised

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[359] L. Barrow, 'In the Beginning was the Lymph: the hollowing of stational vaccination in England and Wales, 1840-98', in S. Sturdy (ed.), *Medicine, Health and the Public Sphere in Britain, 1600-2000* (London: Routledge, 2002), p. 211.
[360] *Ibid.*
[361] *Ibid.*, pp. 215-216.
[362] One of the "Unscientific Mob", 'The "*Age*" and vaccination' in *Can Disease Protect Health?* (Melbourne: A.H. Massina & Co., 1890), p. 6.
[363] AOT: CSD 4/42/525.

by the Resident Medical Officer. Support for this service came with a caveat from Launceston doctors, however, as they believed it

> …desirable to institute the practice of gratuitous vaccination at the hospital, but that the privilege should be carefully guarded and only extended to the children of those whose circumstances in life did not permit their employing a private practitioner.[364]

The government, motivated by the threat of smallpox being introduced from Britain, instructed that all vaccinations should be performed gratuitously, but soon after implemented an experimental public vaccinator system, in which the Superintendent of Vaccinations would receive £150, public vaccinators in large districts would receive £100 and those in small districts would receive £50, and which was well received by the medical community. In this case, by providing their services for free in the interests of the public health initially, lucrative medical positions were established to continue the work. However, there was no expectation of this outcome, and when not in times of panic, some doctors expressed concerns about the long-term consequences of such altruistic behaviour. Mr Gillbee, a member of the Medical Society of Victoria, argued that:

> …the sum at present paid for vaccination [is] far too inadequate. The profession did a great deal for too little, and the more we were called on to work for nothing, the more the public would think they were entitled to gratuitous services.[365]

In establishing vaccination, among other health services, as an essential part of life, there was some danger of having their skills devalued, as well as the potential advantages. Medical attitudes towards lay vaccinators and remuneration for vaccination indicate that concern for the welfare of the people was a guiding force for medical support of vaccination as a whole insofar as it fit within the broader concerns of professionalism. Further, there is evidence to suggest that corollaries of professionalisation influenced medical recommendations for how vaccination should be carried out. The three clearest examples of this are debates over house-to-house visitation by vaccinators to ensure complete coverage of a district, the debate over humanised versus calf lymph, and the furore surrounding the involvement of a veterinarian in vaccination.

E.S.P. Bedford, Medical Officer for Hobart, first suggested house-to-house visitation in 1853, in his letter to the Lieutenant-Governor regarding the protection of the population of Van Diemen's

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[364] *Ibid.*
[365] *AMJ*, 19 (1874), p. 196.

Land from the introduction of smallpox, which had broken out in Sydney at that time.[366] The first Vaccination Bill in that colony was under consideration at that point, and Bedford noted that 'a large number of persons are careless in getting their children, and consequently the Public, protected by its use'.[367] Bedford's recommendations were ignored at this juncture. Ten years later, prompted by the severe outbreak in Britain, a Select Committee concluded that the Vaccination Act was 'altogether unsatisfactory, useless, and inoperative', that a large proportion of children in the Colony were unprotected by vaccination, and that 'no measure short of house to house visitation can effectually secure the community from the possible ravages of one of the most loathsome and fatal diseases to which the human race is liable'.[368]

The Select Committee noted that house-to-house visitation was regarded as somewhat offensive by the public, as it implied that they were being monitored by authorities and imputed a lack of responsibility. There was a precedent of objection to census visits, and a slight concern that this would extend to vaccination visits, but this was tempered by hope that the public had grown used to the census takers and that this might aid receptivity to vaccinators. The Select Committee's conclusions were derived from interviews with eight prominent members of the Hobart Town medical profession. Despite the strong recommendation for house-to-house visitation to be implemented, it was passed over once more.

The benefit of this proposed system lay more in the long-term benefits than in the immediate financial gain. In an age when allopathic practitioners were seeking to gain a competitive advantage over all alternative practitioners, establishing relationships with families was viewed as highly desirable. Vaccination was largely considered an operation for infants and, apart from childbirth, marked one of the earliest opportunities for medical intervention in the lifecycle. The potential advantages of creating a position as 'family doctor' were obvious, as it allowed the creation of a secure market and the extension of influence into sections of society that had not previously consulted physicians.[369] Later in the century, when the position of the allopathic practitioner in colonial society was more secure, house-to-house visitation was no longer put forth

[366] E.S.P. Bedford, 'Small-pox. Enclosure in His Excellency the Lieutenant-Governor's Message No. 22', *TPP*, 1853, No. 58.
[367] *Ibid.*
[368] 'Vaccination. Report from the Select Committee', *TPP*, 1863, No. 90.
[369] C. Huerkamp, 'The History of Smallpox Vaccination in Germany: a first step in the medicalization of the general public', *Journal of Contemporary History* 20(4) (1985), pp. 621-622.

as an option by representatives of the profession. Instead, the emphasis was placed on encouraging the public to go to the vaccinator, a system that involved considerably less effort on the part of the doctor, and was more lucrative as well.

Medical reactions to the introduction of calf lymph were less straightforward. Calf lymph was the original form of vaccination, but it was difficult to store it for any length of time and so practitioners were encouraged to maintain arm-to-arm vaccine chains, to keep up the supply of available humanised lymph. For most of the nineteenth century, humanised lymph was the only available type in the colonies, as cowpox was not present in Australian cattle and attempts to send an infected calf from England usually ended with the death of the calf on route.[370] In England, calf lymph was used most frequently by private practitioners because their middle-class patients thought it safer, and the arm-to-arm method was used by the public vaccinators because it was 'the cheapest way to ensure a continuous supply of vaccine matter' and hence preferred by the government.[371] Indian authorities, on the other hand, experienced many of the same problems with transport and storage of lymph as the Australian colonies, leading to local experimentation and innovation.[372] The success of their experiments in Bombay was such that, during the smallpox epidemic in Sydney in 1881, New South Wales authorities requested a continuous supply from Bombay to meet the demand for calf lymph.[373] Sir James Monteath, the Acting Under-Secretary to the Government of Bombay, replied that it was not possible, nor necessary, for the supply to be continuous. Instead, he organised fresh supplies to be sent for a limited time, and instructions on how to establish calf-lymph production locally were included, along with some forceps and a photograph of a calf being operated upon. In the Australian colonies, public interest in calf lymph had been building for some time, but was brought to a head by the pressure produced by the 1881 Sydney epidemic. Its establishment in the colonies was not smooth, however.

The Victorian Select Committee into vaccination held meetings between October 1880 and March 1881 and, based upon medical and non-medical expert advice, recommended, *inter alia*, that

[370] AOT: CSD 13/38/525.
[371] N. Durbach, *Bodily Matters: the anti-vaccination movement in England, 1853-1907* (Durham: Duke University Press, 2005), pp. 126-128.
[372] S. Bhattacharya, 'Re-devising Jennerian Vaccines?: European technologies, Indian innovation and the control of smallpox in South Asia, 1850-1950', *Social Scientist* 26(11/12) (1998): 27-66.
[373] A. Cumming (ed.), *Animal Vaccination: being information supplied by the Government of Bombay to that of New South Wales, on the subject of animal lymph and vaccination, and embodying the Bombay Act No. 1 of 1877, for the Compulsory Vaccination of children in the City of Bombay,* (Sydney: Government Printer, 1882).

depots for supplying animal lymph from young heifers be established.[374] Against this, the Victorian Central Board of Health advised that humanised lymph was perfectly safe when performed properly by qualified medical men, and that introducing calf lymph 'would simply utterly disorganize existing vaccination arrangements which are found to work satisfactorily.'[375] Pressure from segments of the public was such that, throughout 1882, there was a great deal of focus on the development and distribution of calf lymph.[376] Calf lymph was successfully being produced at the Model Farm in Melbourne, but it was not considered an appropriate site to perform vaccinations. The Central Board of Health was in charge of procuring an alternative venue and facilitating the availability of the operation, but the length of time it took to organise suggests that it was not a priority for the Board. Vaccination with calf lymph was not, in 1882, strictly legal. Nevertheless, the Chief Commissioner of Police instructed his force to only take action 'when there was wilful neglect to submit to vaccination of any kind', and so those who had vaccinated their children with calf lymph were not in danger of prosecution for their actions.[377] The Chief Secretary, however, noted his intention to amend the Act to legalise vaccination from calf lymph and to make it effective retrospectively. The Model Farm was able to supply Victorian and other Australian colonial vaccination authorities with effective calf lymph.

The ministerial enquiry into compulsory vaccination in New South Wales, prompted by the 1881 smallpox outbreak, similarly found dissonance in medical opinion regarding the relative merits of humanised and calf lymph.[378] As vaccination was not compulsory in that colony, there were fewer objections from the medical profession to offering calf lymph as an alternative than in Victoria, as it was considered better than no vaccination at all, particularly given the urgency provided by the presence of smallpox. Fresh supplies from India were limited, and despite repeated attempts by the medical profession to establish a local supply, New South Wales vaccinators relied on supplies of calf lymph from Victoria and, later, New Zealand.[379] In Tasmania, where enforcing vaccination

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[374] 'Report from the Select Committee upon Vaccination Law; together with the Proceedings of the Committee, Minutes of Evidence, and Appendices', *VPP*, 1880-81, Vol. 2, No. D13, pp. 739-776.
[375] 'Vaccination: memorandum by the Central Board of Health on the advantages of vaccination, the alleged danger of transmitting disease, etc.', *VPP*, 1880-81, Vol. 4, No. 96, pp. 1151-2.
[376] 'Vaccination', *VPD*, LC, 1882, Vol. 39, p. 629; 'Vaccination', *VPD*, LA, 1882, Vol. 40, p. 1058; 'Vaccination', *VPD*, LA, 1882, Vol. 41, pp. 2788-9; 'Vaccination', *VPD*, LA, 1882, Vol. 41, pp. 2876-7; 'Vaccination', *VPD*, LA, 1882, Vol. 42, p. 284.
[377] 'Vaccination', *VPD*, LA, 1883, Vol. 43, p. 433.
[378] 'Compulsory Vaccination', *NSWLCJ*, 1881, Part 2, pp. 217-271.
[379] A. Cumming (ed.), *Animal Vaccination: being information supplied by the Government of Bombay to that of New South Wales, on the subject of animal lymph and vaccination, and embodying the Bombay Act No. 1 of 1877, for the*

was a problem, calf lymph was reluctantly offered by medical authorities, who ultimately needed to be pragmatic. The Tasmanian Health Officer, Edward Giblin, reported that since the outbreak of smallpox in Sydney in 1881, vaccination with calf lymph had been available, 'satisfying the caprice of those persons who preferred the method to the equally efficacious and much more convenient practice of arm-to-arm vaccination.'[380] During the 1887 Launceston outbreak, a large proportion of applicants for vaccination requested calf lymph, placing an even greater strain upon already thin supplies.[381] Calf lymph was initially sourced from Victoria, and later produced locally, by Dr Harry Benjafield. Benjafield's involvement did not help the calf lymph cause within the medical profession, as his homoeopathic inclination led to disagreements with other leading medical men in the colony, notably Dr Edward Lodewyk Crowther.

In Victoria David Mortimer Davies, a member of the Legislative Assembly, lamented the medical attitude towards calf lymph:

> I have for some time past exerted myself to secure the adoption of calf lymph instead of humanized lymph for vaccination, but what have I found? That the medical men of Victoria have almost unanimously set themselves strongly against the proposed practice. …[Excepting Dr L.L. Smith] almost every other medical man has either hung back from it or gone against it, although it is well known that hundreds of people avoid vaccination in every possible way, because they believe that the use of humanized lymph leads to the dissemination of disease.[382]

Davies, a strong liberal and protectionist, was both pro-vaccination and pro-compulsory vaccination, but was representative of a significant segment of society in his assessment of vaccine technologies independent of medical opinion. It was clear in all three colonies that many parents preferred calf lymph over humanised, because of the perceived threat of the transmission of secondary infections and, by 1881, many medical men were admitting that this was possible but

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Compulsory Vaccination of children in the City of Bombay, (Sydney: Government Printer, 1882); H.N. MacLaurin, 'Vaccination', *NSWLCJ*, Vol. 42, 1887, Part 3, pp. 563-4; J. Ashburton Thompson, 'Vaccination', *NSWLCJ*, Vol. 55, 1896, Part 1, p. 721.

[380] E.O. Giblin, 'Health Officer: report for 1881', *TPP*, 1882, No. 30.

[381] C.E. Barnard, 'Vaccination: report for 1887', *TPP*, 1888, No. 24.

[382] 'Small Pox', *VPD*, LA, 1884, Vol. 46, pp. 715-736, pp. 724-5. Dr Louis Lawrence Smith was a proponent of calf lymph, and was unrepresentative of the medical profession in many other ways as well. Despite substantial censure from his peers, he advertised his medical practice extensively, conducted consultations by post, created a museum of anatomy (eventually closed for reasons of taste) and refused to be associated with the Victorian Branch of the BMA. G. Featherstone, 'Smith, Louis Lawrence (1830-1910)', *ADB*, Vol. 6 (Melbourne: Melbourne University Press, 1976): 151-152.

only in cases of 'gross carelessness on the part of the vaccinator'.[383] In a paper read before the Victorian Branch of the BMA, and later published in the *AMG*, James Jamieson conceded that syphilis could be contracted through arm-to-arm vaccination and that the use of calf lymph eliminated this possibility. However, he argued for the continued use of humanised lymph in the majority of cases because

> It is a vast saving of trouble, the child vaccinated today being the source from which the matter is got, without preservation or intervention, for vaccinating others next week …[it] is a great saving of expense, and this must be considered where the Government pays the bill.[384]

In a colony where vaccination was firmly institutionalised, the medical profession could more easily enforce unpopular decisions. In New South Wales and Tasmania, calf lymph was offered, not as superior to humanised lymph, but as an alternative designed to satisfy ignorant objectors. Despite this concession, most medical practitioners remained opposed to calf lymph in principle, and some even suggested that the cases of disease (generally syphilis) attributed to vaccination were in fact hereditary in origin, and that the parents blamed its appearance on vaccination to cover their own guilt.[385]

The opposition to calf lymph demonstrated by the medical profession in all three colonies, to a greater or lesser extent, is surprising as it would seem to have offered an opportunity to expand the popularity of vaccination among the general population. Objections often centred on practical issues, of cost and inconvenience. As Penfold explained:

> That the successful culture of calf-lymph, in this country at least is not easy, can be at once shewn by the numbers who are known to have attempted its culture, and have after longer or shorter periods given it up as impracticable, while but a very few have patiently worked out the details until they have secured the knowledge how to count on reasonable success.[386]

The logistical problems associated with a widespread shift towards calf lymph were significant. The calves needed to be purchased, cared for, their health guaranteed, and housed, and these processes required the involvement of persons external to the profession, unlike arm-to-arm

[383] J.P. Ryan, *Small-Pox and Vaccination* (Melbourne: Government Printer, 1881), p. 7.
[384] J. Jamieson, 'Vaccination and Small-pox', *AMG*, November 1881, p. 18.
[385] 'Vaccination', *AMG*, August 1883, pp. 247-248.
[386] O. Penfold, *Calf-Lymph Culture and Vaccination* (Melbourne: Stilwell & Co., 1887), p. 2.

transmission. As calf lymph became more accepted, doctors made it clear that the services of veterinarians were advantageous, but should be subordinate to the physician; as Dr Owen Penfold, the authority on calf vaccination in Victoria, noted, the veterinarian 'should be the aid, or adjunct to the doctor-vaccinator.'[387] Each calf could only be used once because, like humans, one inoculation served to render them immune, making it an expensive venture. Very young calves, four to six weeks old, were easier to handle than seven or eight month olds – calves presumably being as unenthusiastic about being vaccinated as young children – but were more expensive to keep because they required large amounts of milk rather than grass, bran and chaff.[388] The transport of calf lymph to remote areas posed difficulties, and required continuous supplies, unlike the humanised system.

Medical practitioners were concerned that a rush to use calf lymph would undermine the old method, and that during epidemics they would be unable to provide sufficient lymph to meet the demand. In addition, displaying a preference for calf lymph was tantamount to admitting that the transmission of secondary diseases through arm-to-arm vaccination was a genuine concern. This possibility contributed to the medical stance against calf lymph, despite the public's clear preference for it and the likelihood that its use would result in significantly higher vaccination rates. After expounding the safety and efficacy of vaccination for more than three quarters of a century, a mistake of this magnitude had the potential to seriously erode the legitimacy of medicine's claim to expertise. Related to these concerns was the fear that too swift a transition to widespread vaccination from the calf, before its safety could be firmly established by medical scientists, would result in disastrous outcomes and cause general rejection of vaccination as a whole. Dr Alexander Paterson, in his *Early History of Vaccination* in 1872, noted that 'experiments on a large scale on the continent of Europe show that animal lymph is more feeble and uncertain in its action than human lymph' and cited suggestions from other authors that calf lymph caused 'sores exactly resembling chancres' and other 'constitutional symptoms'.[389] Conversely, he observed that calf lymph vaccination was institutionalised in America and that 'It is only fair to infer that they would not have gone to all this trouble if the system of heifer vaccination had produced mischievous results.'[390] The dominant opinion among the profession was one of

[387] *AMJ*, 9 (1887), p. 494.
[388] *AMJ*, 5 (1883), p. 382.
[389] *AMJ*, 17 (1872), p. 311.
[390] *Ibid.*

cautious approval of calf vaccination, in theory, but reluctance to make it the standard procedure, for both logistical and safety reasons.

None of the practical obstacles, however, was insurmountable, as subsequent experience was to prove. The cost to the colonial governments certainly was not so concerning when the profession was discussing appropriate remuneration for their services, and medical objections were gradually eroded through experience and the weight of public opinion. The profession became increasingly of the opinion that, through their own and international experiences, it was safe and achievable, and that the transition could be made without excessive damage to medical expertise, autonomy and professional boundaries. Further, calf lymph was the only viable way forward, in the face of public anxiety over the safety of humanised lymph. It became illegal to use anything but calf lymph in the Vaccination Act 1898.

By carefully conceding that there were some dangers involved in arm-to-arm transfer of lymph, but only when improperly performed, medicine was able to consolidate the position of vaccination as an operation that required an expert to perform it. This was part of the demarcation of vaccination as within medicine's professional boundaries, and was amply demonstrated in the Mitchell case. Graham Mitchell was a veterinarian who cultivated and administered calf lymph for vaccination at the Model Farm, without being a public vaccinator, and in this way made his living.[391] By 1887 it was reported that he had vaccinated around 15,000 people. Owing to ambiguity in the clauses of the Health Act relating to vaccination, many people vaccinated by Mitchell were prosecuted, as he was not a public vaccinator and his calf lymph was deemed to be from an unrecognised source. The number of cases became quite large, although the magistrates were, on the whole, not inclined to decide in favour of the prosecution. The Chief Secretary subsequently halted all prosecutions until the point of dispute could be resolved and made consistent. After the decision had been made by the Supreme Court, it was deemed appropriate for the Government to return the fines, though not the legal expenses, of those parents who had been fined under the Act.[392] The medical profession, however, were violently opposed to a non-medical man vaccinating:

[391] 'Central Board of Health', *VPD*, LA, 1887, Vol. 55, pp. 1237-1242.
[392] 'Vaccination', *VPD*, LA, 1887, Vol 54, p. 261; 'Vaccination', *VPD*, LA, 1887, Vol. 54, p. 489; 'Vaccination', *VPD*, LA, 1887, Vol. 54, p. 757; 'Vaccination', *VPD*, LA, 1887, Vol. 55, p. 1283.

> Mr. Graham Mitchell, who, although probably a very good veterinary surgeon, has – as I hardly need remark – no right to engage in work which necessarily belongs to medical men.[393]

Unfortunately for the unity of the profession, two high profile medical practitioners – Dr Richard Youl, the President of the Central Board of Health, and Professor George B. Halford, Dean of the Faculty of Medicine at the University of Melbourne – expressed approval of Mitchell's methods. This was met with grave indignation by the Victorian Branch of the BMA, and it was resolved:

> That this meeting expresses its deep regret that the dean of the faculty of medicine of the University of Melbourne should, as reported in the newspapers, have countenanced the practice of vaccination by an unlicensed person, such practice being not only in contravention of the Vaccination Act, but an infraction of the declared rights of the medical profession, and a disregard of the opinions of the best authorities, who consider vaccination a process requiring the possession of such skill as only a regularly educated practitioner is understood to possess.[394]

Nevertheless, it was clear that Mitchell was popular with the public, and the profession gradually came around to accept grudgingly that prosecutions against parents whose children have been vaccinated by Mitchell were 'unwise and impolitic', as they were probably protected against variola, and that if he were brought under medical supervision, he could be tolerated.[395] A change in government and in the President of the Central Board of Health saw Mitchell lose his position at the Model Farm, and medical staff instated there to supervise Mitchell's work. The attempt at cooperation was, however, a fiasco and Mitchell continued to vaccinate, transgressing the professional boundaries established by medicine.

John Shillinglaw, secretary to the Board of Health, outlined the Board's position. He noted that vaccination was the main objective, and that the mode of vaccination was a secondary issue. However, he stressed that they did not perceive calf lymph to be superior to humanised, and that dependence on calf lymph was problematic as supply was difficult to maintain in a panic. The problem with Mitchell was that:

> Practically, Mr. Mitchell's proceedings at the Depôt have stopped arm-to-arm vaccination by the Public Vaccinators of the City and the Suburbs, and, if we were

[393] *AMG*, February 1882, p. 75.
[394] *AMG*, March 1883, pp. 122-123.
[395] *AMG*, June 1887, p. 229.

> now to have an outbreak of Small-pox, the Board would have the utmost difficulty in getting up a large stock in hand of humanized lymph. As Mr. Mitchell has set at defiance the Rules made by the Board, under the authority of the Chief Secretary, it follows that no reliance can be placed on any supply of Lymph from the Depôt.[396]

Having aligned themselves so closely with the pro-vaccination case, the medical profession could not afford to let an outsider have so much influence over the public perception of it. They were worried, in short, that Mitchell threatened the expertise and professional status of medicine by his actions.

Part of the argument for medical autonomy was that doctors were the ones best qualified to assess their work and maintain standards. The very presence of Mitchell undermined this argument. In the responses of the medical profession to debates over aspects of vaccination, the guiding influences were corollaries of professionalism associated with medical autonomy. This autonomy was essentially derived from the state, whose patronage was dependent upon cultural authority, which the medical profession attempted to regulate through its relationship with the public.

3.5.2: Medicine, science and society

The medical profession was particularly concerned with how vaccination, specifically, and medicine, generally, were perceived by the public because of the ramifications for their claims to expertise, which was, in turn, fundamental to professionalisation. Hence, in discussions of health, medical practitioners often referred to the scientific character of orthodox medicine, a trait that is closely linked to the process of professionalisation.

Shortt has discussed the role of science as a focal point around which the medical profession coalesced to achieve a high level of homogeneity.[397] He argued that, although the nineteenth century constituted a period of 'significant biological and medical innovations' contemporaneous with a substantial change in the character of the medical profession, traditional historiography implying a causal relationship between science and professionalisation was simplistic. Such an approach, he suggested, was a consequence of the heroic medical history tradition, which focused

[396] Supplementary Inward Correspondence: calf lymph and vaccination, PROV: VPRS1226/P0000/91.
[397] S.E.D. Shortt, 'Physicians, Science, and Status: issues in the professionalisation of Anglo-American medicine in the nineteenth century', *Medical History* 27 (1983): 51-68.

on biography and medical successes by individuals or institutions. Shortt is also critical of the somewhat anachronistic definitions of 'science' implicit in more recent studies, emphasising that 'Patients judged the profession by the criteria of their age'.[398] He argued that:

> Though therapeutic efficacy remained static, by ensuring that science became a component of middle-class discourse – a science for which they themselves were the local spokesmen – physicians had achieved social legitimacy. This legitimacy, in turn, was essential to the initial phase of professionalisation.[399]

This approach echoes the cultural authority of Starr and Rosen, in that weight is placed upon the necessity of establishing the cultural value of medicine prior to professionalisation, as opposed to it being a result of improvements in knowledge and therapeutic skills. Shortt, however, goes further by describing how this rhetoric of science was then used by the profession in the second half of the nineteenth century to wrest control of hospitals and public health away from lay elements, using their ostensibly scientifically-based expertise to play upon Victorian preoccupations with health and disease. These claims to expertise would have had no impact had the public not been primed to receive and respond positively to the language of science. The 'truth' or otherwise of these claims was irrelevant; rising public faith in science was sufficient to increase the prestige of medicine.

The impact of science on medicine has been further elaborated upon by Bynum, who concluded that 'science did matter to doctors collectively, even if it could be neglected by them individually, and even if much of ordinary medical practice was untouched by it' because of its impact on 'medical education, professional identity, and the technology of medical practice.'[400] Even if medical 'breakthroughs' failed to have much impact on the daily practice of the average practitioner or immediate therapeutic benefit for the average patient, the profession as a whole benefited from the impact these developments had on the public image of medicine, and the resultant changes to training and methodology.

Indeed, McKeown argued that medical innovation was not especially beneficial to patients prior to the twentieth century, as improvements in sanitation and nutrition played a significantly larger role

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[398] *Ibid.*, p. 60.
[399] *Ibid.*, p. 63.
[400] W.F. Bynum, *Science and the Practice of Medicine in the Nineteenth Century* (Cambridge: Cambridge University Press, 1994), p. 219.

than therapeutic advancements in the decline in mortality in England and elsewhere during the late nineteenth century.[401] McKeown's work subsequently attracted some criticism, notably Szreter's argument that social and medical intervention, implemented through local government, made a significant contribution to improving urban health, albeit unevenly.[402] Harris's defence, however, demonstrated that the McKeown thesis could largely withstand these criticisms while taking into account more current understandings of nutrition, disease and risk factors, although he qualified this by noting the impact of factors such as urbanisation and the relative decline of some diseases compared to others.[403]

McKeown, Brown and Record argued that the decline in mortality in European countries prior to 1900 was due to a reduction in deaths from infectious diseases attributable largely to improvements in sanitary and living conditions.[404] They added that smallpox vaccination, the one effective therapeutic tool available at the time, probably contributed to this trend but only in a limited way. Lewis and MacLeod have described a similar, albeit delayed, trend in the Australian colonies.[405] They argued that the image of the colonies as a 'workingman's paradise' was largely fallacious, and that deaths from infectious diseases and infant mortality rates were comparable to those in English cities. Mortality from phthisis and gastro-intestinal infections increased in Sydney, Melbourne and Brisbane as each grew into a significant urban centre and then decreased between 1885 and 1900, as the problems of poor sanitary, living and working conditions associated with rapid urban development began to be addressed. However, the contribution of smallpox vaccination to this trend in the Australian colonies is dubious. Smallpox was never a major cause of death, and vaccination could therefore not have contributed to a decline in overall mortality. The fact that it was only occasionally introduced is principally attributable to geographical remoteness. This meant that quarantine, disinfection and isolation measures could be used to great

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[401] T. McKeown, *The Modern Rise of Population* (New York: Academic Press, 1976); T. McKeown and R.G. Record, 'Reasons for the Decline in Mortality in England and Wales during the Nineteenth Century', *Population Studies* 16 (1962): 94-122; T. McKeown, R.G. Brown, and R.G. Record, 'An Interpretation of the Modern Rise of Population in Europe', *Population Studies* 26(3) (1972): 345-382.
[402] S. Szreter, 'The Importance of Social Intervention in Britain's Mortality Decline', *Social History of Medicine* 1(1) (1988): 1-37.
[403] B. Harris, 'Public Health, Nutrition, and the Decline of Mortality: the McKeown thesis revisited', *Social History of Medicine* 17(3) (2004): 379-407.
[404] McKeown, Brown and Record, *op. cit.*
[405] M. Lewis and R. MacLeod, 'A Workingman's Paradise? Reflections on urban mortality in colonial Australia, 1860-1900', *Medical History* 31 (1987): 387-402.

effect, although the prior vaccination of many immigrants certainly played a contributing role in the failure of smallpox to become established in the colonies.

Regardless of whether or not medical science contributed to the health of the Australian people, it is clear that the profession used science to improve its social and professional position based upon contemporary perceptions of the value of science, including medical science. White has examined the relationship between science and medicine in nineteenth-century South Australia, and argued that it was a forced one: 'the rhetoric of science was not easily accepted by medical practitioners themselves or by representatives of capital, and it was often rejected by the state, and resisted by the urban population.'[406] He contended that South Australia's Chartist background and economic concerns made it ill-suited to accepting scientific expertise as grounds for privilege, and that medicine had to respond to the demands of Australian liberalism by reconciling contradictions between science and individualism in order to receive state patronage.

This tension was clearly exhibited within the vaccination debate: the logic of medical science recommended compulsory vaccination as the most efficient means of negating the risk of smallpox, while liberal ideology suggested that it was each individual's right to decide for his or her self whether to be vaccinated or not. The complicating factor in the debate was that vaccination was recommended for infants, a class of people unable to make decisions regarding their own health, and so the right to decide devolved to parents and legal guardians, raising the issue of responsible parenting. Middle class suspicion of the level of responsibility undertaken by the poor in a range of areas, including infant welfare, sanitation and vaccination, was both complemented and encouraged by medical opinion. These developments in public opinion led to increased acceptance of interventionist state policy, although the degree of acceptance was to some extent influenced by each colony's attitude towards interventionist policies, exhibited across many issues. Victoria, the most accepting of state intervention, moved to protectionist economic policy and implemented sanitary and health reforms that impinged upon individual rights. Tasmania and, in particular, New South Wales adhered more closely, and for longer, to the individualist aspects of liberalism, perhaps in reaction to their convict origins, resulting in more gradual transitions to policies aimed at collective wellbeing over individual freedom.

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[406] K.N. White, 'Negotiating Science and Liberalism: medicine in nineteenth-century South Australia', *Medical History* 43 (1999), p. 177.

The role played by science in these transitions was that it simultaneously aided and was supported by the rise of the middle class in the nineteenth century. Science could not have been thrust upon an entirely unreceptive audience, nor was it waiting, fully formed, for medicine to commandeer it for professional purposes. Rather, it developed with medicine, society and the state, and all four influenced the direction taken by the others. Science was used by medicine to substantiate claims of expertise and when it conflicted with prevailing ideological trends, it was necessary for a level of reconciliation to be attained before further progress was achievable.

Although science was used in a general sense to support and promote medicine, it was also used in specific ways, of which vaccination is a prime example. Smallpox vaccination was constructed as an example of the scientific nature of medicine's contribution to society, which is why Frank Tidswell could address the Australasian Association for the Advancement of Science on January 7, 1898, with a speech entitled 'A Brief Sketch of the History of Small-Pox and Vaccination in New South Wales'.[407] His position was orthodox medical, emphasising the heroic efforts of the health officials in protecting an apathetic public from smallpox against great odds. Vaccination was presented as medical science's answer to a problem defined as within medical professional boundaries, and the history of vaccination was portrayed as a lesson in the benefits of medical science, with special emphasis on Jenner's empirical methods.[408]

Jenner and vaccination assumed iconic status in medical representations of their history and identity, encapsulating many of the ideals that the profession projected as intrinsic to medicine, including altruism, empiricism and utility. Like many other social groups, the medical profession constructed an historical tradition 'to consolidate identity, to legitimate, and to inspire.'[409] The positivism present in the early histories of smallpox and vaccination reflected the faith that the profession had in scientific medicine to contribute to human progress and, in the early twentieth century, was transmitted to young practitioners in more formal ways, as medical history came to be increasingly regarded as an important component of a balanced medical education. The study of

[407] F. Tidswell, *A Brief Sketch of the History of Small-Pox and Vaccination in New South Wales* (read before the Australasian Association for the Advancement of Science, January 7, 1898), (Sydney: Government Printer, 1899).
[408] A.S. Paterson, 'The early history of vaccination', *AMJ*, 17 (1872): 265-275.
[409] F. Huisman and J.H. Warner, 'Medical Histories' in F. Huisman and J.H. Warner (eds.), *Locating Medical History: the stories and their meanings* (Baltimore: The Johns Hopkins University Press, 2004), p. 3.

medical history was portrayed as one way to maintain the balance of art and science in the practice of medicine, balancing the 'excessive reductionism, specialization, commercialism, and cultural disintegration' that arguably resulted from a disproportionate focus upon medicine's scientific aspects.[410] Although it remained an important component of professional definition and authority, history was auxiliary to science in identity formation.

Demonstrations of the efficacy of vaccination in preventing smallpox were presented by the medical profession using the language of science: mathematics, in the form of statistical analysis.[411] Schlich suggested that the use of statistics in assessing different medical treatments was 'part of the process of objectification through which science entered medicine.'[412] Epidemics could be constructed as experiments, with the unvaccinated as the control group and the vaccinated as the treatment group. Variables could be identified and success could be quantified. Structured experiments were designed and performed, to test various contentious aspects of vaccination, the methodology and results of which were published in the medical journals.[413] Anti-vaccinationists with the temerity to use statistics for their own purposes were criticised for their poor scientific method: small sample sizes, selective reporting and dubious categorisation.[414] This was not necessarily their fault, but rather 'the chief difficulty with them has been the want of knowledge of the lessons of natural history, or the want of ability to read analogies in the histories of things that have life.'[415] That is, lacking the scientific expertise possessed by the medical profession, the anti-vaccinationists understandably came to erroneous conclusions, thereby strengthening medicine's claim to direction of policy, as vaccination fell within the sphere of medical expertise. By 1898, the profession was claiming a logical victory on the basis of scientific superiority, with glycerinated calf lymph, antiseptic techniques, and bacteriological theories offering explanations of

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[410] *Ibid.*, p. 14.
[411] *AMJ*, 22 (1877), pp. 111-117; *AMJ*, 10 (1888), pp. 193-195; R. Greenup, *A Letter Addressed by Dr. Simon, Medical Officer of the General Board of Health, to the President of the Board, on Vaccination* (Sydney: Government Printer, 1859); *Vaccination. Facts about small-pox and vaccination* (Melbourne: Government Printer, 1898).
[412] T. Schlich, 'Risk and Medical Innovation: a historical perspective' in T. Schlich and U. Tröhler (eds.), *The Risks of Medical Innovation: risk perception and assessment in historical context* (London: Routledge, 2006): 1-19, p. 5. See also, G. Gigerenzer, Z. Swijtink, T. Porter, L. Daston, J. Beattye, and L. Kruger, *The Empire of Chance: how probability changed science and everyday life* (Cambridge: Cambridge University Press, 1989), p. 47; E. Magnello, 'The Introduction of Mathematical Statistics into Medical Research', in E. Magnello and A. Hardy (eds.), *The Road to Medical Statistics* (Amsterdam: Rodopi, 2002): 95-123.
[413] *AMJ*, 8 (1863), pp. 264-265; *AMJ*, 5 (1883), pp. 381-383; *IMJA*, 3 (1898), pp. 546-550.
[414] A.J. Taylor, *Some Facts and Figures Relating to Vaccination, illustrating errors of the anti-vaccinationists* (Hobart: Calder, Bowden & Co., 1891).
[415] *State Vaccination, op. cit.*, p. 2.

the nature of vaccination and its potential consequences used as evidence of the modern, scientific safety of the procedure.[416]

The portrayal of vaccination as medical science did not go uncontested. B.J. Parkinson, one of the principal witnesses opposing vaccination at the 1914 Victorian Parliamentary enquiry into vaccination, later stated that:

> It is important to realise that the determination of the value or uselessness of vaccination is **definitely not** a medical question, nor one for the decisions of medical men. …[medical men are] interested parties, not merely in a pecuniary sense, but as affecting the prestige of the whole profession.[417]

Anticipating objections from the profession that laymen were not competent to discuss a scientific question, Parkinson further argued:

> Why call it scientific? If the stuff used as a vaccine in unknown and its effects in particular cases are unknown and little or nothing is known of the disease it pretends to protect people from and it is based upon an erroneous theory, you can see that there is nothing in the least scientific about the subject.[418]

Here, Parkinson had identified one of the key weaknesses of the scientification of medicine. Bacteriology had added a great deal to the prestige of medicine, but it had not guaranteed success, as only a very small proportion of organisms responsible for common diseases had been identified. Neither smallpox nor vaccinia were among them, and although immunology had advanced in the closing stages of the nineteenth century with the work of Pasteur, Koch, Metchnikoff and others, theories explaining the action of the immune system were limited and inadequate.[419]

One of the major developments in scientific medicine was the popularisation of bacteriology and germ theories, and is cited as playing a significant role in providing public health with a scientific and professional identity. It nevertheless encountered opposition from many at the time. As White

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[416] *IMJA*, 3 (1898), pp. 545-552.
[417] B.J. Parkinson, Melbourne Branch of the British Union for Abolition of Vivisection, *Vaccination a Failure*, (Melbourne: Ruskin Press, 1946), pp. 3, 6. Emphasis in original.
[418] *Ibid.*, p. 8.
[419] Vaccinia virions were identified by Calmette and Guérin in 1901, and Paschen promoted the idea that they were the infective particles from 1906. Further work on all pox virions was dependent upon the development of the electron microscope, during the 1930s and '40s. F. Fenner, D.A. Henderson, I. Arita, Z. Ježek, and I.D. Ladnyi, *Smallpox and its Eradication* (Geneva: World Health Organisation, 1988), pp. 71-72.

noted, 'By focusing on germs the profession was accused, by both those in favour of public health legislation and those against it, of obscuring the real causes of the disease, namely, the environmental conditions'.[420] In fact, White has argued that in some cases, medicine's appeal to scientificity weakened their claims to expertise, either through disunity within the profession or because the science aroused scorn from the public, as was partly the case with germ theory and vaccination. Fee and Porter, however, argued that 'Bacteriology introduced the principle of specificity into understanding diseases processes, and it also presented a powerful new way of differentiating scientific experts from mere social reformers.'[421] They argued that the model of public health that flowed on from bacteriology 'reinforced the medical profession's claim to a dominant influence in the field – a claim that had long been accepted in Britain, but that was actively contested in the United States.'[422] Further, by providing awareness of specific means of communication of diseases, it focused attention in Britain upon notification, isolation and disinfection during the 1890s and gave rise to the notion of 'at risk' populations.

Worboys described nineteenth-century understandings of smallpox and vaccination, and the limits of medical science to provide a coherent theory to link them together.[423] He argued that the clearly defined aetiology of smallpox combined with vaccination to direct attention away from environmental conditions, characterised by filth or miasmas, towards people and their behaviour, and that this acted as a vanguard for other diseases. While several theories of vaccination were developed, using analogies to chemical or living matter either exhausting the nutrients necessary for disease development or making an impression upon the body, none was singled out for specific use as a defence of vaccination. More important was that these theories provided a scientific lexicon for discussion of these issues that sounded, rather than was, authoritative. However, as Durbach noted, this was not one-sided, as 'it also furnished the anti-vaccinators with a new medical language to conceptualize and articulate the problem of dirt', contributing to the muddied popular understandings of disease and contagion.[424] That the public was not entirely passive in accepting

[420] White, *op. cit.*, p. 190.
[421] E. Fee and D. Porter, 'Public Health, Preventive Medicine, and Professionalization: Britain and the United States in the nineteenth century' in E. Fee and R.M. Acheson (eds.), *A History of Education in Public Health: health that mocks the doctors' rules* (Oxford: Oxford University Press, 1991), p. 33.
[422] *Ibid.*, p. 37.
[423] M. Worboys, *Spreading Germs: disease theories and medical practice in Britain, 1865-1900* (Cambridge: Cambridge University Press, 2000), pp. 117-124.
[424] N. Durbach (2005), *op. cit.*, pp. 152-156, quotation from p. 156.

scientific explanations can be seen from Buchanan's comments in the New South Wales Legislative Assembly in 1881:

> The idea of the Chief Justice writing that stupid letter which appeared in the *Herald* the other day, in which he promulgated the erroneous theory that there were what he called germs of disease floating about in the air! The idea of a man going into a room and coming out with a pocketful of these germs![425]

Expertise is a complicated concept. Although medicine claimed affiliation with science and the scientific method, in order to achieve a level of cultural authority, it could not take that relationship too far without jeopardising its claim to expertise. Science entails provision for replication and standardisation, which naturally threaten the autonomy, and therefore the professionalism, of medicine. In order to counterbalance this aspect of scientification, medicine needed to retain an element of indeterminacy in its practice, the 'art' to equalise the 'science'. Within the vaccination debate, this was demonstrated through an emphasis on practical experience. This could be of smallpox, of syphilis, of normality and of abnormality. What the medical practitioner with recognised qualifications had to offer was the ability to identify and label symptoms, leading to diagnosis and then to (increasingly scientific) treatment. It was this set of skills that differentiated the orthodox medical practitioner from his educated lay contemporaries, defining his expertise and supporting his claims to professionalism.

Several authors have asserted that there was a general distrust of experts by the public during the nineteenth century, including, of course, doctors.[426] Countering this distrust was the gradual process of the medicalisation of the general public, as Foucault termed it, in which smallpox vaccination played an early role. Sussman, Huerkamp, Durbach and Janetta have all identified cases where vaccination programs led to the establishment of medical practice among classes of the population who had not previously consulted doctors.[427] Recognising that the fortunes of the medical profession relied on the complex interactions between the state, the public and the

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[425] 'Infectious Disease Supervision Bill', *NSWPD*, LA, 1881 Vol. 2, p. 2476.

[426] Lewis and Macleod, (1988) *op. cit.*, p. 70; Lloyd, *op. cit.*, p. 15; 'Vaccination', *VPD*, LA, 1891, Vol 68, p. 2783; 'Non-Compulsory Vaccination Bill', *VPD*, LA, 1895-6, Vol. 79, p. 3368.

[427] G.D. Sussman, 'Enlightened Health Reform, Professional Medicine and Traditional Society: the cantonal physicians of the Bas-Rhin, 1810-1870', *Bulletin of the History of Medicine* 51(4) (1977): 565-584; C. Huerkamp, 'The History of Smallpox Vaccination in Germany: a first step in the medicalization of the general public', *Journal of Contemporary History* 20(4) (1985): 617-635, pp. 621-622; Durbach (2005), *op. cit.*, pp. 13-25; A. Jannetta, *The Vaccinators: smallpox, medical knowledge, and the "opening" of Japan* (Stanford: Stanford University Press, 2007).

profession, they identified smallpox vaccination as a key technology in the development of these relationships.

In Germany, local authorities, teachers, clergy and doctors were all used to promote vaccination among the public.[428] Although this was not explicitly organised by state authorities in the Australian colonies, the role played by prominent individuals was recognised and encouraged by the medical profession. The role of individual medical practitioners in the vaccination debate was especially important in the colonies, given the thinly dispersed nature of the rural population and the lack of an organised bureaucratic structure for the administration of vaccination programs in Tasmania and New South Wales. Public vaccinator positions were eagerly sought, despite complaints about the poor pay, as it helped to establish a young practitioner.[429] It brought the practitioner into contact with a wide range of people, and provided him with an opportunity to impress upon them his skill and knowledge. While many found the position desirable, some made more of it than others. For example, in 1865, 3156 of the total of 11069 vaccinations in New South Wales were performed by one doctor. Greenup noted that 'the usual apathy prevailed, and the number would have been much lower, but for the large number vaccinated by Dr. Beamish in Sydney'.[430] Vaccination was not compulsory, he had no legal sanctions to apply, and yet he managed to persuade a large number of people to vaccinate their children, demonstrating the significant impact one determined individual could have on community attitudes.

Having experimented with prosecution, the Tasmanian Central Board of Health discovered that it had very little effect on the behaviour of the population, especially when compared with the influence of the local doctor. In fact, they found that 'it depends almost entirely upon the interest that medical men take in the matter whether or not the children in a district are vaccinated'.[431] This realisation, combined with an awareness of the English anti-vaccination problem and the subsequent Royal Commission, caused a change of focus from the health authorities, away from prosecutions as the best method of encouraging universal vaccination.

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[428] Huerkamp, *op. cit.*
[429] See, for example, AOT: CSD 13/55/147.
[430] R. Greenup, 'Vaccination', *NSWLCJ*, 1865, pp. 699-700.
[431] A. Mault, 'Central Board of Health: report for 1888', *TPP*, 1889, No. 96, p. 15.

Huerkamp did not attempt to contend that vaccination represented a straightforward case for the medicalisation of the public. She noted that, on the one hand, the medical profession gained a monopoly over the administration of vaccination, they received fees from it, and it brought them into contact with sections of the population that were previously unacquainted with medical care.[432] On the other hand, however, compulsory vaccination sometimes had a negative effect on medicalisation, in that it could strengthen suspicion of the profession, especially when vaccination was forced upon an unwilling public. However, she concluded that, despite sometimes fervent anti-vaccinationism, the overall effect of the implementation of compulsory vaccination in the German states was a redefining of the medical professional as a scientific expert, to be consulted by all levels of society on any matter pertaining to health. This was largely because the measure applied to the whole population, and those who submitted to vaccination always outnumbered those who resisted. It also covered the whole of the nineteenth century, marking vaccination as one of the earliest and most enduring professional projects.

To what extent, though, can Huerkamp's conclusions be applied to the Australian colonies? Prior to 1835, clergymen, teachers and midwives, as well as medical men, had been permitted to vaccinate in Germany, in an attempt to achieve the greatest coverage possible. In the colonies, impetus for vaccination largely originated from medical practitioners, and so it was established as a medical operation by the time of the first Vaccination Acts in the 1850s. Whenever anybody outside the profession attempted to act as vaccinator, the profession effectively prevented this from occurring, as in the Mitchell case, or when lay vaccinators were suggested for remote areas. Public vaccinators received a fee per vaccination performed, and other practitioners received payment for private vaccinations.[433] However, inadequate remuneration was frequently cited as the cause of low vaccination rates, as it was not considered worth a doctor's while to spend time persuading patients to submit to the operation. Nevertheless, arm-to-arm chains needed to be maintained, requiring a level of influence among the public, and in times of panic, large numbers of people would seek out public vaccinators, allowing relationships to be formed and expertise to be asserted.

The experience of the vaccination debate in the colonies was not wholly positive for the medical profession, demonstrating some similarity with the German experience. The inability of medical

[432] Huerkamp, *op. cit.*, pp. 631-632.
[433] R. Greenup, 'Vaccination', *NSWLCJ*, 1866, Vol. 1, p. 481; Victorian Compulsory Vaccination Act (18 Vict. No. 4); Tasmanian Compulsory Vaccination Act (45 Vict. No. 2).

practitioners to hold a united view on all aspects of vaccination procedure and efficacy was seized upon by the anti-vaccinationists, hampering medicalisation by damaging claims to expertise, and the motives of an occupational group in supporting a procedure from which they stood to benefit from financially were explicitly questioned.[434] Over the course of the second half of the nineteenth century, however, the views of the medical profession in New South Wales, Victoria and Tasmania became increasingly homogeneous through various measures discussed above. Vaccination was accepted by the vast majority of the public in Victoria throughout this period, and this extended exposure to the medical profession, combined with the largely positive attitude towards vaccination in that colony, contributed to the early cohesion of the profession and medicalisation of the public in Victoria. The process of professionalisation took longer in New South Wales and Tasmania, which was reflective of the reduced popular acceptance of vaccination in those colonies.

Medicalisation as a concept in the history of medicine is nearly inextricable from the development of medical dominance of healthcare. The distinction between them is that medicalisation is more narrowly focused on acceptance of medical expertise by the public, rather than the gaining of state patronage, although both are necessary facets of any examination of the development of the medical profession during the nineteenth century. Willis's account of medical dominance thus focuses on the role of the state in medical dominance to the detriment of discussion of the role played by the general public. The medical profession in the nineteenth century, within the vaccination debate, did not focus their attentions exclusively on either group, but rather sought to consolidate their position with reference to both state patronage through complementary objectives and public dependence on medical expertise.

While the role of professional aims in explaining medical support of vaccination was undoubtedly an important one, it is possible to overstate this relationship. It would be ridiculous to suggest that every individual doctor who supported compulsory vaccination did so because he believed it to be a good career move. Rather, the average doctor was more likely to support compulsory vaccination because he had been trained in an environment that promoted it, the journals he read and the societies he was a member of both supported it, and he was part of a class with whose

[434] Examples include: Sydney Health Protection League, *Testimonials of Medical Men on the protection supposed to be afforded by Vaccination from 1805* (Sydney: Anderson and Hart Printers, 1913); *Can Disease Protect Health?* (Melbourne: A.H. Massina & Co., 1890), p. 6; and *Why Do Doctors Vaccinate? Common-place comments on a Surgeon's Assertions* (Hobart: Calder, Bowden & Co., n.d. [post-1883]), p. 3.

values it sat comfortably. While vaccination assisted in the process of professionalisation and establishment of medical dominance, it is also true that professionalisation and medical dominance contributed to the formation of medical responses to vaccination. These developments were complementary, not unidirectionally causal.

Vaccination remained on the medical agenda for the extended period that it did because it was fundamentally consistent with the interests of the profession. It was evidence of the benefits of medical science, in that it could be counted on when other preventives had failed. It promoted the doctor-patient relationship throughout the life cycle, in that vaccination ideally took place in infancy and then at intervals of seven to ten years. It sat comfortably within professional payment structures of fee-for-service and could be used to promote medical autonomy and expertise. Vaccination was a procedure that was performed by unsupervised practitioners, a practice that was legitimated by medical expertise and justified the exclusion of non-medical practitioners (and hence non-experts) on the basis that they could not be trusted to recognise aberrations in the lymph, the patient or the execution without adequate supervision, despite the generally simple nature of the procedure. Furthermore, it assisted in the process of medicalisation. Compulsory smallpox vaccination was, then, important to wider medical aims.

Although at the close of the nineteenth century it appeared as though the medical profession had lost the vaccination debate, as compulsion was gradually rolled back in the colonies where it had existed, there can be little doubt that the profession won the wider war. Medicine effectively professionalised in the Australian colonies and established its dominance over alternative healthcare providers, through the development of cultural authority and the gaining of state patronage. The debate over smallpox vaccination had been important to the development of this process, but it was by no means critical, as its subsequent success makes patently clear. It nevertheless provides an excellent case study for investigation into the process in the Australian context, and is particularly useful for highlighting the fact that medical dominance was not necessarily the inevitable result of technological superiority. An examination of the vaccination debate suggests that the history of health care is not one of relentless positive progress, but rather presents a more complex scenario in which myriad factors interacted, dead ends were produced, and alternative consequences made imaginable.

3.6: Conclusion

Medical responses to vaccination, then, were principally determined by aspects of professionalism. They responded as they did both in order to further their claims to professionalism and dominance of health, and as a result of the same efforts. It was neither entirely altruistic nor entirely self-interested, but a complicated mixture of the two. Their expertise was their capital, meaning that practitioners were simultaneously the best equipped to decide when medical intervention was the best course, and the only ones who could provide it.

Compulsory vaccination was, in many respects, the *cause célèbre* of the nineteenth century for medicine, leading its practitioners to maintain pressure on the state and the public even when this seemed, from the outside, an ill-advised endeavour. Willis argued that 'the most important political consequence of medical dominance is that it prevents the most effective utilisation of health resources in society.'[435] McCrea and many contemporary politicians might have argued that this was true of orthodox medical opinion towards lay vaccination in remote areas, for instance, despite medical protestations that they objected only in the best interests of a vulnerable public. Medical dominance of healthcare was not a fact during this period, but a goal, and the inefficiencies of the health administrations were not solely attributable to a hierarchy dominated by medical interests, although elements may have prefigured this trend.

Willis suggested that another, related, effect of the establishment of medical dominance was a shifting of emphasis away from 'the *social* causation of disease, from prevention, public, environmental and occupational health' towards 'technological and individualist solutions'.[436] This is a trend of which vaccination can be seen as one of the earliest examples. Although smallpox vaccination was a preventive measure, it was a specifically medical technology of prevention that focused attention on the role of the individual in disease causation. Mass vaccination was constructed in opposition to social methods of smallpox control, such as sanitation and isolation. While these alternative methods of control were sometimes advocated by the medical community, they were generally presented as only necessary if people were sufficiently

[435] E. Willis, *Medical Dominance: the division of labour in Australian health care* (rev. ed.), (Sydney: Allen & Unwin, 1989), p. 217.
[436] *Ibid.*, p. 219.

obstreperous as to fail to vaccinate. These social methods were thus portrayed as ultimately inferior to the medical response of vaccination.

One of the most significant consequences of the various professionalisation projects undertaken by the medical profession was increasing the homogeneity of medical opinion. This was achieved through increased regulation of entry to the profession through educational requirements, which in turn had a class selective function, due to the length and cost of obtaining such an education; control of educational content, both at undergraduate level and in a life-long sense, through medical journals and societies; and self-regulation, through the power to blacklist aberrant members and withdraw collegial support. Unity of opinion was crucial to professionalisation, both in terms of public perception and ability to influence government, and this was especially the case for the role of the medical profession in the vaccination debate.

Vaccination offered medicine a means of enhancing its cultural authority. Although the problems associated with the operation had the potential to undermine this developing authority to an extent, the overall benefits of vaccination outweighed the negatives. It aided in the development of the association between medicine and science, allowed the expansion of medicine into new markets and assisted in the normalisation of medical intervention in the life-cycle. On its own, however, it was not sufficient to ensure state support, as the differences between colonies demonstrated. The varying fortunes of compulsory vaccination in New South Wales, Victoria, and Tasmania highlight the centrality of state patronage to medical dominance. Internal developments, aimed at achieving professional unity, and external developments relating to relationships with the state and the public assisted but could not guarantee a position of state-sanctioned autonomy. Ideological conflicts, political instability and economic factors, all beyond medical control, also played important roles. To overcome these factors, medicine offered expertise, carefully allied with scientific principles, that simultaneously provided for the best interests of the public welfare and the medical profession, and was most efficiently expressed within a professional framework.

It is clear that medicine and its practitioners were major players in determining the course of compulsory vaccination in the Australian colonies. It does not necessarily follow, however, that the other participants in the debate were passive receptors of medical intelligence, or that resistance to medical pressure was purely the consequence of ignorance, or superstition, or inertia. Nor was it

entirely a medical issue, swayed only by health-related arguments, as the different responses of the colonial governments to vaccination demonstrated. Issues surrounding vaccination were topical between the granting of self-government to the colonies in 1854 and Federation in 1901. While it is clear that the state played a fundamental role in the progress of smallpox vaccination in the Australian colonies, it seems likely that smallpox and vaccination also had a significant impact on the development of the state. These twin issues are the subject of the next chapter.

CHAPTER FOUR:
Vaccination and the State

4.1: Introduction

That the vaccination debate, from the passing of the first colonial compulsory vaccination acts to the reception of the Final Report of the Imperial Royal Commission, aligned almost perfectly with the period from the granting of responsible government through to Federation is highly suggestive of the importance of the two-way relationship between the vaccination debate and state-building in Australia. This relationship is not unproblematic, however, as the colonies responded to disease threats, including that of smallpox, in diverse and seemingly incoherent ways. As Hamlin asked:

> If epidemic diseases are universal biological phenomena, the work of stateless germs, why then do the responses of states to them vary with what Peter Baldwin calls a "polymorphous perversity" of entangled rationales and practices?[437]

The purpose of this chapter is to answer this question with specific reference to the colonies of eastern Australia. It seeks to explain why the governments of New South Wales, Victoria and Tasmania adopted very different methods of dealing with very similar threats. In 4.2, the role of British influence on colonial public health policy is evaluated, as each colony worked towards balancing competing pressures of responding to local conditions, attempting to match or exceed international standards of health and establishing independent identities. Section 4.3 then examines the role of political ideology in determining public health strategies, testing the contention that a state's ideological stance is the foundation of its aetiological and prophylactic preferences, and recognising the struggle to reconcile liberal beliefs with the perceived need for increasingly interventionist action to preserve the public health. This leads to an assessment of panic and public opinion as determinants of state action, in order to find the degree to which the state's policies with respect to vaccination were informed by a concern for order and regulation. In addressing issues

[437] C. Hamlin, 'Review: Peter Baldwin. *Contagion and the State in Europe, 1830-1930*', *Bulletin of the History of Medicine* 75 (2001), p. 137.

regarding the state and control, Section 4.4 discusses the use of statistics and the rise and significance of governmentality.

In imposing interventionist policies upon a sometimes unwilling public, medical expertise came to play an increasingly important role in justification and administration. Section 4.5 seeks to assess the nature and extent of the relationship between medical expertise and the state, and to explore the rise of institutionalised expertise through the development of bureaucratic structures in liberal democratic states and the contradictory tensions created thereby. Finally, the impact of practical considerations, such as economic, geo-epidemiological, intercolonial and administrative pressures, is considered. The conclusion draws together the two major themes of the chapter: explaining the different responses to smallpox prevention by the colonies, and evaluating the overall importance of vaccination in the history of the state in Australia.

4.2: British influence on Australian policy

The close social, economic, political and emotional bonds between Britain and the Australasian colonies meant that many facets of colonial life reflected those in the mother country. This was true of much Australian law, and for many years it was argued that colonial legislation was largely English law transplanted. Kercher, however, derided the persistence of the idea that the colonies followed the mother country unthinkingly:

> The idea that Australian law was to a degree original even in the nineteenth century is still controversial, but it should not be. It was impossible for eighteenth-century English law to be simply transplanted. That law was the product of a complex class-ridden society, and neither the society nor its rules could be dumped unchanged into the Australian bush. Nor was there an uncontested notion of English law which could have been parcelled up and sent to the colonies, let alone a single interpretation of it. Ambiguity, social difference and distance, in short, made legal originality possible.[438]

This section seeks to find to what extent this general assessment of the development of Australian law is applicable to public health legislation in the colonies, and compulsory vaccination legislation in particular.

Imperial influence has been implicated in the development of colonial public health policy, including compulsory vaccination.[439] Cumpston argued that 'The dominant influence throughout the whole of public health legislation before the year 1900 was the English legislation.'[440] Ties with England were very close and, given that many health-related acts passed by the colonial governments reflected the English legislation either in form or in timing or both, it is unsurprising that Cumpston should have reached this conclusion, although it also, perhaps, reflects the frustration he had felt while trying to administer some of this legislation in his roles as the Director of Federal Quarantine and later as the first Director-General of the Federal Department of

[438] B. Kercher, 'Creating Australian Law', in W. Hudson and G. Bolton (eds.), *Creating Australia: changing Australian history* (St. Leonards, NSW: Allen & Unwin, 1997), p. 106.
[439] A. Mayne, '"The Dreadful Scourge": responses to smallpox in Sydney and Melbourne, 1881-2', in R. MacLeod and M. Lewis (eds.), *Disease, Medicine and Empire: perspectives on western medicine and the experience of European expansion* (London: Routledge, 1988): 219-241.
[440] J.H.L. Cumpston, 'The Development of Public Health in Australia', *MJA* (March 17, 1928), p. 333.

Health.[441] He recognised that there were some differences between the colonies by arguing that the level of 'intellectual and ethical reliance upon the mother country' depended on the history of settlement and growth.[442] This explained, he believed, New South Wales's slow adoption of public health legislation in comparison to Victoria, whose population was comprised 'entirely of young English people, all of whom had arrived within two or three years from England.'[443] For Cumpston, the history of public health in Australia differed from that of England merely in time, not in substance. Indeed, his scathing assessment was that:

> This adoption of English legislation was mechanical and unenlightened. Sufficient attention was not paid to local conditions and needs; it was not realized that the natural history of diseases in Australia was different from that in England.[444]

His only concession was that, on occasion, 'temporizing measures designed to meet an emergency need or to satisfy a presumed public demand' would produce some small difference between English and colonial laws.[445]

This view has some merit, but fails to take into account any factors beyond imperial influence and panic, and has been refuted by Dyason for these reasons. She argued that the Victorian Public Health Act differed significantly from its English counterpart in terms of administrative structure, and especially in its reliance on the police force, rather than the Local Boards of Health, for enforcement.[446] Further, the way in which the administration of the act developed was informed by local conditions; notably, the sporadic growth of the gold diggings and the emergence of new municipalities both left their impact on the administration.

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[441] For more on Cumpston, see A. Hyslop, 'A Question of Identity: J.H.L. Cumpston and Spanish Influenza, 1918-1919', in D. Walker and M. Bennett (eds.), *Intellect and Emotion: essays in honour of Michael Roe*, Number 16 (Geelong: Australian Cultural History, 1997/98): 60-76; M. Roe, 'The Establishment of the Australian Department of Health: its background and significance', *Historical Studies* 17(67) (1976): 176-192; M. Roe, *Nine Australian Progressives: vitalism in bourgeois social thought, 1890-1960* (St Lucia: University of Queensland Press, 1984), pp. 118-154.
[442] Cumpston, 'The Development of Public Health in Australia', *op. cit.*, p. 333.
[443] *Ibid.*
[444] *Ibid.*
[445] *Ibid.*, p. 335.
[446] D.J. Dyason, 'Aspects of Public Health in the Colony of Victoria – the first 15 years', *XIVth International Congress of the History of Science, Proceedings No. 3* (Tokyo: Science Council of Japan, 1975): 15-18.

Lewis has taken a more moderate position, acknowledging both that the Australian Public Health Acts borrowed extensively from the English laws and that the difference between them was in the operation of the legislation, with:

> …supervision exercised from the centre because of the comparative weakness of local government in the colonies, a function of smallness and thinness of population and the colonial tradition, initiated in the convict era, of strong government from the capital.[447]

However, Lewis emphasised the reactive nature of the government decisions, noting that 'epidemic disease was a powerful spur to introduction of legislation, though smallpox in Australia usually played the part of cholera in Britain.'[448] It was fear of infectious disease that Lewis saw as providing the immediate provocation necessary for bills to be passed, and the unusually extreme fear of smallpox, despite (or perhaps because of) its relative rarity, that prompted major advances in public health organisation in each of the colonies during the second half of the nineteenth century. Roe, too, asserted the importance of epidemic disease in the development of public health, by arguing that the story of quarantine in Australia, formulated specifically to prevent the introduction of epidemic diseases, is essentially also the story of the establishment of the Australian Department of Health.[449]

The history of public health in New South Wales differs from that of the other Australian colonies in that it did not pass a general public health act until 1896. Fisher has argued that the difference in timing between the British and New South Wales legislation was not simply the result of an immature colony lagging behind, but rather reflected the economic concerns of late nineteenth-century New South Wales.[450] Taking the example of the regulation of noxious trades, she argued that pollution produced by urban manufacturers was left largely unregulated because the pastoral interests needed the noxious traders, and the government needed the rural interests to be productive for economic stability. Hence,

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[447] M.J. Lewis, *The People's Health: public health in Australia, 1788-1950* (Westport, Connecticut: Praeger, 2003), p. 71. See also: Mayne (1988), *op. cit.*, p. 236.
[448] *Ibid.*
[449] M. Roe, 'The Establishment of the Australian Department of Health: its background and significance', *Historical Studies* 17(67) (1976): 176-192.
[450] S. Fisher, 'The Pastoral Interest and Sydney's Public Health', *Historical Studies* 20(78) (1982): 73-89.

> The exporters' need to produce in a low cost situation, unfettered by government controls, was deemed more important than was the preservation of Sydney's environment and the health of Sydney's population.[451]

Fisher therefore assessed economic factors as being more important in the formulation of public health policy than British influence in New South Wales.

One of the major differences between English and Australian public health has been identified by Bashford, and consists of the very different approaches to quarantine between the mother country and her colonies. This discrepancy was obvious to contemporaries. An anonymous writer for the *Australian Medical Journal* noted that:

> We are somewhat peculiar in these colonies in the law and practice of quarantine. We may be inclined to agree with the English sanitary authorities, that the prevention of disease is mainly an internal question, one, that is to say, of sanitary improvement within the country, and less the keeping of disease out by restrictive measures. Local conditions, however, and especially our comparative remoteness from the great centres of population in older countries, supply what we consider justification for the use of quarantine precautions, such as are now completely abandoned in England.[452]

Bashford agreed, and argued that 'normally Australian medical and public health measures predictably followed European developments', but that in the case of quarantine, the colonies responded to the geographical facts of the Australian continent, and that this had important consequences for the development of the idea of the Australian nation.[453] The practice of quarantine resulted in the conception of Australia as a 'geo-body' and an 'island-nation' with attendant connotations of purity and vulnerability, and was strongly motivated by racial politics. This idea is complicated, but not negated, by the islands of Fiji and New Zealand (which, ultimately, were not included in Australia) and Tasmania (which was), and their inclusion in discussions of quarantine during the late nineteenth century.[454] As England moved away from

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[451] *Ibid.*, p. 89.
[452] *AMJ*, 9 (1887), pp. 323-326.
[453] A. Bashford, 'Quarantine and the Imagining of the Australian Nation', *Health* 2(4) (1998): 387-402, p. 387; Bashford (2004), *op. cit.*, pp. 115-136.
[454] New Zealand passed compulsory vaccination legislation comparable to that in Victoria and Tasmania in 1863 and 1871. These Acts were repealed by the Public Health Act 1872, which included compulsory vaccination clauses. Compulsion, however, was not effectively enforced and problems of implementation were compounded by difficulties with the supply of lymph and the conflicts of interest inherent in devolving responsibility for prosecution to medical practitioners or teachers. During the smallpox scares of the 1870s and 80s, it was claimed that the Maori were

quarantine and towards medical inspection, then, the colonies became increasingly reliant upon quarantine as the first line of defence against infectious diseases.[455]

Maglen has also investigated this seeming anomaly in response to Baldwin's assertion that a state's stance on quarantine was determined by geography in two ways.[456] Baldwin described the first way as the 'geoepidemiological learning curve', in which countries situated further away from the source of disease had time to prepare for its arrival and so were less likely to impose strict quarantine measures. The second way he argued that geography could govern health policy was through topography, in which specific geographic and demographic features could override the imperative of the distance from the source of disease. Maglen assessed Baldwin's theory in relation to the Australian colonies and concluded that, although situated a long way from disease founts, topographical factors were indeed influential.[457] More specifically, however, Maglen identified three factors that contributed to the colonies' predilection for quarantine: poor internal sanitary conditions relative to Britain, insufficient vaccination, and the exotic nature of the diseases they sought to prevent from entering the colonies through quarantine.[458] Further, whereas Bashford emphasised the importance of racial ideas to the construction and administration of quarantine around the time of Federation, Maglen argued that these were far less important for the first three quarters of the nineteenth century and that authorities focused their attention on the

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responding more enthusiastically to the provision of vaccination than the Pakeha, despite not being affected by the compulsory legislation. See F.S. Maclean, *Challenge for Health: a history of public health in New Zealand* (Wellington: Government Printer, 1995), pp. 223-245; D. Dow, *Safeguarding the Public Health: a history of the New Zealand Department of Health* (Wellington: Victoria University Press, 1995), pp. 15, 21-24, 27-32; R. Lange, *May the People Live: a history of Maori health development, 1900-1920* (Auckland: Auckland University Press, 1999), p. 74, 154; P. Wood, *Dirt: filth and decay in a new world Arcadia* (Auckland: Auckland University Press, 2005), pp. 70-71.

[455] Alfred Mault, the Secretary of the Tasmanian Central Board of Health, defined the difference between quarantine and medical inspection in the late nineteenth century. Quarantine was a system that provided for (1) the detention of ships with any infectious cases on board, with all their crews and passengers, for periods varying from ten to twenty-one days, (2) removal of cargo, and disinfection of it and of the ships, and (3) when cases have occurred during the voyage, or when the ship has left an infected port, the quarantine time counts from last liability to infection. Medical inspection, on the other hand, provided for (1) the establishment of sanitary authorities in every port, (2) immediate free pratique to all clean vessels from non-infected ports, (3) immediate inspection of all vessels from suspected ports, or on which there are suspicious cases, (4) immediate free pratique when this inspection shows no cases of infectious disease, except when there have been such cases during the voyage, under which circumstances ship, passengers, and their goods are to be disinfected before admission to pratique, (5) if, on inspection, cases are found – (a) immediate removal of sick to hospital, (b) disinfection of those who are well, and their goods, (c) disinfection of ship, after which, all that are well are to have free pratique, and (6) free pratique to all merchandise, except rags and other objects of a susceptible kind, which must undergo thorough disinfection. A. Mault, 'Quarantine: memorandum by the secretary of the Central Board of Health', *TPP*, 1888, No. 90, p. 3.

[456] K. Maglen, 'A World Apart: Geography, Australian Quarantine, and the Mother Country', *Journal of the History of Medicine and Allied Sciences* 60(2) (2005): 196-217; Baldwin, *op. cit.*, pp. 211-223.

[457] Maglen, *op. cit.*

[458] *Ibid.*, pp. 213-215.

threat of disease from European, rather than Asian, sources, so that the reliance on quarantine was entrenched well before the colonies began focusing on Asian sources of disease.[459] In the case of quarantine, then, it is particularly evident that the Australian colonies, far from aping English precedent, increasingly differentiated their circumstances from those of the mother country and formulated policy in accordance with these observations. Although English examples were frequently cited in discussions regarding quarantine, factors of geography, cost, risk and administration proved more decisive.

The contentions offered by Baldwin and Maglen support Kercher's general assessment of the development of Australian law. This approach does not discount the impact of English legal precedent on the colonies, but rather offers the rational position that even when the colonies tried to adopt English law, implementation in the Australian context necessarily involved adaptation and innovation. This can be seen clearly in the case of compulsory vaccination.

With the granting of self-government, Tasmania and Victoria both passed Compulsory Vaccination Acts, in 1853 and 1854 respectively. Although these laws took the form of the 1853 English Vaccination Act, they were nevertheless laws drafted and passed in the colonies, and prompted by local events and people. It was an outbreak of smallpox in Sydney in 1853 that caused Dr Edward Bedford to write to the Lieutenant-Governor in support of a system whereby the medical practitioners of the colony would be paid by the Colonial Treasurer to vaccinate the people of Van Diemen's Land through house-to-house visitation.[460] Bedford saw no need to argue for the virtues of vaccination – that was taken as a given – but he noted that 'a large number of persons are careless in getting their children, and consequently the Public, protected by its use'.[461] He made mention of the Vaccination Bill that was under consideration in England at that time, and recommended that, if it became law, that 'it would be desirable to have an enactment in this Colony'.[462] This single letter encompasses the balancing act between Imperial and local factors that is characteristic of this period of colonial governance in Van Diemen's Land and Victoria, and hints at the role that medical experts would attempt to play.

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[459] Bashford, 'Quarantine and the imagining of the Australian nation', *op. cit.*, pp. 388, 397-399; Maglen, *op. cit.*, pp. 206-210.
[460] E.S.P. Bedford, 'Small-pox. Enclosure in His Excellency the Lieutenant-Governor's Message No. 22', *TPP*, 1853, No. 58. Van Diemen's Land officially became known as Tasmania from 1 January 1856.
[461] *Ibid.*
[462] *Ibid.*

While Victoria and Van Diemen's Land followed the example set by England in this matter, the same cannot be said of New South Wales. Significantly larger, more established and with more independence of spirit, the colony of New South Wales was not so quick to deem legislation based on the English model desirable and did not pass compulsory vaccination legislation at this, or at any other, point in time, despite having the greatest incidence of smallpox out of any of the Australasian colonies. This is not to say that the New South Wales colonial government was anti-vaccination – indeed, a Vaccine Institution was established in 1847 for the purpose of maintaining the supply and quality of lymph, distributing it to medical practitioners, and vaccinating any applicants – but rather anti-compulsion.[463] Early administrators of vaccination in New South Wales, such as Arthur Savage and John Yates Rutter, pronounced themselves to be confident that vaccination was being practised extensively throughout the colony.[464]

Despite this optimism about the state of vaccination in New South Wales, several vessels arriving at Port Jackson were found to contain smallpox cases, leading to widespread panic and a sharp increase in the number of applicants for vaccination.[465] Rutter found it increasingly difficult to meet the demand and this, combined with the general mood of the populace with regard to the dangers of smallpox, caused the Colonial Secretary to request that the Medical Advisor to the Government notify the government of any cases of smallpox and provide suggestions for the best manner of dealing with such cases.[466] After consultation with the medical community of Sydney, Rutter provided a series of recommendations, focusing on mass vaccination, the establishment of Branch Vaccine Institutions, and personal visitation by specially appointed Public Vaccinators. He advocated the use of isolation and sanitation as supporting measures. His recommendations received rapid assent, demonstrating the influence of medical expertise on policy formation in the face of a crisis, as well as highlighting the concerted effort that the New South Wales colonial government made to make vaccination available to all, particularly within the greater Sydney area.[467] Nevertheless, vaccination was not made compulsory, and nor was there any suggestion of

[463] A. Savage, 'Vaccine Institution', *NSWV&P*, LC, 1848, p. 310.
[464] A. Savage, 'Vaccine Institution', *NSWV&P*, LC, 1852, p. 1161; J.Y. Rutter, 'Vaccine Institution', *NSWV&P*, LC, 1853, Vol. 1, pp. 411-412.
[465] 'Vaccination', *NSWV&P*, LC, 1853, Vol. 2, p. 575.
[466] *Ibid.*, p. 574. The Colonial Secretary was E. Deas Thomson, and the Medical Advisor to the Government was B. O'Brien.
[467] *Ibid.*, p. 576.

making it so; rather, the general panic seemed to be sufficient to allay any fears of apathy from the administration.

A few years later, however, the Registrar-General, Christopher Rolleston, was requested to investigate the state of vaccination in New South Wales.[468] Although local experiences with smallpox were clearly influential in instigating this investigation, the fact that Britain, closely followed by the other Australasian colonies, had recently introduced compulsory vaccination legislation and that early figures for this experiment were now available, was also a contributing factor. The spark that caused investigation at that time, however, was a letter from Rutter in which he 'deplore[d] the apathy and indifference which are manifested with regard to this important subject,' and recommended the introduction of a compulsory Vaccination Law, similar to that operative in Britain and Victoria.[469] Rolleston, a non-medical man, noted that vaccination rates in New South Wales were being governed by a cycle of panic and apathy, and that England and other countries had been very successful in the implementation of compulsory vaccination, resulting in a decrease in both smallpox cases and deaths due to smallpox. While noting that there were likely to be objections made against the introduction of a compulsory law, he balanced this by presenting the pro-vaccination view that it could be considered:

> …an abuse of the "Voluntary Principle" to allow a parent not only to risk the life of his own child by neglecting to apply to it what is almost a sure specific against so fatal a disease, but to imperil the health and lives of the community in his neighbourhood;- indeed to allow a man what is neither more nor less than the freedom to spread disease through the country.[470]

Rolleston made it clear that he saw the value of vaccination as a preventive against smallpox, yet he, unlike the medical profession, saw problems with its use in a local context:

> …the advantages of compulsory Vaccination Laws in old and thickly populated countries are indisputable, [yet] it does not follow that they would operate with like success in a widely scattered population like ours, and I confess that I see so many difficulties in the way of applying the system to the peculiar features of this country, that I cannot venture to recommend its adoption as a general measure, under present circumstances.[471]

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[468] C. Rolleston, 'Vaccination. (Report of the Registrar-General.)', *NSWV&P*, LA, 1856-7, Vol. 2, pp. 693-6.
[469] *Ibid.*, p. 693.
[470] *Ibid.*, p. 694.
[471] *Ibid.*

Rolleston supported his decision by citing evidence from the Registrar-General of Victoria, where vaccination had recently become compulsory, and where much success was had in the cities and densely populated areas, but also much difficulty in the bush. Further, he argued that if this was so in Victoria, then:

> …the difficulties will be enhanced fourfold in New South Wales, where we have no money, nor, as yet, a machinery sufficiently organized to work the system with success, nor have we a population sufficiently dense to demand protective measures at such a cost as (to make them effective) must be incurred.[472]

It was this logically presented and highly persuasive argument, based on local conditions and practical considerations, that caused the Government to abandon its plans to introduce compulsory vaccination legislation, and that led to New South Wales being the only colony in Australia, and one of the few in the western world, not at least to attempt to coerce the population to vaccinate for the public good.

This is interesting for a number of reasons. While it demonstrates that imperial and intercolonial activities were certainly influential, they were by no means the decisive factor in New South Wales policy making. This incident highlights the relative maturity of the colony of New South Wales, and the recognition that legislators gave to local conditions and circumstances. Rolleston's analysis refers to the 'Voluntary Principle' that was so important within the liberal ideology of the nineteenth century, but also discusses its limitations and ultimately favoured the happiness of the majority, thereby demonstrating that the Government's decision against compulsion was not based on purely ideological grounds. Medical expertise was considered and given due regard, but ultimately, it was practical economic and administrative concerns that dictated the response of the New South Wales Government and an assessment that placed smallpox into a relatively low-risk category.

Even at this very early stage, it is difficult to make a case for the colonies having attempted merely to transplant English vaccination law, and it is clear that there are already significant differences between the colonies and the relative importance accorded by them to various influences on policy.

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[472] *Ibid.*

Victorian legislators were the most inclined to follow England, and probably for the reasons suggested by Cumpston. Its early stage of development and high proportion of English-born citizens led to a greater desire to try to recreate English society than in the other colonies, and this can also be seen in its substantially earlier introduction of public health legislation. When faced with the challenges to public health presented by the gold rush, Victorian legislators chose to adopt solutions that closely approximated the English model. Passing these laws and enforcing them caused administrative weaknesses to be identified and rectified, to some degree, earlier than in Tasmania or New South Wales.[473] It was in the administration of public health laws, rather than in the content of those laws, that Victoria differed most from its English antecedent.

If British influence was not the decisive factor in colonial legislation during the 1850s, how much less so must it have grown as the nineteenth century progressed, and the colonies established their own distinctive characters? This is not to discount British influence entirely; parliamentarians, medical practitioners, pamphleteers and all others who sought to influence colonial policy looked to England for some level of guidance. In 1867, for example, the New South Wales Government requested copies of the English Vaccination Act enacted that year, with the intention of investigating the possibility of introducing a similar law. However, the Government was motivated by low voluntary uptake of vaccination and sustained pressure from the local medical community, who pointed to widespread apathy as the cause. When the copies of the Act arrived, the covering letter from Downing Street suggested that:

> It may perhaps seem desirable to your Advisers that a like measure should be enacted in the Colony under your Government, with such modifications as local circumstances may seem to dictate.[474]

No one, it seems, really believed that English law could be simply transplanted in the colonies.

By the closing stages of the nineteenth century, there was a strengthening awareness of the differences between Britain and Australia that precluded the transplantation of British models to

[473] For example, a smallpox outbreak that resulted in six deaths during 1858 caused the Colonial Secretary, J. Moore, to order the Registrars and the Police of the Colony to collaborate in identifying and prosecuting the parents of children whose birth had been registered for six months but who had not been registered as vaccinated. In England, the Vaccination Act was administered through the Poor Law authorities and it has been suggested that this lent a pauperising effect to the carrying out of the Act, which Victoria avoided by utilising different existing structures for administration.
[474] 'Imperial Vaccination Act', *NSWJLC*, 1868-9, p. 687.

the colonies. Parliamentarians were quite explicit about the geographical and attitudinal differences that distinguished Australia. Malcolm McKenzie, for example, argued that,

> We stand in a different position to countries of the old world. We have the protection that they have not, and therefore I think, under the circumstances, even though it might be unwise in the old country for people to oppose vaccination, we stand upon a different plane altogether.[475]

Dr Rose appealed to the situation 'at home' as a guide to what was good and reasonable, yet Mr C. Young commented that 'This colony was in advance of the mother country in many things. The board having come to the conclusion that calf lymph was the better article to use, why not use it only?'[476] England was slower than countries on the Continent to adopt the use of vaccination from the calf and so when calf lymph production began in the colonies, lymph from Europe was used initially. There was a certain pride in bettering England, in the colonies being more advanced despite the many obstacles that faced them.

Pride in colonial innovation, as expressed by Mr Young for example, is a clear indication of the development of national identity based on geographical differences and dissimilar experiences. Malcolm McKenzie also pointed to the close association between quarantine and vaccination policies; if quarantine measures were rigidly enforced, smallpox would not breach the borders and universal vaccination would be redundant. Given the geographic, demographic and economic factors outlined by Rolleston, it is unsurprising that quarantine should have been seen increasingly as a more appropriate defence solution than compulsory vaccination in the colonial context. New South Wales had appreciated this from early on, and this attitude provided increasing challenges to the operation of compulsory vaccination legislation in Victoria and Tasmania towards the end of the nineteenth century. Countering this trend was opposition from the medical fraternity and evidence that quarantine was not a complete safeguard against the introduction of disease as, despite the best efforts of the health officers, cases occasionally slipped through the barriers.

The Final Report of the Royal Commission on Vaccination in 1896 also highlighted how the different geographical facts of Australia had allowed the colonies to implement methods of dealing with the threat of disease that differed significantly from Britain's approach. Evidence from Dr

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[475] 'Non-Compulsory Vaccination Bill', *VPD*, LA, 1899, Vol. 92, p. 1529.
[476] 'Vaccination', *VPD*, LA, 1887, Vol 54, p. 1605.

Henry Normand MacLaurin convinced the Commission that a system of disease notification, isolation and quarantine could effectively control smallpox, but they were also keenly aware of the different set of circumstances enjoyed by the colonies:

> In the first place small-pox has only appeared from time to time, introduced from without at one or other of the ports of the country, and the several colonies of which Australia is composed are of great territorial extent, with few large centres of population. In this country [England] small-pox is always present in some part of it. There has not been a single year without several deaths from the disease. Large centres of population are numerous, and the intercourse between them constant. In the several colonies of Australia the number of ports is not great, the vessels which enter them are comparatively speaking not numerous, and the ports from which they arrive are many days' voyage distant; and there are careful arrangements for quarantining vessels to exclude disease. The shipping which enters English ports is of vast quantity, and passengers are brought in large numbers from the continent of Europe not only daily, but it may almost be said hourly; the voyage, too, is but brief.[477]

Furthermore, MacLaurin emphasised that Australian authorities had the power to compulsorily remove contacts to quarantine, and that it was obvious that in England, 'the practical difficulties of working such a scheme in the large towns would be really insuperable, to say nothing of the difficulty of procuring legislative sanction for it.'[478] The Australian colonies had developed their own systems of preventing the introduction of disease which were considered by British authorities to be appropriate to colonial geography, but of little use to the British situation. Interestingly, the Report focused mostly on New South Wales, with some reference to Western Australia and Tasmania. The conclusions might have been somewhat different if more attention had been paid to Victoria, although a close examination of that colony was perhaps rejected for being too similar to the British example to offer anything new. Nevertheless, it is clear that, while imperial ties were important in the colonies, Australians were innovative in the area of disease prophylaxis, especially regarding quarantine and vaccination, by responding to geographic, demographic and economic pressures. Cumpston's experiences may have led him to view nineteenth-century public health legislation as too closely related to its English equivalent, but in the case of quarantine and compulsory vaccination, its adoption was neither mechanical nor unenlightened and was, instead, in response to the specific experiences of the Australian colonies.

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[477] 'Final Report of the Royal Commission appointed to inquire into the subject of Vaccination', *British Parliamentary Papers*, 1896, pp. 130-131.
[478] *Ibid.*

4.3: Ideology in policy formation

An important component of the Australian colonial experience with disease was the way in which political ideology intersected with perceptions of disease and management strategies. The problem of how to explain the relationship between the state and disease regulation was addressed in 1948 by Ackerknecht.[479] He suggested that in the absence of sufficient scientific knowledge, prior to the bacteriological revolution, a rational choice between contagionist and anti-contagionist methodologies could not be made and so decisions pertaining to disease management were founded upon ideological bases. Consequently, authoritarian states favoured contagionism and therefore interventionist measures, whereas more liberal states preferred to view disease in terms of environmental, anti-contagionist, causes and solutions. The view that there was a correlation between political ideology and public health proved popular, and developed to become a more general model; irrespective of the state of scientific knowledge or the type of disease involved, the opposing theories became linked to their respective political ideologies as a matter of necessity, not circumstance.[480]

There is no doubt that the Ackerknecht thesis is appealing; on the face of things, it neatly accounts for the wide range of prophylactic measures taken by various polities, including those of the eastern Australian colonies. Protectionist Victoria, with its efficient centralised administration, was therefore necessarily the colony best suited to compulsory vaccination programs. New South Wales's predilection for free trade and a minimum of state intervention into the lives of individual citizens necessarily shunned compulsion, preferring to offer vaccination on a voluntary basis. Tasmania, sitting between these two colonies on economic and political issues, similarly vacillated on vaccination initiatives.

As appealing as the Ackerknechtian position may seem *prima facie*, it is necessary to test its applicability empirically. This has been done by Baldwin, who examined the reaction of the German States, Britain, Sweden and France to cholera, smallpox and syphilis between 1830 and 1930, to determine whether aetiological, prophylactic and political elements aligned as neatly upon

[479] E. Ackerknecht, 'Anticontagionism Between 1821 and 1867', *Bulletin of the History of Medicine* 22 (1948): 562-593.
[480] For an excellent summary of this tradition, see P. Baldwin, *Contagion and the State in Europe, 1830-1930* (Cambridge: Cambridge University Press, 1999), pp. 31-36.

detailed examination as they did cursorily. He concluded that reality was far more complicated, and significantly less clearly dichotomous, than previously suggested, and that in the case of smallpox:

> These nations thus took divergent paths in response to a common epidemiological problem. Although vaccination was broadly accepted in orthodox medical circles, differing social, political and administrative circumstances in each nation made it only variously possible to enforce the technique.[481]

Baldwin argued that aetiological theories and scientific advances were used to justify rather than to determine policies, and that geo-epidemiological and practical factors were more significant than ideology.

In a similar way, the Australian colonies fail, under closer inspection, to divide into straightforward categories. New South Wales may not have endorsed compulsory vaccination, but it certainly made use of quarantine and isolation. Both of these measures betray a contagionist outlook, and required significant state intervention and infringement upon individual liberty. The aetiology of smallpox was contagionist; although conditions of filth were believed to exacerbate rates of transmission or illness severity, it was clear that transmission required direct contact or contact through fomites carrying matter from pustules.[482] Victoria, despite its longstanding and well enforced compulsory vaccination policy, could not be described as having been an authoritarian state, and its political stance was overwhelmingly liberal, as were all three colonies.

The political ideologies of the three colonies did not differ sufficiently to warrant, under an Ackerknechtian analysis, the degree to which their prophylactic choices differed. While their economic positions differed at times, ideologically all were motivated by a Benthamite liberalism; utilitarian, legalist and positivist.[483] Collins described it as an essentially individualist ideology, concerned with securing the greatest happiness assessed as the sum of individual interests, through legislation guided by rational empiricism. The Australian take on liberalism included an added dose of pragmatism, as colonists contended with the challenges of governing in a frontier society.

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[481] Baldwin, *op. cit.*, p. 312.
[482] M. Worboys, *Spreading Germs: disease theories and medical practice in Britain, 1865-1900* (Cambridge: Cambridge University Press, 2000), pp. 117-119.
[483] H. Collins, 'Political Ideology in Australia: the distinctiveness of a Benthamite society', *Daedalus*, Winter (1985): 147-69.

Further, Bentham's influence on Edwin Chadwick and sanitary science in England filtered through to the colonies, and his ideas on the obligations of government regarding the poor and the relationship between health and happiness provided the foundation for many government decisions in the field of public health.[484] All three colonies should, according to the theory, have favoured anti-contagionist, environmentally based preventive strategies. However, smallpox was very clearly contagious, requiring contagionist strategies such as isolation, disinfection, quarantine and vaccination – either separately or in combination – and so does not sit easily with this approach from the start. Does this mean, then, that ideology played no significant role in determining which disease management tactics were adopted against smallpox in the Australian colonies?

It is unlikely that the vaccination debate was free of ideological influence, as Ely's description of the political culture of the colonies suggests:

> By the 1850s political liberalism had gained a respected place in the public life of all Australian colonies. In detail, and often in a cumulatively effective way, liberal reform movements such as those for extending the franchise, opening land for free selection, and restricting the power of colonial upper houses, could be resisted, but liberal concepts – especially those defining the rights and dignity of the individual, and of 'the people' conceived as a sovereign voluntary association of individuals – dominated political rhetoric. So hegemonic had liberal discourse become that, when political declamation in legislature and press rose above the level of roads and bridges issues, it tended to divide into radical and conservative *versions* of liberalism.[485]

The vaccination debate was no exception, and advocates on both sides frequently invoked liberal concepts in their arguments. An anonymous pamphleteer in Hobart, for example, stressed the importance of individual liberty, and described compulsory vaccination as 'a most unfair usurpation of my neighbour's rights' and declared that it was not a question 'on which any majority, however large, is justified in dictating to any minority, however small.'[486] On the other hand, George Harrison, a pamphleteer also writing in Hobart, argued that compulsion could be

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[484] A. Bashford, *Imperial Hygiene: a critical history of colonialism, nationalism and public health*, (Houndmills, Basingstoke: Palgrave Macmillan, 2004), p. 8.
[485] R. Ely, 'Inglis Clark's Religious Liberalism', in R. Ely (ed.), *A Living Force: Andrew Inglis Clark and the ideal of Commonwealth* (Hobart: Centre for Tasmanian Historical Studies, 2001): 113-139, pp. 117-118.
[486] *The Vaccination Question: Lymph or Liberty? An attempt to educate a minister of education* (Hobart: Calder, Bowden & Co., 1888), p. 25.

justified, if the situation satisfied certain conditions.[487] Having established what these conditions should be, Harrison argued that compulsory vaccination lacked every one and that it was therefore entirely unjustifiable. The Australian anti-vaccinationists were not original; arguments against compulsory vaccination in many different countries included opposition to compulsion and interventionist state policy.[488]

The Premier of New South Wales in 1896, George Reid, summarised the problem facing governments as being how to formulate and pass 'a health act which, without unduly interfering with the liberty of individuals, will safeguard the public health'.[489] Although the freedom for individuals to make decisions regarding their personal welfare was a significant idea within liberalism, it was tempered by an equally strong belief in utilitarian ideas of health and happiness, and that no individual should threaten the health and safety of their fellow citizens. These beliefs came into opposition in the vaccination debate because, as Robert Murray Smith summarised it:

> If vaccination were an absolutely complete defence – if no one who had once been vaccinated could ever get small-pox again – he was such a devoted admirer of the liberty of the subject that if a man chose not to be vaccinated he would permit him to stand in that position, and if he got small-pox it would be his own fault. If vaccination were a complete defence, he would permit a person to be vaccinated or not as he chose; but as the matter stood, the fact of a person not being vaccinated not only caused a risk to himself, but also to all those around him, even those who were vaccinated, although the risk was not so great in their case. Under these circumstances, a man had not more right to decline to be vaccinated than he had to keep a dung-heap within a short distance of his neighbours' windows. He was a danger to public health, and for that reason alone compulsory vaccination should be maintained.[490]

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[487] G. Harrison, *A Word to Legislators. Culpable Compulsion: a condemnation by competent authorities* (Hobart: Calder, Bowden & Co., 1889), p. 4. The conditions Harrison outlined are discussed in greater detail in Chapter Five.
[488] A. Beck, 'Issues in the anti-vaccination movement in England', *Medical History* 4(1960): 310-321; R.J. Lambert, 'A Victorian National Health Service: state vaccination 1855-71', *The Historical Journal* 5(1) (1962): 1-18; M. Kaufman, 'The American anti-vaccinationists and their arguments', *Bulletin of the History of Medicine* 5(1967): 463-478; D. Porter and R. Porter, 'The Politics of Prevention: anti-vaccinationism and public health in nineteenth-century England', *Medical History 32*(1988): 231-252; N. Durbach, *Bodily Matters: the anti-vaccination movement in England, 1853-1907* (Durham: Duke University Press, 2005), pp. 69-90; T. Meade, '"Civilising Rio de Janeiro": the public health campaign and the riot of 1904', *Journal of Social History* 20(2) (1986): 301-322; J.D. Needell, 'The *Revolta Contra Vacina* of 1904: the revolt against "Modernisation" in *Belle Époque* Rio de Janeiro', *Hispanic American Historical Review* 67(2) (1987): 233-269.
[489] *Ibid.*
[490] 'Non-Compulsory Vaccination Bill', *VPD*, LA, 1900, Vol. 95, pp. 1694-5.

That is, when the exercising of individual liberty threatened the public health, and hence the right to be free from disease, the health of the majority took precedence, following utilitarian arguments. Initially advocates of vaccination believed it provided total and life-long immunity against smallpox, and efforts at compulsion were aimed at lazy or ignorant parents. As anti-vaccinationist sentiment concerning the liberty of the individual emerged in the 1880s, it was becoming increasingly clear that it provided less than perfect protection. Pro-vaccinationists responded to these objections by emphasising, as Victorian Legislative Assembly member Richard Vale did, that individual choice could not be allowed to impact adversely on others:

> If vaccination were right it ought to be compulsory, and if it were not right it ought to be done away with altogether. The argument in regard to the rights and liberties of the minority was about played out. When the representatives of minorities interfered with the health of majorities the former must give way – that was understood by everybody.[491]

Arguments such as these, in which the right to health of the whole community was put ahead of the right to individual choice, were frequently condensed to reference to Cicero's '*ollis salus populi suprema lex esto*'.[492] It was commonly used by proponents of public health generally, and vaccination specifically. Dr Edward Swarbreck Hall, for example, had argued in his 1869 petition to the Tasmanian Legislative Council that vaccination was 'a wise precaution of State medicine for the general welfare of the people. *Salus populi lex suprema est*.'[493] Hall believed vaccination to be an absolute preventive, and so was unconcerned about the risk posed by the unvaccinated to the vaccinated. Rather, his position was that those who failed to vaccinate endangered themselves and their children, and that it was the state's role to protect them from their own poor decisions.

An example of the ideals of individual liberty and community welfare in conflict occurred during the 1881 outbreak in Sydney, when the government ordered all inmates of the Darlinghurst Gaol to be vaccinated. Densely populated and susceptible to epidemic diseases, the prison community was deemed a threat to individual inmates, to gaol employees and to the surrounding urban population. This amounted to compulsory vaccination, as there was no provision for any inmate to escape vaccination on any grounds, and this action attracted criticism from within the Assembly. William Forster declared the case:

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[491] 'Non-Compulsory Vaccination Bill', *VPD*, LA, 1895-6, Vol. 79, p. 3371.
[492] Cicero, *De Legibus* III, III, VIII. Translates to: 'the safety of the people is the supreme law'.
[493] E.S. Hall, 'Vaccination. Petition of Dr. E.S. Hall', *TPP*, 1869, No. 69, p. 4.

> …sufficient to make one doubt whether he lives in the British empire, under the sovereignty of Queen Victoria, or in a country where such a thing as constitutional or representative government exists at all… I should not disapprove of the vaccination of the members of my family or of myself, but I have so strong a feeling of the constitutional wrong which would be done by making vaccination compulsory that, as a member of the Legislature, nothing will ever induce me to assent to it.[494]

Forster held up the English example as the standard to which Australian colonial society should aspire, while simultaneously attacking the government's actions as ethically, and almost legally, wrong. The government, however, responded to Forster's criticism by stating that they acted in accordance with medical opinion, and that they were duty bound to follow it within the law, and even to go beyond the law in the case of an emergency as 'the safety of the people is the supreme law'.[495]

These two important liberal ideas were also important in discussions of other compulsory policies that related to health and welfare, such as the Quarantine, Compulsory Education, Contagious Diseases, Neglected Children and Youthful Offenders Acts. Henry Parkes's response to the Contagious Diseases Bill, for example, was that:

> …you can only obtain this problematical, this disputed amount of benefit by a most serious violation of the liberty of the subject. I deny all together that because some young woman in unchaste she forfeits the protection of the laws as a subject of the Queen. Her liberty is just as sacred as that of the first lady in the land, if she commits no offence against other persons. You violate one of the first principles on which the superstructure of our laws rests by denying to this unfortunate and frequently friendless girl that liberty which is the greatest birthright which Englishmen possess. I deny the right of the law to do this; it becomes revolutionary when it invades the liberty of a subject who has committed no offence on any other subject of the Crown.[496]

Whereas Sir Samuel Griffith, the Queensland Premier, argued that a Contagious Diseases Act was 'an infringement of… liberty… and so is every law relating to the public health, but we have for many years adopted the principle that in [such] matters… the comfort of the individual must yield

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[494] 'Vaccination at Darlinghurst Gaol', *NSWPD*, LA, 1881, Vol. 2, p. 1712-13.
[495] *Ibid.*
[496] 'Contagious Diseases Prevention Bill', *NSWPD*, LA, 1882, p. 970.

to the good of the public'.[497] Any act that compelled citizens to do something purportedly in their own, and society's, best interests regardless of their own wishes was going to involve discussion of the appropriate balance between individual liberty and community welfare. Several of these acts, including the Vaccination Acts, referred specifically to children. There was a definite class element to this increase in attention to child welfare, as the state became involved in monitoring and rectifying the failures in responsibility by working class parents, as perceived by the middle classes.[498] Improving the health and welfare of infants and highlighting the role of mothers in raising citizens formed part of the project of nation-building.[499] This idea that the children were the future of the colony, and that in cases where the parents were not upholding their obligations to their children, the state was obliged to intervene, is directly relevant to the vaccination debate. It is especially true of the mid-century period, when vaccination was widely accepted by the upper classes, and the apathy of the lower orders to the procedure was ascribed to their 'ignorance'. This dereliction of duty, as it was perceived by authorities, justified the intervention of an otherwise liberally-inclined government into the private world of the family.[500]

Consistent with the colonies' approaches to vaccination, Victoria implemented a Neglected and Criminal Children's Act in 1864, whereas Tasmania's Youthful Offenders, Destitute and Neglected Children Act was not introduced until 1896, and New South Wales's Neglected Children and Juvenile Offenders Act not until 1905. Victoria addressed the problem of prostitutes and sexually transmitted infections in the Conservation of Public Health Act 1878, and Tasmania followed suit with a Contagious Diseases Act in 1879, but New South Wales had no comparable act prior to Federation. Victoria was also the first Australian colony to introduce free and compulsory education, in 1872, and was followed by the other colonies from 1875 to 1893. Bessant argued that these Acts were examples of middle class values being imposed through the state onto the rest of society and were part of wider efforts to ensure child protection, reform and health.[501] Victoria

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[497] R.B. Joyce, 'Griffith, Sir Samuel Walker (1845-1920)', *ADB*, Vol. 9, (Melbourne: Melbourne University Press, 1983): 112-119.
[498] C. Twomey, 'Gender, Welfare and the Colonial State: Victoria's 1864 *Neglected and Criminal Children's Act*', *Labour History* 73 (1997): 169-186; C. Evans, 'Excellent Women and Troublesome Children: state foster care in Tasmania, 1896-1918', *Labour History* 83 (2002): 131-148.
[499] P. Mein Smith, *Mothers and King Baby: infant survival and welfare in an imperial world, Australia 1880-1950* (London: Macmillan, 1997), p. 247.
[500] For these themes discussed in the English context, see G.K. Behlmer, *Friends of the Family: the English home and its guardians, 1850-1940* (Stanford: Stanford University Press, 1998), pp. 76-92.
[501] B. Bessant, 'Free, Compulsory, and Secular Education: the 1872 Education Act, Victoria, Australia', *Paedagogica Historica* 24(1) (1984): 5-25.

clearly had a history of greater state intervention, and yet there, as in New South Wales and Tasmania, actions were justified with reference to liberal ideals. Where New South Wales debates were dominated by the liberty of the individual, Victorian political culture was more heavily influence by the utilitarian aspects of colonial liberalism, and focused on the greater good. For example, George Higinbotham, prominent and influential liberal politician and editor of the *Argus*:

> …believed that the fully developed individual accepted social obligations; he was even prepared that certain obligations should be enforced, since it was in their performance that men and women realized their full human potential.[502]

It is clear, then, that ideological factors informed attitudes and debate surrounding the issue of compulsory vaccination in the colonies, although not in the ways predicted by the Ackerknechtian thesis. If Victoria, New South Wales and Tasmania shared the same liberal ideals, and if these ideals were significant in discussions and decisions regarding vaccination policy, why should the three closely related colonies have followed such disparate paths on this issue? The answer is to be found in a closer investigation of the nature of colonial liberalism and the ways in which it found expression in these colonies.

Macintyre argued that the colonial experience necessarily resulted in modifications to the liberalism of England, to account for the practicalities of settler society, noting that: 'However universal the liberals might consider their axioms, colonial liberalism embodied colonial circumstances.'[503] He suggested that contemporaries viewed 'colonial liberalism' as a perversion of the English variety, and historians as a neglected ideal, imported from the mother country and put aside when it was found to be unhelpful in the daily challenges of colonial life. Macintyre took issue with these views, seeing colonial liberalism as the expression of traditional liberal ideals in a context devoid of tradition to rail against, thereby causing the development of a creative, in addition to reforming, spirit.[504] Disparities within the colonial setting gave rise to differences in the expression of liberalism between the colonies, as Clark described:

> New South Wales had begun with a convict working class: Victoria with an immigrant working class. Melbourne had a broader spread of middle class

[502] S. Macintyre, *A Colonial Liberalism: the lost world of three Victorian visionaries* (Oxford: Oxford University Press, 1991), pp. 33-34.
[503] *Ibid.*, p. 8.
[504] *Ibid.*, pp. 10-12.

> affluence. Victoria lacked both the material foundations and the historical traditions for a strong Labor vote. …Tasmania was still that stricken society, haunted by ghosts of the original convict working class, possibly by the memory of the great act of evil against the original inhabitants of the island, still dominated by the country gentry, with no tradition of liberal criticism of society.[505]

This characterisation is manifest in the way the colonies approached the vaccination debate, and their attitudes towards compulsory vaccination reflected their attitudes more generally toward interventionism. Macintyre too saw these early differences between the colonies as underpinning the later differences in character:

> Victoria was not an old colony established as part of the eighteenth-century strategy of empire with its garrison, closed port and bond or penal labour force. Nor was it one of the nineteenth-century experiments in systematic colonization, like South Australia or Canterbury, with planned liberal foundations. It fell between the old and the new. …in comparison with the other colonies of Australasia, Victoria had more people, more wealth, more ambition, more energy.[506]

All of these factors made Victoria ideally suited to early and efficient implementation of interventionist policies, as its citizens possessed the drive and resources to attempt to address problems through legislation, and there was no historical hindrance to the development of centralised authorities to implement policies. Similarly, New South Wales and Tasmania generated expressions of liberalism that reflected their histories. Their penal origins were especially significant, and subsequent differences in population, urban and economic development differentiated the two. Petrow argued, with regard to the Tasmanian context, that the colonial population, both free and convict, regarded the government with distrust as a result of the extensive power it had wielded under the penal system. This distrust eventually manifested itself as the 'Vandemonian Spirit' among the free settlers, who were jealously protective of their rights as free-born Englishmen. They:

> …valued their liberties and, while generally showing 'loyal and dutiful obedience to the Laws and correct deference to the constituted authorities', resisted what they saw as arbitrary and unjust government interference, above all with property, as Englishmen had done for centuries. They saw the supremacy of the rule of law, the ability to seek redress for grievances in courts presided over by an independent

[505] C.M.H. Clark, *A History of Australia: V. The People Make Laws, 1888-1915* (Melbourne: Melbourne University Press, 1981), p. 83.
[506] Macintyre, *op. cit.*, p. 14.

> judiciary, legislative representation, and strong local government in relation to the central state as crucial restraints on arbitrary power.[507]

The most significant consequence of this widespread anxiety regarding excessive state power was the shift away from the highly centralised state of the convict era and towards local governing bodies, which was the opposite to the other colonies.[508] Petrow attributed this trend to financial factors, as devolving responsibilities to local government reduced costs, and to 'how many colonists had been scarred by centralised government during the autocratic period' and continued subsequently by the conservative nature of the Legislative Council.[509]

These experiences all affected the way that compulsory vaccination was implemented and received within Tasmania. Vaccination was administered centrally, and was thus regarded antagonistically by local councils.[510] Financing vaccination programs was difficult as anything which seemed likely to increase taxes was received negatively, and so initiatives that increased the efficacy of vaccination administration, such as the appointment of large numbers of public vaccinators or dedicated itinerant vaccinators, tended to be short-lived and to lose funding when panic subsided.[511] Attempts by the government to either abolish or significantly amend vaccination legislation were thwarted by the conservative Legislative Council.[512] Furthermore, there was a strong element of elite opposition to laws that affected their interests with reference to the rhetoric of the rights and liberties of Englishmen, particularly the right to dispute a law that he believed to be unjust.[513] The response of the government to these challenges centred on arguments relating to the need for law and order to protect the rights of the individual and for the public good to take precedence over the interests of individuals, a belief that became increasingly influential over the course of the nineteenth century.

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[507] S. Petrow, 'A Case of Mistaken Identity: the Vandemonian spirit and the law', *Tasmanian Historical Studies* 6(1) (1998), p. 23.
[508] S. Petrow, 'The State', in A. Alexander (ed.), *The Companion to Tasmanian History* (Hobart: Centre for Tasmanian Historical Studies, University of Tasmania, 2005), p. 484.
[509] *Ibid.*, p. 485.
[510] J.G. Davies and H. Button, 'Public Health Bill, 1885: Petitions against certain provisions, from the mayors of Hobart and Launceston', *TPP*, 1885, No. 99, p. 3.
[511] E. Swarbreck-Hall, 'Vaccination. Petition of Dr. E. S. Hall', *TPP*, 1869, No. 69, p.3; *Statistical Returns of Tasmania*, (Hobart: Parliament of Tasmania, 1866), p. 153; A. Mault, 'Central Board of Health: report for 1889', *TPP*, 1890, No. 25.
[512] *TV&P*, LC, No. 9, July 31, 1855; 'Vaccination Act: petition for repeal of compulsory clauses', *TPP*, 1885, No. 131, p. 3. These followed on from discussion in the lower house of reversion to the optional system of vaccination; *TV&P*, HA, No. 14, September 16, 1886, p. 52.
[513] S. Petrow, 'Carriages and Scab: elite contention against the law in nineteenth century Tasmania', *Newcastle Law Review* 2(1) (1997): 70-91.

Already becoming apparent is the importance of cost and prior experiences, also identified by Baldwin, in shaping the course of vaccination policy. Ideological concerns were always present in debates, providing the language to formulate appealing arguments on both sides of the divide as well as ideals to aim for. It was never clear, however, whether or not compulsory vaccination fitted within the bounds of liberalism, as it could be, and was, construed either way. This ambiguity was further complicated by the pragmatic element of colonial liberalism, which invited the introduction of more interpretations of how best to deal with the threat of disease within the colonial setting, with reference to other factors, of which cost and experience comprise but few.

Liberalism, and even colonial liberalism, was not straightforward; it took many forms, and was adapted in response to variations over space, time and individual. Liberal ideals at the time of the granting of self-government 'sought to reconcile the freedom of the individual with the claims of mutuality and sociability.'[514] Melleuish described the dominant features of Australia's 'Cultural Liberalism' as encompassing the importance of individual liberty, a belief in rationalism tempered by spiritual and ethical restraints, a conviction that the world was constantly evolving into a better place, and that participants in this movement came to it from a background of university education.[515] There was a fundamental conflict for this ideology in the sphere of public health, which became clear within the vaccination debate. Vaccination was, on the one hand, a triumph for scientific rationalism and for university-trained doctors, who viewed it as a contribution from their profession to the betterment of society. When, to the consternation of the medical profession, Australians failed to take it up consistently enough to reach its full potential benefit, and compulsion was resorted to, vaccination became, on the other hand, an infraction of individual liberty. The difficulty was, as Baldwin noted, that 'The right to be spared prophylactic imposition was not the only measure of liberty; there was also the freedom from disease.'[516]

The ideological repercussions for the vaccination debate were therefore complex. At the heart of the issue was the potential conflict between the liberty of the individual and the welfare of the community. Although liberal doctrine placed a great deal of value on the former, it was by no

[514] Macintyre, *op. cit.*, p. 33.
[515] G. Melleuish, *Cultural Liberalism in Australia: a study in intellectual and cultural history* (Melbourne: Cambridge University Press, 1995), p. 17.
[516] Baldwin, *op. cit.*, p. 528.

means inevitable that the rights of the individual would trump those of the group. If possible, the two were to be reconciled; that is, universal vaccination achieved with the consent of the people, so that both the liberty of the individual and freedom from disease were attained.[517] Attempts at achieving this goal included changes to vaccination protocol to make it more acceptable, and efforts at health education made by the state and the medical profession. These efforts failed to produce the extent of acceptance that was desired because they relied upon individual members of the public taking responsibility for their own, and their children's, health in ways that fitted within allopathic medical conceptions of health and disease, risk and benefit. These conceptions were not, at this time, necessarily generally accepted by the population.

What is highlighted here is that public health decisions were not characterised by the dichotomous pairings implied by the Ackerknechtian perspective. Any interpretation that tries to adhere rigidly to divisions of liberal/autocratic, contagionist/anti-contagionist, pro-vaccination/anti-vaccination will fail under closer inspection. Compulsory vaccination was not even necessarily an interventionist measure if, for example, it were not enforced, or if everyone complied willingly. Nor was it always the most interventionist of the available options; forcible isolation and quarantine measures were frequently a greater imposition upon the liberty of the individual, both in terms of the liberty of the select group in quarantine and those affected by restrictions on trade and travel. The nature and extent of the range of options available, combined with the flexible character of colonial liberalism, meant that other factors beyond ideology played defining roles in state decisions regarding vaccination policy. The ideological culture of the colonies provided a framework for understanding the vaccination debate and the language in which to formulate arguments both for and against compulsion. However, the dearth of certainties and the necessity for pragmatism in young colonies meant that it could not have determined policy, opening the way for experts to claim right of direction.

[517] A. Bashford, 'Epidemic and Governmentality: smallpox in Sydney, 1881', *Critical Public Health* 9 (1999): 301-316.

4.4: The state and medical expertise

In arguing the case for his Non-Compulsory Vaccination Bill, anti-vaccinationist parliamentarian James Hume Cook argued that 'the question is rather a political one than a medical one'.[518] Albert Harris, who opposed the Bill and supported continuing compulsory vaccination in Victoria, contended that it was 'more a question for medical men than laymen'.[519] Both Cook and Harris knew that medical opinion, in this instance, would recommend the continuation of compulsory vaccination. It is therefore to be expected that Cook should try to limit the extent to which expert opinion dictated policy by shifting the focus to the political dimension of the conflict – that is, the legitimacy of compulsion – while Harris sought to retain the perceived certainty and self-evident justification that came with scientific 'truths'. Experts and expertise came to play increasingly important roles in the process of legislation over the nineteenth century, although this development encountered opposition and practical difficulties. The aim of this chapter is to identify the ways in which medicine could exert pressure on the state and to find the extent to which medical expertise determined state actions regarding vaccination.

Lambert argued that the free, compulsory and universal vaccination system offered by English governments, even in the face of 'widespread, organized and sincerely conscientious opposition' was largely due to sustained and organised medical pressure.[520] Furthermore, Lambert linked the administration of compulsory vaccination to the rising importance of the scientific expert within the developing state bureaucracy, first described by MacDonagh.[521]

MacDonagh analysed the changes that occurred in the British government during the nineteenth century and described five stages by which expertise was assimilated into the state and developed in a self-reinforcing manner from within the system.[522] His general model can be seen demonstrated to varying degrees in the responses to smallpox in the Australian colonies. The initial 'social evil', to use MacDonagh's phrase, for two of the colonies, was the smallpox outbreak

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[518] 'Non-Compulsory Vaccination Bill', *VPD*, LA, 1898, Vol. 88, p. 1261.
[519] *Ibid.*, p. 1277.
[520] R.J. Lambert, 'A Victorian National Health Service: state vaccination, 1855-71', *The Historical Journal* 5(1) (1962), p. 15.
[521] *Ibid.*, pp. 16-17.
[522] O. MacDonagh, 'The Nineteenth-century Revolution in Government: a reappraisal', *The Historical Journal* 1(1) (1958): 52-67.

in Sydney in 1852-3, forcibly drawing attention to the vulnerability of the colonies to epidemic disease. Victoria and Tasmania responded almost by reflex, with rapid legislation that was well-intentioned but unenforceable under existing governmental structures, and therefore neatly demonstrate the first stage of the model. After this point, their paths diverged.

The pressure placed upon public health by the gold rush of the 1850s caused the Victorian government to pass public health legislation and to establish a system of Central and Local Boards of Health well before the other colonies.[523] An outbreak of smallpox in Melbourne in 1857-8 revealed the continuation of the smallpox problem, and caused administrative structures to be established in Victoria to permit the operation of the original Act. Similarly, the 1863 English epidemic and the 1869 Melbourne outbreak contributed to further administrative developments, extending the roles of the Medical Officers of Health, the Central Board of Health, vaccinators, the Registrars and the police in the operation of compulsory vaccination. This corresponds to MacDonagh's second stage and leads into the third stage, in which the people who occupied the official positions created by this new bureaucracy – the new 'experts' – identified ways to improve the system in the course of their work and pushed for further amendments and the transference of supervision from the Chief Secretary to the Central Board of Health. They were valued for their ability to describe, categorise and account for public behaviour and the success, or otherwise, of public health initiatives through the use of statistical methods. This lent an air of scientific certainty to otherwise bewildering information and provided useful theoretical justification for government decisions. The fourth stage, in which experts stop pressing for sweeping legislative change and more staff and instead seek a gradual refinement of operations, took place over the remainder of the nineteenth century, and the cumulative effects of small changes led to greater integration of public health concerns and processes.

In Tasmania, too, the occasional threat of smallpox provided the stimulus for the development of structures for the administration of the Compulsory Vaccination Act. The creation of Health Officers and Vaccination Superintendents, whose daily experience in the operation of the legislation caused them to identify and seek to rectify inefficiencies in the system, was a component of the increasing role of expertise in government. This formal link between the state and expertise of a specifically medical variety was self-reinforcing and continued to cement the

[523] R. Hicks, *Rum, Regulation and Riches* (Sydney: Australian Hospital Association, 1981), p. 10.

relationship between the state and allopathic medicine, and was necessarily linked to the professionalisation of medicine. The reluctance of the Tasmanian government to consistently prosecute for non-compliance resulted in the failure to produce results similar to that in Victoria. However, the most important consequence of the early attention paid to the 'evil' of vulnerability to smallpox for both Tasmania and Victoria was the creation of formal administrative positions for medical practitioners through which they could exert pressure on the state. This initial focus on smallpox and compulsory vaccination was gradually subsumed into wider concerns about public health, and medical expertise was thus brought to bear on the problems of preventing a wide range of diseases through a variety of preventive and curative measures.

New South Wales deviates from the model in that a Vaccine Institution was established in the absence of a motivating and intolerable 'evil' through the endeavours of existing administrative health officials: the Health Officers. State supported vaccination programs were thus offered from well before the 1853 outbreak so that the reaction to this threat – the creation of vaccination stations within the city of Sydney and travelling vaccinators to service rural areas – more closely resembled the second, rather than the first, stage of MacDonagh's model. The 1863 English epidemic caused the men occupying the existing expert positions to push for an extension of the system through compulsory legislation, but it was advice from another expert – the Registrar-General – that prevented this from occurring. The third stage was more clearly exemplified during the 1881 Sydney epidemic, when pressure from the presence of smallpox and the health experts in state positions combined to create a superintending central body – the Central Board of Health – and the successful passage of the Infectious Diseases Supervision Act, which allowed for an extension of intrusive state powers. The behaviour of New South Wales does not appear so aberrant when looked at from a wider public health perspective, and falls into similar patterns to the other colonies, albeit differing in detail.

The fifth stage took place on a more national level, with men like J.S.C. Elkington, J. Ashburton Thompson and, later, J.H.L. Cumpston, exemplifying the trend towards greater administrative discretion, based upon 'more systematic and truly statistical and experimental investigations'.[524] What MacDonagh referred to as 'more or less conscious Fabianism', Roe has identified in Australia as progressivism, and was profoundly influential in consolidating the role of medical

[524] MacDonagh, *op. cit.*, pp. 60-61.

expertise in public health.[525] MacDonagh explicitly stated the limitations of his model and never claimed that it precisely described every instance of administrative evolution in nineteenth-century Britain, let alone its colonies.[526] Nevertheless, it is a useful way of interpreting the initial stages of state inclusion of medical expertise in public health. It is particularly useful for suggesting how statistics and their collection came to be so central to methods of government and for highlighting the necessary interrelations between state reliance on medical expertise and the professionalisation of medicine. The developmental patterns of the colonies and their public health structures seem to suggest that the experts in official positions, the Medical Officers of Health and the Vaccination Superintendents, were able to wield a significant degree of influence on policy. A closer examination will elucidate the extent to which this is true, the mechanisms through which influence was exerted and the limitations to expertise.

Medical officials in Tasmania and New South Wales, such as the Vaccination Superintendents and Health Officers, repeatedly urged the government to amend the laws relating to compulsory vaccination and to allow them to be administered effectively in their annual reports.[527] These reports usually contained statistical information, analysis and commentary, and often ended with recommendations for changes to the existing system. Their advice, however, was largely ignored. It was only when smallpox threatened the colony, causing public panic, that the government returned to their employed experts to act as problem-solvers.[528] Evans highlighted a similar pattern in the state responses to smallpox and vaccination in nineteenth-century Hamburg, noting that the influence of the medical profession was limited until the presence of an epidemic increased their value.[529] The subsequent behaviour of the profession – in demonstrating solidarity with the authorities rather than voicing criticism – strengthened the relationship between the state and medicine, and allowed for the possibility of greater influence in the future.

In Australia, the growth of a mutually dependent relationship between the state and medicine manifested itself, *inter alia*, in the formation of formal bodies through which medical authorities

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[525] M. Roe, *Nine Australian Progressives: vitalism in bourgeois social thought, 1890-1960* (St. Lucia: University of Queensland Press, 1984).
[526] MacDonagh, *op. cit.*, pp. 61-62.
[527] See Health Officer Reports and Vaccination Reports, *TPP*, 1878-1890; *NSWPP*, 1857-1890.
[528] See, for example, responses to the 1881 Sydney epidemic: G. Turnley, 'Vaccination. Report for 1881', *TPP*, 1882, No. 31, p. 3; 'Compulsory Vaccination', *NSWLCJ*, 1881, Part 2, pp. 217-271.
[529] R. Evans, *Death in Hamburg: society and politics in the cholera years, 1830-1910* (Oxford: Clarendon Press, 1987), pp. 218-226.

acted on behalf of the state. It was not a smooth and uncontested process, however. When Central Boards of Health were established in New South Wales and Tasmania, they were hampered in their operations by insufficient funding and general criticism from both the governments and the medical profession, as they struggled with their intermediate position between the competing demands of each group. In examining the London Medical Officers of Health, Hardy observed that working at a local level confronted the Officers with 'the policy questions unavoidable at all levels of later nineteenth-century administration: *laissez-faire* versus intervention; the liberty of the subject versus the good of the state; immediate economy versus expenditure for long-term economy.'[530] Although the Officers were largely in favour of utilitarian solutions, Hardy argued that their policies were ultimately determined by pragmatic considerations.

The Victorian Central Board of Health fared better, and the Chief Secretary frequently relied on its advice. For example, in 1872 the Chief Secretary responded negatively to entreaties to introduce the use of calf lymph, on the basis of advice from the CBH, who in turn took their cue from the Medical Officer to the Privy Council of Great Britain.[531] This demonstrates the importance of a sense of international scientific solidarity to the medical profession, and suggests the importance of consensus to medical expertise generally. Outbreaks of smallpox, and the ensuing social unease, led on a number of occasions to government enquiries into vaccination through Select Committees or parliamentary enquiries, in a clear attempt to establish expert opinion on the best means of protecting the public health.[532] However, as Hamlin has pointed out, these types of forums were not especially conducive to unanimous expressions of opinion, but rather 'were superb media for expert disagreement' as both sides of the argument attempted to win their case through scientific argument.[533] The majority of medical practitioners whose opinions were sought were in favour of compulsory vaccination, but expressed a variety of opinions on the details of such a system. They

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[530] A. Hardy, 'Public Health and the Expert: the London Medical Officers of Health, 1856-1900' in R. MacLeod (ed.), *Government and Expertise: specialists, administrators and professionals, 1860-1919* (Cambridge: Cambridge University Press, 1988), p. 131.
[531] 'Small-pox', *VPD*, LC, 1872, Vol. 14, p. 590.
[532] W. Champ, 'Small-pox. Report from the Select Committee appointed to take into consideration His Excellency's Message, No. 22', *TPP*, 1853, No. 77; 'Vaccination. Report from the Select Committee', *TPP*, 1863, No. 90, p. 3; 'Evidence taken at the Bar of the Legislative Council on the Vaccination Bill, in committee of the whole council', *VV&P*, LC, 1874, p. 178; 'Report from the Select Committee upon Vaccination Law; together with the Proceedings of the Committee, Minutes of Evidence, and Appendices', *VPP*, 1880-81, Vol. 2, No. D13, pp. 739-776; 'Compulsory Vaccination', *NSWJLC*, 1881, Part 2, pp. 217-271.
[533] C. Hamlin, 'Politics and Germ Theories in Victorian Britain: the Metropolitan Water Commissions of 1867-9 and 1892-3', in R. MacLeod (ed.), *Government and Expertise: specialists, administrators and professionals, 1860-1919* (Cambridge: Cambridge University Press, 1988): 110-127, p. 111.

expressed disparate opinions on the questions of revaccination and the appropriate number of punctures, leading one Committee to comment that 'the opinions expressed by the various medical men are so conflicting and contradictory on many points as to render their testimony of little practical value'.[534]

From an aetiological perspective, medical opinion was remarkably consistent: smallpox was a contagious disease requiring state intervention in the form of various barriers. These were spatial, such as that provided by quarantine or isolation, or immunological, achieved through vaccination. Worboys noted that the use of these contagionist responses to smallpox contributed to the wider shift in disease management, as 'concern about people and their behaviour, rather than the environment and its pollution' became the focus of public health policy.[535] The lack of unity on issues of detail, however, undermined their overall accord, and conflicting theories about the nature of smallpox or the way that vaccination worked contributed to anti-vaccinationist arguments and public uncertainty.[536] Therefore highly interventionist measures of isolation and quarantine, which had easily explicated theoretical underpinnings and were only necessary during times of panic, were often easier to gain widespread support for than vaccination.

Although the expert opinions garnered were dominated by medical men, the government would sometimes try to achieve balance through the inclusion of non-medical 'experts' or medical practitioners who dissented from the orthodox position. The Victorian Select Committee upon Vaccination Law in 1880, for example, included testimony from an astronomer, Robert Lewis John Ellery, because he was a 'scientific gentleman', and an insurance agent, John Wood Beilby, who 'had a good deal of experience as an owner of cows' as well as being the son of a vaccinating physician.[537] These two inclusions demonstrate some of the difficulties of attempting to include non-medical testimony while retaining a level of 'expertise'.

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[534] 'Report from the Select Committee upon Vaccination Law; together with the Proceedings of the Committee, Minutes of Evidence, and Appendices', *VPP*, 1880-81, Vol. 2, No. D13, pp. 739-776, p. 746.
[535] Worboys, *op. cit.*, p. 124.
[536] *Ibid.*, pp. 245-247; Sydney Health Protection League, *Testimonials of Medical Men on the protection supposed to be afforded by Vaccination from 1805*, (Sydney: Anderson and Hart Printers, 1913); J. Morton, *Vaccination and its Evil Consequences, Cow-Pox and its Origin, Small-Pox, &c.*, (Parramatta NSW: CE Fuller, 1875).
[537] 'Report from the Select Committee upon Vaccination Law; together with the Proceedings of the Committee, Minutes of Evidence, and Appendices', *VPP*, 1880-81, Vol. 2, No. D13, pp. 762, 771.

Part of the problem faced by the Government and the medical practitioners of the colony was their lack of understanding of the disease. There were several different strains of the smallpox virus, each subtly different from the next. The best medical experts of the time did not even know of the existence of viruses, in the modern sense of the word, let alone variants that could produce atypical symptoms, and this made diagnosis particularly difficult. The practical consequence of this was that when smallpox appeared, there was frequently a delay in recognising it, achieving general acceptance that it was indeed smallpox and then putting in place the appropriate measures to halt its spread.[538] Compounding this problem was the lack of smallpox in the Australian colonies, meaning that most doctors had little or no experience with the disease, and those that did have some experience from other countries, soon found their expertise to be outdated. This was one of the major objections presented by opposition members against the President of the Central Board of Health, Dr Richard Youl. As David Gaunson argued in the Legislative Assembly during the 1884 Victorian outbreak:

> There are very few small-pox experts in this colony. Young Dr. Embling may be one; but is the President of the Central Board of Health an expert as to small-pox? His knowledge of the disease is more than 30 years old, and he has always set his face against the notion that there has been any case of small-pox in this country. It is a perfect farce to regard him as an expert.[539]

Gaunson then extended this lack of specific expertise to negate the CBH President's suitability as framer of Health by-laws, which power he had been given under the recent Act. Gaunson saw this as 'a deliberate breach of what may be called the legislative functions of this House to hand over those functions to a body like the Central Board of Health'.[540] This clearly demonstrates tension over delegated legislation, which was the nearly inevitable consequence of this increasing trend towards interventionist and specialised legislation. These concerns were shared internationally, and reached a peak in the early twentieth century before gradually being subsumed and accepted as a legitimate part of the legislative process.[541]

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[538] 'Smallpox', *VV&P*, LA, 1869, Vol. 1, No.A5, pp. 459-477.
[539] 'Small Pox', *VPD*, LA, 1884, Vol. 45, p. 13.
[540] *Ibid.*
[541] M. Taggart, 'From 'Parliamentary Powers' to Privatization: The Chequered History of Delegated Legislation in the Twentieth Century', *University of Toronto Law Journal* 55(3) (2005): 575-627.

The increasing strain between the medical profession and the government can be observed in John Woods' comments to Graham Berry:

> I know, of course, the painful position in which the Chief Secretary is placed, and to that extent I sympathize with him. I know he cannot take a step without having the whole of the medical fraternity down upon him if he moves in any way not satisfactory to them.[542]

More specifically, Woods objected to the 'tinkering' of the Central Board of Health, and argued that it was time for the government to get the situation in hand. Ultimately, any power that the medical profession possessed with relation to health policy derived from the state, and it could revert to the state. The CBH occupied an uncomfortable half-way point between the government and the profession, as they possessed medical knowledge and skills, yet were answerable to the government and had to consider such consequences as interruptions to trade through quarantine and other practicalities.[543] Hence, they were not completely aligned with either group, and tended to receive criticism from both.

Concerns about delegated legislation and excessive medical power led to the imposition of 'expert' advice onto the general public being increasingly regarded with suspicion, as W.T. Carter's comments to the Assembly in 1891 show:

> The colony was pretty well overridden with experts, and he, for one, objected to this black petticoat rule, and warned the experts that they might go too far and find their occupation gone.[544]

The phrase 'black petticoat rule' that Carter uses to make his point is interesting. While 'petticoat rule' refers to the (undue) dominance of women in government or decision making, this does not fit this particular context. It seems likely, given Carter's concern with the prevalence of experts in the colony, that black petticoat in this context refers to professional men. The 'black petticoat' may refer to the black gowns of an undergraduate, and may easily be associated with the clergy, the

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[542] 'Small Pox', *VPD*, LA, 1884, Vol. 46, p.721.

[543] Foley, for example, has examined the conflict between effective quarantine and commercial interests, and the role of the Health Officer in ensuring that public health was generally aimed for in cases when conflicts of interest between commerce and public health occurred. J.D. Foley, 'Maritime Quarantine Versus Commerce: the role of the Health Officer of Port Jackson in the nineteenth century', *Journal of the Royal Australian Historical Society* 90(2) (2004):152-174.

[544] 'Vaccination', *VPD*, LA, 1891, Vol. 68, p. 2783.

legal profession and the medical profession. Further, the negative connotations of this phrase reflect the contemporary backlash against professional 'expertise' imposing on the lives of ordinary people. The feminine implications of the choice of the word 'petticoat' also indicates that this increasing level of intervention by both the state, and by the state sanctioned experts, was viewed by some as mollycoddling, mothering behaviour, similar perhaps to our 'nanny state'. This concern was echoed by Sterry, who argued that:

> The fact of the matter was there was too much mollycoddling of the people by the Government… It was time they swept away this growing evil of interference with the rights of the people to protect themselves from disease.[545]

Expertise was associated with interventionist government, and in order to overcome doubts as to the propriety of government interference into the private lives of its citizens, there was significant pressure on the experts to provide unanimous advice. This contributed to the process of medical professionalisation, which in turn contributed to greater state reliance on medical representatives for expert advice, creating a cyclical and mutually dependent relationship.

Medical advice was not only received through official positions and parliamentary enquiries. Medical practitioners, either individually or in groups, often offered their opinions unasked, through petitions, direct contact or pressure groups tactics, which were variously effective depending on the specific circumstances. Bedford's letter to the Lieutenant-Governor in 1853, for instance, led to a Select Committee being appointed, and it was the report of this committee which ultimately led to the Vaccination Act 1853.[546] However, public unrest was also a powerful motivator, and it is likely that Bedford's influence was one of direction, rather than instigation. Edward Swarbreck Hall petitioned the Tasmanian government both alone and with the support of other practitioners, although with little effect.[547] The medical profession in Victoria also made use of petitions, and the Medical Society of Victoria used this tool successfully to alter the Vaccination Amendment Bill of 1874, and to achieve their goal of clearly defining vaccination as a medical procedure.[548] During the 1880s, medical practitioners cooperated in more formal ways with their

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[545] 'Health Department', *VPD*, LA, 1892-3, Vol. 71, p. 4086.
[546] W. Champ, 'Small-pox. Report from the Select Committee appointed to take into consideration His Excellency's Message, No. 22', *TPP*, 1853, No. 77.
[547] 'Vaccination. Petition of Dr. E.S. Hall', *TPP*, 1869, No. 69, p. 3; 'Vaccination Bill. Petition from medical practitioners.', *TPP*, 1873, No. 78.
[548] 'Vaccination Law Amendment Bill', *VPD*, LC, 1874, Vol. 18, pp. 592-3, 634-6; Vol. 19, pp. 744-5, 832-3, 940-1.

counterparts in the other colonies. The profession strove to produce uniformity of opinion through such assemblies as the Australasian Sanitary Conference, held in Sydney in 1884, and Federal Councils, following the example set internationally in the Vienna International Sanitary Conference of 1874 and International Congresses of Hygiene and Demography, to which the colonies sent delegates, and also through the formation of professional bodies, such as British Medical Association branches and Medical Societies.[549] In doing so, the profession increased its heft as a pressure group by demonstrating simultaneously international 'best practice', professional consensus and scientific authority.

The sincere belief in the benefits of vaccination held by most medical men restricted their ability to understand the objections of those who harboured some concerns about its mass implementation. Barrow argued that English anti-vaccinationists possessed a 'democratic epistemology', which included 'a definition of worthwhile knowledge as comprehensible to anybody and never to be made incomprehensible, or otherwise inaccessible.'[550] This contrasted starkly with the 'elitist epistemology' of the medical perspective, which characterised failure to comply with vaccination legislation as either apathy or ignorance, because the profession arrogated to itself the right to provide the 'scientific', intelligent, and therefore correct view of vaccination issues. Those who supported the extension of expert powers within the state believed that scientific enquiry offered a route to better governance than that provided by common sense, and tended to result in paternalistic and interventionist policies.

Medical expertise played a significant role in directing the content of state health policy. It was most influential when a crisis heightened public feeling, creating pressure for government action, but could be undermined by lack of unanimity or competing demands, especially those of cost, concern about the extent to which legislation appeared to be being delegated to non-elected officials, and public opinion. The inclusion of medical practitioners in state roles, such as Health

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[549] A. Mault, 'Report on the Seventh International Congress of Hygiene and Demography: and on the Latest Developments of Sanitation and Sanitary Work in Europe', *TPP*, 1892, No. 41; *Report, Minutes of Proceedings, and Appendix of the Australasian Sanitary Conference of Sydney, N.S.W., 1884* (Sydney: Government Printer, 1884); *Proceedings of the Australasian Quarantine Conference of Melbourne, Victoria, 1896* (Melbourne: Government Printer, 1896); *Australian and Tasmanian Intercolonial Plague Conference, Melbourne, Victoria, 1900* (Melbourne: Government Printer, 1900).

[550] L. Barrow, 'The Clashing Knowledge-claims in Nineteenth-century English Vaccination' in W. de Blécourt and C. Usborne (eds.), *Cultural Approaches to the History of Medicine: mediating medicine in early modern and modern Europe* (Basingstoke: Palgrave Macmillan, 2004): 171-191, p. 175.

Officers and Vaccination Superintendents, served to create dependency between the state and the medical profession, so that the two institutions were mutually influential in their development, in a self-reinforcing manner. Baldwin argued that aetiology did not correspond to actions taken; and that 'rather than knowledge determining action in any but the broadest sense, aetiological conceptions were highly influenced by factors external to narrow epistemological considerations.'[551] Medical advances and expert opinions provided broad guidelines for authorities to work within, but precise prophylactic decisions were determined on an individual basis and took into account many more concrete factors. The next two sections therefore focus on some of the constraints on the implementation of the recommendations of medical experts.

[551] Baldwin, *op. cit.*, p. 526.

4.5: Panic, control and the state

Irrespective of ideology, expertise or any other factors competing to influence the state's position on prophylactic policy, any adopted measures were imposed on a public capable of responding in a wide range of ways to both the threat of disease and to any proposed policies. Within the English context, one stream of scholarship has emphasised the role of public opinion in resisting the combined pressure of Parliament and the medical profession.[552] This view is, perhaps, a consequence of focussing on anti-vaccinationism, resulting in an overstatement of its impact. Further, public opinion was by no means the only, nor even the most significant, aspect of public behaviour influencing state decisions. The purpose of this chapter is to determine how and to what extent popular responses affected the state's responses to smallpox and compulsory vaccination in the Australian colonies, and to find the extent to which a concern for order and regulation affected vaccination policies.

Several authors have noted that epidemic disease, and smallpox in particular, was important in stimulating public health legislation in the colonies.[553] More precisely, it was not simply disease that motivated action, but the anxiety that its presence – or even threatened presence – inspired in the community at large. When a community felt threatened by smallpox, it tended to engage in panicked behaviours. This could include a rush for vaccination, avoidance and exclusion of people and groups thought to be more likely to be a source of infection, and disordered daily routines. The effect of these behaviours was disruption to trade, stress upon vaccinators and their supplies, and pressure upon governments to act, often in contradictory or inefficient ways.

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[552] R.M. MacLeod, 'Law, Medicine and Public Opinion: the resistance to compulsory health legislation 1870-1907' *Public Law*, (Summer, 1967): 107-28, 189-211; D. Porter and R. Porter, 'The Politics of Prevention: anti-vaccinationism and public health in nineteenth-century England', *Medical History* 32(1988): 231-252; G. Scarpelli, ' "Nothing in Nature that is Not Useful": the anti-vaccination crusade and the idea of *harmonia naturae* in Alfred Russel Wallace', *Nuncius* 7(1992): 102-130; N. Durbach, ' "They Might as Well Brand Us": working-class resistance to compulsory vaccination in Victorian England', *Social History of Medicine* 13(1) (2000): 45-62; N. Durbach, *Bodily Matters: the anti-vaccination movement in England, 1853-1907* (Durham: Duke University Press, 2005).

[553] Cumpston (1928), *op. cit.*, p. 335; Lewis, *op. cit.*, p. 71; E.J. Barclay, *Aspects of Public Health in Queensland from 1859-1914* (M.A. thesis: University of Queensland, 1978), p. 219; Bashford, (2004), *op. cit.*, pp. 40-45; C. Rosenberg, *The Cholera Years: the United States in 1832, 1849 and 1866* (Chicago: University of Chicago Press, 1962), pp. 2-3; P.J. Tyler, 'Boards of Health: a nineteenth century response to epidemic', in L. Bryder and D.A. Dow (eds.), *New Countries and Old Medicine: proceedings of an international conference of the history of medicine and health* (Auckland: Pyramid Press, 1995): 25-31.

The cycle of panic and apathy which governed much of the public's response to vaccination in all three colonies, discussed in Chapter Two, was largely consistent and predictable, although it became somewhat muted towards the end of the nineteenth century. Panic kindled by the threat of smallpox, itself, was not always a problem for the governments. In fact, it was often useful in gaining public cooperation with disease management strategies. However, when a significant portion of the community failed to vaccinate – whether through disinterest or excessive pressure on resources – the presence of smallpox caused panic among the middle class and the outcome of this behaviour was increased pressure on the governments during times of panic to do something.

It was widely recognised that smallpox inspired fear in the general populace of the colonies and that it was, at least in part, attributable to its unfamiliarity. The *Daily Telegraph* of Launceston noted that:

> In the colonies, as a rule, the appearance of small-pox produces quite a panic, whereas in the Home Country it would be difficult to find a town or village that is not periodically visited by this unwelcome lodger – and there it creates no sensation at all, partly, we suppose, because people have got used to it.[554]

The colonial governments had mixed relationships with this mass emotion. On the one hand, panic could potentially lead to an interruption to trade, hysterical or anarchic behaviour, and a loss of faith in the governing bodies. On the other hand, it was panic that was one of the major factors contributing to people getting vaccinated and cooperating with increasingly intrusive policies for the good of the community. So while the medical community was keen to promote panic in order to encourage the uptake of vaccination and establish their position as indispensable experts, the governments needed to more finely modulate the panic quotient to achieve their desired outcomes. Thus we see the Parliaments discussing smallpox issues with an urgency not seen for other diseases that exacted a far greater death toll, simply because of the emotive weight possessed by smallpox.

The correlation between the threat of smallpox, public panic and state action is clear from the timing of vaccination legislation. Tasmania passed Vaccination Acts in 1853, 1881, 1882 and 1898, and introduced legislation in 1863, 1865 and 1873 which failed to get through both Houses. These actions correspond to the smallpox outbreaks in Sydney in 1853, England in 1863,

[554] *Daily Telegraph*, September 27, 1887, p. 2, c. d.

Melbourne and New Zealand in 1872-3, and Sydney in 1881.[555] The earlier Acts aimed to cause consistent vaccination in the population, so that panic at times of increased risk would not place such a great strain on resources, especially money and lymph. As people rushed to be vaccinated, supplies ran low and governments were forced to spend large amounts on emergency measures such as buildings and compensation. The 1881 and 1882 Acts were largely prompted by panic among the upper classes caused by not enough people vaccinating despite the epidemic in Sydney. The 1898 Act introduced the conscientious objection clause, and was prompted by the Final Report of the Royal Commission on Vaccination. New South Wales seriously considered compulsory vaccination during 1869, coinciding with the Melbourne outbreak, in 1881, during the Sydney epidemic, and 1903, during the Launceston outbreak.[556] Even without the inclusion of vaccination legislation, the 1881 epidemic was significant for its role in the passing of the Infectious Diseases Supervision Act and the formation of a Board of Health in New South Wales.

Victoria passed Vaccination Acts in 1854 and 1874, as well as clauses regarding vaccination in the Public Health Acts 1865 and 1889, and the Health Acts 1890, 1915 and 1919. While the Public Health Acts merely reiterated the laws as outlined in the preceding Vaccination Acts, new clauses appeared in the Health Acts, motivated by administrative issues identified in the operation of the Acts. Public reactions to smallpox tended to have less impact in Victoria than in the other colonies because its population was relatively well-vaccinated for most of the second half of the nineteenth century. This meant that lymph supplies were maintained and pressure on resources was more diffused. Peaks in vaccination still occurred during times of panic, but were less pronounced than in New South Wales or Tasmania. The 1854 Act, like its Tasmanian equivalent, closely followed the Sydney outbreak of 1853, but the 1874 Act was noteworthy for attempting to amend the process of ensuring widespread vaccination and offers a good example of a different way in which panic could affect legislation.

The 1872 outbreak in Melbourne and New Zealand had caused panic in Victoria leading to increased pressure on the vaccinators of the colony, and this led to some questioning of vaccination as a purely medical procedure, particularly in rural areas. Given that vaccination was a simple

[555] The 1881 epidemic caused the most substantial changes to legislation and practice, and was the time when Tasmania came closest to implementing effective compulsory vaccination. AOT, CSD 13/55/147.
[556] 'Compulsory Vaccination', *NSWLCJ*, 1881, Part 2, pp. 217-271; *NSWPD*, LC, 1881, Vol. 1, p. 321, and LA, pp. 478-80, 559, 738; *NSWPD*, 1903, 2nd series, Vol. XII, p. 2432.

procedure, and that many in more isolated parts of the colony had to travel great distances to find a medical man to perform the operation, William Walker asked the Chief Secretary if it would be possible to employ 'chemists and druggists, or other competent persons' to remedy the situation.[557] The idea persisted, and in June 1874 a Vaccination Amendment Bill was introduced, with the object of enabling the instruction of ordinary persons in vaccination for the purpose of carrying out the Act in remote areas.[558] Strong objections from the Medical Society of Victoria were submitted, and eventually accepted by the Council, and the focus of the Bill changed to repetitive pecuniary penalties for non-compliance, up to a limit of £5.[559] Although the outcome of the Bill was diverted by competing pressures, it was panic produced by an outbreak highlighting the inefficiencies of the existing system that caused the amending bill to be introduced into Parliament.

It is clear that panic resulting from the fear of epidemic disease played a major role in instigating vaccination legislation as governments both responded to pressures from the public and sought to avoid the financial and public order issues associated with potential outbreaks. However, legislation was just one form that governmental responses could take, and the role of panic is evident in cases when other actions had to be taken when legislation was not passed. The responses of the three governments to the 1863 epidemic in England offer a good example of this. The epidemic was particularly severe, and successive reports of the disease's progress were transmitted to the colonies, highlighting their unpreparedness and causing general panic. With the demand for vaccination higher than ever, the Governments were forced to re-evaluate their policies for more efficient administration.

In Tasmania, a Select Committee was appointed, and its extensive report concluded that the Vaccination Act was a 'dead letter', in dire need of reform.[560] While the investigation resulted in legislation being introduced into Parliament, the impetus was lost as panic faded and proved insufficient to get it passed. Given the precedent of objection set by intrusive census visits, there was significant concern that this would extend to the suggested house-to-house vaccination visits.[561] The government instead implemented a scheme whereby medical practitioners around

[557] 'Vaccination', *VPD*, LA, 1872, Vol. 14, p. 994.
[558] 'Vaccination Law Amendment Bill', *VPD*, LC, 1874, Vol. 18, pp. 344, 540-1, 592-3.
[559] 'Vaccination Law Amendment Bill', *VPD*, LC, 1874, Vol. 18, pp. 592-3, 634-6; Vol. 19, pp. 940-1, 1100, 1199.
[560] 'Vaccination. Report from the Select Committee', *TPP*, 1863, No. 90, p. 3.
[561] *Ibid.*

Tasmania could become Public Vaccinators, and they provided gratuitous vaccination to all who asked for it, and were remunerated by the Government for each case. In this way, a large number of Tasmanians were vaccinated between 1 November 1863 and 30 September 1864.[562] This was, however, a short-term solution that dealt with the immediate panic without providing for future threats, as funding for this system was withdrawn after it had achieved the short-term goal. Despite the fervent urgings of Edward Swarbreck Hall, the newly appointed Superintendent of Vaccinations, no prosecutions were carried out for non-compliance with the Act, and so vaccination remained entirely voluntary in practice.

In Victoria, this same English epidemic had a more enduring effect. The panic amongst the public put increased pressure upon the vaccination system and highlighted problems in communication between the Registrar-General's Office and the Police Department.[563] This led to the introduction of uniform vaccination registers across all districts and more formalised modes of communication, allowing prosecutions to be carried out swiftly and competently.[564] Hitherto, prosecution for non-compliance had been standard in Victoria, but was hampered in its operation by communication issues. The reliance on the Police Department for enforcement, rather than an organisation with pauperising connotations, like the Poor Law authorities in England, contributed to the relatively low levels of dissent experienced in Victoria. These changes were designed to make the process more efficient, but also to avoid injustices by allowing for delays and problems. These changes were, again, implemented without recourse to changes in the legislation.

The 1863 epidemic also caused substantial panic in New South Wales. With 'continual accounts brought from England of epidemic small-pox in London', the public vaccinators of New South Wales were forced to contend with an unprecedented number of applicants.[565] Panic was exacerbated by the fact that smallpox had been transmitted from England to New Zealand, and this proximal example of the very real danger posed by the English outbreak prompted the government to appoint many more public vaccinators and to pay more per successful case in a bid to protect the colony. Prior to this event, vaccination in New South Wales had been rather unenthusiastically

[562] *Statistical Returns of Tasmania*, (Hobart: Parliament of Tasmania, 1864), p. 99.
[563] 'Letter: Registrar-General to Chief Commissioner of Police', 31 May 1864, *Inward Registered Correspondence: including special file regarding vaccination returns*, *op. cit.*
[564] These registers prove that numbers of vaccinations were definitely recorded pre-1873 in Victoria, but not enough of them survive to give a fair representation of vaccination trends for that period.
[565] R. Greenup, 'Vaccination', *NSWJLC*, 1863-4, Vol. 2, p. 111.

embraced by the population despite being gratuitous and government sponsored. Its continuation had relied on the zeal and application of individual doctors, and although lymph had been distributed widely both within the colony and beyond, the vaccinators still complained of the apathy of the public – especially from the labouring classes – leading to continual calls from medical practitioners to make vaccination compulsory.[566] Legislators, while concerned for public health, were also concerned for budgetary constraints, causing them to be pro-vaccination insofar as the state paid for vaccination to be available to all, if they wished to avail themselves of it, but not investing in the added expense of monitoring and enforcing a system of compulsion. It was perhaps also partly a case of being seen to be doing something, with little real effort. If an outbreak of smallpox had occurred no-one could say that the Government had not provided the means to avert this disaster, and the blame could be placed squarely on recalcitrant parents. Simultaneously, the government freed itself from accusations of tyranny and overstepping the boundaries of governmental influence by not making vaccination compulsory, despite ongoing pressure from the medical community. The government also put a great deal of faith in the quarantine system, as they received very positive reports from the Health Officer regarding the operational success of quarantine in the colony's ports.[567]

This example is entirely representative of the attitudes of the three colonies throughout this period, with Victoria being most willing to engage in interventionist policies, Tasmania in between, and New South Wales keen to avoid mass interventionism while still trying to engage in preventive measures to protect the public health. The role of panic within the vaccination debate changed over the course of the nineteenth century, as discussed in Chapter Two, particularly after 1881. With an increase in the frequency and speed of shipping came an increased risk of the introduction of diseases not endemic to the Australasian colonies. This resulted in an increase in 'mini-scares' when cases of smallpox were discovered on board ships entering the colonial ports, such as the *Preussen* in Sydney in 1886, and the *Oroya*, *Nineveh*, and *Orizaba* in Melbourne in 1892, 1897 and 1898 respectively. More substantial smallpox outbreaks which nevertheless failed to become the catastrophic events experienced in other parts of the globe, through luck, population distribution and the effective concentrated efforts of health authorities. These experiences served to lessen the

[566] R. Greenup, 'Vaccination', *NSWV&P*, LA, 1859-60, Vol. 4, pp. 777, 779.
[567] H.G. Alleyne, 'Health Officer, Sydney', *NSWJLC*, 1861, p. 629.

impact of smallpox and cause much less panic than previously as the public became desensitised through repeated exposure.

The trend towards desensitisation was exacerbated by the response of the authorities to these cases. For example, the high proportion of unvaccinated among the population meant that any cases which threatened Tasmania were dealt with through a combination approach. When news of incidences of smallpox among passengers landed at Melbourne from the mail steamer *Oroya* was received in Tasmania, it was known that several were bound for Tasmania.[568] Orders were quickly sent out as to how to deal with these people, and those who had come into contact with them, and the situation was rapidly dealt with. One passenger was already vaccinated; the other two were soon vaccinated, and kept under observation for the necessary time. All ships arriving from other colonies were medically inspected. In this way, the threat was contained, and no further cases occurred. This efficiency, while admirable, can have done nothing for the vaccination cause, as it was apparent that there were other effective methods of dealing with the threat of smallpox. Although vaccination was used as a tool against infection, it was used in this case in a focused manner that served to undermine the value of mass vaccination by giving the impression that it was possible to manage the disease effectively without universal vaccination.

The decrease in the fear of smallpox during the last two decades of the nineteenth century coincided with an increase in anti-vaccinationism. Objection to compulsory vaccination in Australia was less intense and less organised than that in many other parts of the world, and certainly did not approach that seen in England during the same period.[569] Nevertheless, the relative indifference to the threat of smallpox combined with anti-vaccinationist sentiment to produce continuously low vaccination rates in New South Wales and Tasmania. Victoria continued to maintain relatively high rates – although lower, on average, than the period prior to 1881 – because it possessed a more organised system and was willing to prosecute for non-compliance with the Act. The lack of reliable mass panic produced a narrower, more focused panic among some sections of the colonial elites. Health authorities, and the medical profession more generally, repeatedly expressed grave concerns about the effect of apathy and anti-vaccinationism on the colonies' abilities to prevent the introduction of smallpox, and thus formed a different but

[568] A. Mault, 'Central Board of Health: report for 1892', *TPP*, 1893, No. 78, p. 10.
[569] Australian anti-vaccinationism, and a comparison with other countries, is covered in Chapter Five.

related form of panic-driven pressure on the state. This form had less impact than mass panic, and towards the end of the nineteenth century was almost entirely subordinated to waiting for the results of the Imperial Royal Commission.

Panic resulting from instances of smallpox, then, formed an important impetus to the evolution of government responses to vaccination over the second half of the nineteenth century and it is extremely unlikely that any serious action would have been taken by any of the colonial governments without this stimulus. It did not, however, necessarily do much to inform the approach taken by the individual governments. Specific actions were instead shaped by other influences, and it is in this context that public opinion in a wider sense becomes relevant.

Public opinion and its influence on state actions are difficult to identify precisely because, of course, the public exhibited no single opinion and, even if it had, it needed to be mediated by some third party in order to be communicated to the state, adding further complexities. Liberal and utilitarian views on the role of public opinion in policy formation became increasingly influential in colonial Australia over the nineteenth century. Loveday argued that Burke's theory that members should listen to the public but ultimately vote according to interests and individual conscience gave way to the view, articulated by Parkes, that members should represent the views of their constituents.[570] Public opinion could be gauged most obviously through the media, which effectively entailed newspapers, and through the efforts of interest groups, which in this instance were loose coalitions of pro- and anti-vaccinationists. So what was communicated to legislators was almost certainly not the opinion of the majority of people, but rather the opinions of the vocal. This gave a privileged position to newspaper editors, who had the ability to both shape public opinion and to represent it.

That newspapers in the nineteenth century were capable of both reflecting public opinion and shaping it is an idea that was acknowledged both at the time and more recently in historical scholarship.[571] Newspapers were a means of communicating both fact and opinion; they contained

[570] P. Loveday, 'The Member and his Constituents in New South Wales, in the Mid-nineteenth Century', *Australian Journal of Politics and History* 5(2) (1959): 202-212.
[571] See, for example: J. Bryce, *The American Commonwealth* (London: Macmillan and Co., 1891); K.A. Bradshaw, 'The Misunderstood Public Opinion of James Bryce', *Journalism History*, 28(1) (2002): 16-25; A.J. Lee, *The Origins of the Popular Press in England, 1855-1914* (London: Croom Helm, 1976); A. Jones, *Powers of the Press: newspapers, power and the public in nineteenth-century England* (Aldershot: Scolar Press, 1996); B. Harrison, 'Press

commercial information, records of parliamentary debates and public meetings, and editorial comment. The distinction between different forms of information differed between papers; regarding the Victorian press, Macintyre noted that while the *Argus* endeavoured to clearly distinguish reportage and commentary, the *Age* tended to blur the two, often for blatantly political ends.[572] David Syme, the editor, openly admitted that his paper was instrumental in forming public opinion, not merely reflecting it: 'It does not ask the man in the street what he thinks, but it tells him what he ought to think.'[573] Furthermore, Macintyre noted the facility for campaigning enjoyed by the larger newspapers, citing the success of the *Age* in effecting legislative change in several instances through sustained editorial pressure.

The major colonial newspapers tended to support vaccination and efforts to increase its application. During times of smallpox-induced panic, editorials would often exhort their readers to vaccinate their children and themselves.[574] Colonial newspapers were affordable and popular, allowing them to give the impression of reporting public opinion when adopting a firm stance on social and political issues.[575] Newspapers were also used to place pressure on the various governments to amend vaccination legislation or to improve its efficacy, such as the *Mercury*'s demands in 1877 that inoperative compulsory vaccination be made effective, and the *Age*'s forceful – and successful – campaign for compulsory vaccination of the Chinese in Victoria.[576] They could be fickle, however; the *Sydney Morning Herald*, on the June 3 1881, commended the government 'for acting with intelligence and vigour', and the *Evening News*, on the same day, wrote:

> Notwithstanding all the individual hardship so many have had to suffer, no one blames the Government for the steps already taken to stamp out the visitation of small-pox. What they have done is in the public interest, and when that aspect of affairs is presented, private considerations cannot be permitted to interfere. In sending all the persons in some of the infected houses to the quarantine station, the Government have consulted the public safety, and the action taken so far as it goes, meets, probably, with general approval.[577]

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and Pressure Group in Modern Britain', in J. Shattock and M. Wolff (eds.), *The Victorian Periodical Press: samplings and soundings* (Toronto: University of Toronto Press, 1982).

[572] Macintyre, *op. cit.*, p. 85.

[573] *Ibid.*

[574] *Age*, 12 November, 1857, p. 5, c. f; *Age*, 23 July, 1881, p. 4, c. h-i; *Sydney Morning Herald*, 22 October, 1857, p. 5, c. c-e; *Sydney Morning Herald*, 4 November, 1857, p. 8, c. 1-c; *Mercury*, 10 February, 1877, p. 3, c. d.

[575] E. Morrison, 'Reading Victoria's newspapers, 1838-1901', *Australian Cultural History* 11(1992): 128-140.

[576] *Mercury*, February 7, 1877, p. 2, c. c-d; 'Chinese Vaccination', *Age*, October 23, 1857, p. 5, c. e; *Age*, October 30, 1857, p. 4, c. d; *Age*, November 2, 1857, p. 5, c. b.

[577] *Sydney Morning Herald*, June 3, 1881, August 31, 1881; *Evening News*, June 3, 1881, August 31, 1881.

By August 31, however, both papers had reversed their opinions, and were criticising the government's handling of the smallpox cases. This seems to have been an instance where newspaper content changed to reflect public feeling, rather than to manipulate it.

Parliamentarians occasionally explicitly acknowledged the impact of pressure from the print media on policy. For example, in stating his support for the proposed Infectious Disease Supervision Bill, James Fletcher noted that the 'Press had for months been complaining that the Government did not introduce such a measure; and when it was considered that the health of the people was in danger, he hoped the House would not allow any delay to take place in the passing of the measure'.[578] Similarly, in the Victorian Legislative Assembly, during debate over compulsory vaccination legislation in 1884, it was noted that the press had made it an issue first, prompting discussion in the House.[579] Both of these examples highlight how the print media could create an issue, forcing the government to give it attention.

At mid-century, policy was guided by public behaviour: people were, on the whole, alarmed by the threat of smallpox, demanding protection from it, and yet were poor at voluntarily vaccinating between scares. This was the problem presented to colonial governments, and each dealt with it as they saw fit. By the end of the century, the focus had shifted slightly, and public opinion was combined with public behaviour to inform policy. The role played by public opinion in late nineteenth-century Australian politics was clearly described by Sir Bryan O'Loghlen when he remarked that, 'So long as public opinion and the law of the colony were in favour of compulsory vaccination… machinery must be provided, and the Government must see that the law was carried out.' When Henry Williams interjected that, 'Public opinion is very rapidly changing', O'Loghlen replied that, 'When public opinion changed in respect to compulsory vaccination the law of the country would be changed, but until then the Government must carry out the law.'[580] This exchange highlights the perceived importance of gaining popular approval for legislative change at this time.

[578] 'Infectious Disease Supervision Bill, Second Reading', *NSWPD*, LA, 1881 Vol. 2, p. 2648.
[579] 'Small Pox', *VPD*, LA, 1884, Vol. 46, p. 730.
[580] 'Health Department', *VPD*, LA, 1892-3, Vol. 71, p. 4084-4085.

Although important, newspapers were not the only way in which legislators could attempt to gauge public opinion. Debate concerning vaccination policy frequently included mention of public feeling, without reference to mediation through the press. Goodman argued that public meetings, perceived with suspicion during the convict era, grew in popularity throughout the second half of the nineteenth century as a means for interest groups to demonstrate 'public' opinion and thereby exert pressure on the government.[581] An example of this is the public meeting held on 19 August, 1881, at the Hobart Town Hall was convened by the Mayor, to discuss compulsory vaccination, and which was attended by approximately 1000 people.[582] The content of the meeting was reported in detail in the *Mercury* the next day, extending its influence even further. A range of opinions were expressed, but the consensus of the meeting was that compulsory vaccination should be suspended until calf lymph could be offered to those who wanted it. This meeting presented the impression that 'public opinion' was in favour of vaccination, but had serious reservations about some aspects of its safety, and this was reflected in contemporaneous parliamentary discussions.[583]

Parliamentarians also formed impressions of public opinion through more direct means of communication: family, friends and acquaintances constituted informal focus groups, constituents wrote directly to their elected representatives to express their opinions, and petitions were occasionally presented to parliament regarding these issues.[584] Those who made a concerted effort to contact their members of parliament were probably not representative of the population as a whole, and so perhaps contributed to some members having skewed views of public opinion. Similarly, agitation by either pro- or anti-vaccinationists reflected the opinions of minorities at either end of the debate's spectrum, but in becoming visible, contributed to the rise of compulsory vaccination as a contentious issue in colonial society.

Durbach argued that public opinion, and specifically anti-vaccinationist opinion, was the main force behind the introduction and subsequent amendments of the conscientious objection clause in

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[581] D. Goodman, 'Public Meetings and Public Speaking in Colonial Australia', *Australian Cultural History*, 16(1997-1998): 107-126.
[582] *Mercury*, 20 August, 1881, p. 3, c. a-e.
[583] 'Vaccination: enquiries from medical practitioners, and replies', *TPP*, 1881, No. 83.
[584] 'Small Pox', *VPD*, LA, 1880-81, Vol. 36, p. 2874; *TV&P*, HA, No. 53, August 16 1888; 'Vaccination Act: petition for repeal of compulsory clauses', *TPP*, 1885, No. 131, p. 3. These followed on from discussion in the lower house of reversion to the optional system of vaccination; *Votes and Proceedings*, HA, No. 14, September 16, 1886, p. 52.

Britain.[585] However, the anti-vaccinationists had not sought a conscientious objection clause; they wanted total repeal of the compulsory vaccination legislation. It was on the basis of the findings of the Royal Commission into Vaccination that the exemption for conscientious objection was first introduced and was therefore as much influenced by medical opinion – the Commission being 'stacked', as Durbach described it, 'with eminent medical practitioners who almost unanimously supported vaccination' – and a desire to maintain protection through vaccination in an easily administered manner, while allowing for sincere objections.[586] While it is evident that anti-vaccinationist agitation played a significant role in bringing state attention to the issue, her analysis makes it clear that public opinion was closely bound to the consequences of administrative imperatives, and that both factors need to be acknowledged in an explanation of its introduction and evolution. Ambiguities in the wording of the legislation led to uneven implementation and to successive efforts to improve the administration of the Act. Barrow more explicitly located the failure of the British Vaccination Acts in the tensions inherent in the administration of stational public vaccination by the Poor Law Guardians.[587] In the colonies, the introduction of a conscientious objection clause followed less publicly contentious paths.

Compulsory vaccination in Tasmania had been only fitfully enforced and there was pressure from both pro-vaccinationists to remedy this situation and anti-vaccinationists to end the pretence, although the state was reluctant to commit to anything. The deliberation of the Imperial Royal Commission provided the opportunity to suspend discussion, and most action, on the issue until the findings were published. When they were finally released in 1896, all sides were eager to implement its recommendations that:

> …it is advisable to amend the law relating to vaccination by altering the compulsory clauses in such wise that the persons who make a statutory declaration that they conscientiously believe that vaccination is injurious to their children shall not be liable to the penalties imposed for non-fulfilment of the law; to improve the practice of vaccination from three to six or twelve months; and to lighten the burden on parents by providing for the payment from the public funds of all vaccination fees,

[585] N. Durbach, 'Class, gender, and the conscientious objector to vaccination, 1898-1907', *Journal of British Studies* 41(1) (2002); N. Durbach, *Bodily Matters: the anti-vaccination movement in England, 1853-1907* (Durham: Duke University Press, 2005).
[586] Durbach, (2002), *op. cit.*, pp. 67-68.
[587] L. Barrow, 'In the Beginning was the Lymph: the hollowing of stational vaccination in England and Wales, 1840-98', in S. Sturdy (ed.), *Medicine, Health and the Public Sphere in Britain, 1600-2000* (London: Routledge, 2002): 205-223.

> and for the performance of the operation and subsequent inspection at the child's residence.[588]

Those opposed to vaccination welcomed the opportunity to legally avoid the operation, and the Central Board of Health hoped to resume vaccination as soon as possible, because the previous few years had caused the community to become, in their eyes, extremely vulnerable to infection and hoped to make compliance with the law as easy as possible for parents, in order to reduce the possible objections. Public and expert opinion, influenced by past administrative experience, aligned in this instance to produce change.

No change, however, occurred in Victoria. As in Tasmania, any efforts to introduce amendments to vaccination legislation in the late nineteenth century had been suspended until the conclusion of the Royal Commission.[589] Throughout this period, the issue of conscientious objection was repeatedly brought up in parliamentary debates, though the Government remained firm in its intention to wait for the Final Report.[590] When that time arrived, the Victorian parliament had already had many debates over the issue and it had become clear that the majority of politicians were in favour of a continued policy of compulsory vaccination. Contributing to their continued commitment was the relative success experienced by Victorian health authorities in the administration of compulsory vaccination, compared to Tasmania and England. A policy was instituted after the publication of the Royal Commission's report of only prosecuting once for non-compliance and not prosecuting at all once the child had reached 18 months of age.[591] Avoiding vaccination, then, involved paying one fine and registering a conviction, although the conviction ceased to be recorded from 1918. The formal adoption of a conscientious objection clause in the 1919 Act, and put into effect from 1920, merely served to acknowledge the reality of the informal clause, and to bring Victoria's legislation into line with the other states.[592] The legislative change

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[588] A. Mault, 'Central Board of Health: report for the year 1896', *TPP*, 1897, No. 45, p. 7; Appendix II.
[589] 'Vaccination', *VPD*, LA, 1890, Vol. 64, p. 1769.
[590] 'Vaccination', *VPD*, LA, 1892-3, Vol. 69, p. 341; 'Vaccination', *VPD*, LA, 1892-3 Vol. 69, p. 438; 'Police', *VPD*, LA, 1892-3, Vol. 71, p. 3112; 'Health Department', *VPD*, LA, 1892-3, Vol. 71, p. 4084-5; 'Public Health Act', *VPD*, LA, 1895-6, Vol. 77, p. 809; 'Non-Compulsory Vaccination Bill', *VPD*, LA, 1895-6, Vol. 78, p. 2482; 'Compulsory Vaccination', *VPD*, LA, 1896, Vol. 81, p. 36.
[591] PROV: VPRS 3654/P0000/1-5.
[592] Tasmania introduced conscientious objection in 1898, but other colonies waited until the early twentieth century; Western Australia introduced a conscientious objection clause in the Health Act 1911 and South Australia ended compulsory vaccination in 1917.

reflected the reduced interest in smallpox as its virulence and incidence waned, and the pressures of the newly federated Commonwealth as much as it reflected changing public opinion.

Public opinion, as perceived and utilised by politicians, was unlikely to have been an accurate reflection of the sum total of views held by individual constituents. Rather, it was comprised of impressions that tended towards extremes as it was communicated through vocal minorities and the print media, both with their own agendas. Public behaviour in the form of panic provided the impetus for state attention to issues surrounding smallpox and compulsory vaccination, and public opinion, with all its limitations, played an increasingly important role in justifying the positions held by parliamentarians. Although influential, it was not the decisive factor in guiding vaccination policy, partly because it was rarely clear what public opinion was and partly because it was competing with other, more clearly articulated, forces. More significant, however, was the degree to which health policy was informed by a concern for public order and regulation, and by the methods used to achieve these ends.

Bashford has argued that the difficulties encountered by colonial governments in attempting to impose interventionist strategies upon an unenthusiastic public caused a move towards 'more governmental techniques in which a desire for health and hygiene might be instilled in each and every citizen.'[593] The potential for conflict between individual liberty and community welfare became clear once compulsory public health measures had been initiated, and it became increasingly clear through continued administration that this conflict would cease to exist if everyone agreed on the best course of action and voluntarily complied.

Creating a desire for health at an individual level that would simultaneously result in health at a population level was where the difficulty lay. Health authorities of the mid-nineteenth century assumed that the public would want to be vaccinated and merely needed it to be made available to them. During episodes of panic, this was largely true, but they were surprised to find that in between panics there was little interest in vaccination. Being unable to comprehend any rational argument for this behaviour, experts and authorities characterised it as 'ignorance' and 'apathy', rather than reasoned opposition, leading to calls for increased powers of compulsion and

[593] Bashford (2004), *op. cit.*, p. 57; A. Bashford, 'Epidemic and Governmentality: smallpox in Sydney, 1881', *Critical Public Health* 9 (1999): 301-316.

intervention while simultaneously trying to persuade and encourage popular compliance without recourse to force. Victoria came the closest to achieving this goal, demonstrating that the more organised and efficient the bureaucracy for enforcing compulsion, the less it was needed. By establishing relatively efficient compulsory vaccination early, a situation was created where widespread infant vaccination was normalised, making it easier to sustain. Missing this early opportunity meant that Tasmania and New South Wales were unable to achieve the same level of consistency as Victoria, and later efforts were complicated by other factors, especially the increase in concern over the risks of vaccination and its efficacy. Bashford has criticised sociological appraisals which depict the transition from sovereign power and the use of force to governmental persuasion and individual self-regulation as being smooth and uncontested, instead emphasising that the tension between individual liberty and community welfare was ongoing.[594] The convoluted and widely varying histories of public health in the colonies support her contention, and the differences are attributable to the practical considerations and administrative challenges particular to each.

It is within the administrative experience of public health that it is clearest how smallpox and vaccination affected the development of the state. It was smallpox that provided much of the impetus for public health development, and the operation of vaccination that helped to fuse ideas about the extent of state responsibility for public health and the ways in which this goal could be achieved. One tool that was particularly important for public health administration was statistics. Bashford noted that statistics was one of several 'knowledge-techniques' used to collate and organise information about individuals into categories that could be used to describe the population and that this was an essential tool of the growing bureaucracy.[595] Further, she argued that public health both needed and promoted administration and bureaucracy, and their expertise in statistics and demography.[596] More specifically, she viewed the role of vaccination as part of wider developments in governance:

> Vaccination came to be important as a means for the collection of information through systems of registration and certification of individual infants and children. It provided one of the mechanisms through which British as well as colonial

[594] Bashford (1999), *op. cit.*
[595] A. Bashford, *Imperial Hygiene: a critical history of colonialism, nationalism and public health* (Houndmills, Basingstoke: Palgrave Macmillan, 2004), pp. 8-9.
[596] *Ibid.*, p. 33.

> populations were rendered governable. Vaccination, like the tracking of epidemic disease itself, became part of the growing biopolitical business of population health, of collecting and producing the 'vital statistics' of the social body. It helped build the vital statistics of Empire.[597]

The use of vaccination and its associated administration as tools of colonial rule have been alleged in a range of colonial contexts, including British India, the Philippines and the United States.[598] The statistical component of vaccination administration fitted easily into broader administrative developments in the Australasian colonies that flowed naturally from the observant and interventionist nature of penal government. Statistics were an important part of colonial rule in Australia and the information gathered and described in this way was used for the effective administration of the young colonies.

Initially, statistical information was collected in reports for the British authorities. Censuses began early and were held often by contemporary standards; as Camm observed, 'Australians in the nineteenth century were among the most counted people in the world; rarely have so few been counted so often.'[599] Early attempts to count the population were crude, often only included a specific locality and were used to estimate the needs of the colony. The first official census occurred in 1828, and over the course of the century methods were refined and the detail of information collected was expanded. *Blue Books* were first produced in New South Wales and Van Diemen's Land in 1822, and in Victoria as soon as it was formally separated from New South Wales, in 1851.[600] The description of the population in numerical terms for use in policy making was, therefore, well established in the colonies by the 1850s. With the granting of responsible self-government at this time, statistics as a tool of government was embedded in the new administrations and record-keeping was more continuous and better organised from this point forth. Victoria led the way in reforming the collection and scope of the colonial statistics, followed

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[597] *Ibid.*

[598] D. Arnold, *Colonizing the Body: state medicine and epidemic disease in nineteenth-century India* (Berkeley: University of California Press, 1993), pp. 134-139, 156-158; J.D. Pearson, 'Lewis Cass and the Politics of Disease', *Wicazo Sa Review* 18(2) (2003), p. 9; J.D. Pearson, 'Medical Diplomacy and the American Indian: Thomas Jefferson, the Lewis and Clark expedition, and the subsequent effects on American Indian health and public policy', *Wicazo Sa Review* 19(1) (2004), p. 105; W. Anderson, 'Immunization and Hygiene in the Colonial Philippines', *Journal of the History of Medicine and Allied Sciences* 62(1) (2007): 1-20.

[599] J.C.R. Camm, *The Early Nineteenth Century Colonial Censuses of Australia: Historical Statistics Monograph No. 8* (Bundoora: Australian Reference Publications, 1988), p. 1.

[600] C. Forster and C. Hazlehurst, 'Australian Statisticians and the Development of Official Statistics', in I. Castles, *Year Book Australia 1988* (Canberra: Australian Bureau of Statistics, 1988): 1-95.

by the other colonies, and in advance of English practices. The statistics produced by the Australasian colonies every year from self-government through to Federation were considered, both by contemporaries and with hindsight, to be 'of the highest international quality, both in content and presentation.'[601]

In her discussion of the development of the modern fact, Poovey highlighted the value of statistics, in various forms, to both the state and interest groups.[602] Numerical representation of information had gained connotations of being free of values, politics and theories, as well as associations with scientific method. This portrayal was not uncontested, but the usefulness of statistics to the state meant that they were increasingly used for informing legislation in Britain, contemporaneously to the early development of the Australian colonies.[603] This meant that the collection of numerical data about the emergent society, and its use in policy formation, was central to the growth of colonial government. Statistical returns were compiled by each of the Colonial Secretary's Departments, and formed the basis of the reports made by the various medical positions associated with the governments, such as Superintendent of Vaccinations, Health Officer and Medical Adviser. Although used for transparently medical ends in the analysis components of these reports, the statistics provided by health officials were valued for their factual and purportedly disinterested nature.

Statistics was a useful tool for the state because it rendered the behaviour of individuals explicable at the population level.[604] In shifting the focus of the state to populations, rather than individuals or family groups, the use of statistics provided the foundation for the 'strategic development of medicine and law' in the nineteenth century, a component of the process of 'biopolitics' as identified by Foucault.[605] That is, although statistics were used by health administrators as a means of presenting information, it was not a neutral technology and it shaped the way that health issues – including smallpox and vaccination – were viewed and approached. The result was that

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[601] *Ibid.*
[602] M. Poovey, *A History of the Modern Fact: problems of knowledge in the sciences of wealth and society* (Chicago: University of Chicago Press, 1998).
[603] *Ibid.*, p. 317.
[604] G. Rosen, *A History of Public Health* (New York: MD Publications, 1958), pp. 81-130; M. Foucault, 'Governmentality' in G. Burchell (ed.), *The Foucault Effect: studies in governmentality, with two lectures by and an interview with Michel Foucault* (Chicago: Chicago University Press, 1991), p. 99.
[605] I. Hacking, 'How Should We Do the History of Statistics?' in G. Burchell (ed.), *The Foucault Effect: studies in governmentality, with two lectures by and an interview with Michel Foucault* (Chicago: Chicago University Press, 1991), p. 183.

'epidemic', as Bashford argued, 'was not a fact of individually ill subjects, but of their interpretation within a pattern of morbidity in the population, knowledge produced in expert realms of medicine and epidemiology, government and bureaucracy.'[606] The action of describing the problem effectively created it, and simultaneously produced an appearance of control over it, resulting in an extension of state power.

Positing a state founded upon the supremacy of law rather than the people, Davidson argued that the colonial states maintained politically passive citizenry through the use of hegemonic techniques:

> The object of the innovations in health, education, childcare and demography was the reproduction of rational individuals whose existence was necessary to a continued consensus in the rule of law and its practitioners.[607]

Anti-vaccinationist agitation introduced a level of challenge to the order of the state and seemed to provide a demonstration of the sovereign power of the people.[608] However, these incidents were contained and ultimately resolved through legal avenues. A particularly clear example of this occurred when some Victorian parents were being prosecuted for having their children vaccinated by a non-medical man, using calf lymph produced privately and not by official medical bodies.[609] An outcry ensued, leading to prosecutions being suspended while the Supreme Court considered the issue. When it was decided that the vaccinations were legal, the Government returned the fines, though not the law expenses, of those parents who had been prosecuted. The right of the state to impose interventionist action upon reluctant citizens was not denied, but the conditions under which it could legally occur were refined and made clearer.

Thus, in seeking to foster law and order to protect the interests of the whole population, state responsibility grew to encompass public health, and to use that responsibility as a tool of government. While panic and fluctuations in public opinion were significant as fillips to legislative or other state action regarding the protection of the public health, their real significance lay in the

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[606] A. Bashford, 'Epidemic and Governmentality: smallpox in Sydney, 1881', *Critical Public Health* 9(4) (1999): 301-316, p. 306.
[607] A. Davidson, *The Invisible State: the formation of the Australian state, 1788-1901* (Cambridge: Cambridge University Press, 1991), pp. xvi-xvii, 216-217, 219.
[608] See *Ibid.*, pp. 254-255 for the long-term consequences of such challenges.
[609] 'Vaccination', *VPD*, LA, 1887, Vol. 54, p. 261; 'Vaccination', *VPD*, LA, 1887, Vol. 54, p. 489; 'Vaccination', *VPD*, LA, 1887, Vol. 54, p. 757; PROV: VPRS 1226/P0000/91.

consequences of these actions for the development of a new style of liberal governance in the colonies. The administrative and statistical methods associated with the implementation of vaccination contributed to the development of an increasingly bureaucratic state. Despite these deep shifts in the structure and extent of the state and its power, however, governments remained vulnerable to the vicissitudes of more banal, yet pressing, concerns.

4.6: Practical considerations

Throughout the preceding discussion, there has been a recurring theme of practical considerations limiting the effects of loftier influences, and the most frequently occurring have been considerations of cost and administrative experience. An effective system of compulsory vaccination required a reliable supply of lymph and medical men hired to perform the operation. In the Australian colonies, with vast sparsely populated rural areas, extra money often needed to be provided for a vaccinator to travel long distances. Its administration required, if not already in place, the establishment of bureaucratic structures to register each operation performed, and to identify and prosecute non-compliance. Victoria, already in possession of some of the necessary structures, implemented compulsory vaccination with considerable success in urban areas. However, outside of these densely populated areas, great difficulty was experienced in achieving any level of coverage, and this was acutely observed by Christopher Rolleston, who argued that New South Wales possessed neither the money, nor organised bureaucratic structures to administer the system, nor a population sufficiently dense to justify the expense of effective compulsory vaccination.[610]

This was a clear statement of judgement based on weighing up cost versus benefit. Rolleston's report was in favour of vaccination, deeming it to be a useful and effective prophylactic tool, and encouraged its application, but practical considerations prevented him from advocating the introduction of comprehensive and compulsory cover of his colony. The government continued, however, to fund the operation of the Vaccine Institution and the operation of a voluntary system offering vaccination to those who wanted it. Several authors have underlined the importance of financial factors in influencing the spread of vaccination, in European and colonial contexts.[611] On a more local scale, Petrow and Lewis have argued that issues of cost were a significant factor affecting municipal public health development in Hobart, Launceston and Sydney.[612] In the case of

[610] C. Rolleston, 'Vaccination. (Report of the Registrar-General.)', *NSWV&P*, LA, 1856-7, Vol. 2, p. 694.
[611] D. Arnold, *Colonizing the Body: state medicine and epidemic disease in nineteenth-century India* (Berkeley: University of California Press, 1993), pp. 144-5; S. Bhattacharya, M. Harrison and M. Worboys, *Fractured States: smallpox, public health and vaccination policy in British India, 1800–1947* (London: Sangam Books, 2005), p. 20, 63; Baldwin, *op. cit.*, p. 534.
[612] S. Petrow, *Sanatorium of the South: public health and politics in Hobart and Launceston, 1875-1914* (Hobart: Tasmanian Historical Research Association, 1995); M.J. Lewis, *The People's Health: public health in Australia, 1788-1950* (Westport, Connecticut: Praeger, 2003), pp. 78-79, 89.

compulsory vaccination, were economic considerations merely a retarding factor, or were they more complex?

The Tasmanian government, like New South Wales, found financial issues to be a constraint on the early operation of compulsory vaccination, but had already passed compulsory legislation. Initially, it was thought that just possessing the legislation would be sufficient to ensure widespread uptake of the operation, believing that it would:

> …be unnecessary to do more than to awaken the attention of the adult community to the extreme importance of taking steps which will obviously be so conducive to their own personal safety.[613]

This, however, turned out to be an overly optimistic forecast, as the annual vaccination reports repeatedly pointed to the indifference of the community to the benefits of vaccination. During smallpox scares, when medical and public pressure combined, money was found to fund more efficient systems. Motivated by the 1863 English epidemic, for example, the government enabled every medical practitioner in Tasmania to be a Public Vaccinator, remunerating them for each operation they performed.[614] However, once the scare dissipated, public demand dropped and, rather than enforcing compulsion, the government reduced the number of public vaccinators to two, one for the north and one for the south, preferring a short-term investment that addressed the immediate problem of public panic rather than a longer-term investment that would perhaps have more effectively protected the public health. Landowning interests opposed developments that would increase taxation, and pressure to minimise expenditure was strong.

William McCrea, Chief Medical Officer in Victoria, ideally wanted to implement a system of itinerant vaccinators to roam remote and regional areas, but as that was estimated to cost £2000 per year, he instead advocated that non-medical men be trained to perform vaccination in these areas, an idea that was prevented from coming to fruition through immense pressure from the medical profession.[615] The competing pressures from the medical fraternity, to protect professional boundaries, and the government, to minimise expenditure, effectively prevented, in this instance,

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[613] W. Champ, 'Small-pox. Report from the Select Committee appointed to take into consideration His Excellency's Message, No. 22', *TPP*, 1853, No. 77.
[614] *Statistical Returns of Tasmania*, (Hobart: Parliament of Tasmania, 1864), p. 99.
[615] 'Evidence taken at the Bar of the Legislative Council on the Vaccination Bill, in committee of the whole council', *VV&P*, LA, 1874, pp. 171-185.

any progress at all. The bill initiated by McCrea's idea evolved into one that emphasised compulsion without providing more efficient services for rural areas.[616]

The itinerant vaccinator idea was later taken up in Tasmania, however, following the panic caused by the 1881 Sydney epidemic.[617] George Turnley blamed the scheme's poor success rate on public apathy, indifference, the illness of one of the Public Vaccinators, the disinclination of Superintendents of Police to prosecute defaulters, and the paltry penalties imposed by the Magistrates on the few who were prosecuted.[618] An inquiry was made into the effectiveness of the Act, and the Government Statistician was required to present the number of vaccinations performed by Public Vaccinators and the cost of the Department for the years 1877 to 1885. Shortly afterwards a Bill to repeal the compulsory clauses was introduced and, although it was unsuccessful, it highlighted the concern that extensive vaccination programs did not produce sufficient benefit for the expense that they incurred.[619]

Countering this attitude was the fact that outbreaks, too, were expensive for the colonies. The first Tasmanian outbreak cost £7665 17s 6d, or £218 per case, to contain because of the need to erect buildings for isolation and treatment, and to communicate frequently with the other colonies.[620] The potential cost in the case of an outbreak or, worse, a sustained epidemic had to be weighed against the cost of preventive measures, including vaccination. The 1881 Sydney epidemic cost £84,143 to eradicate, and this caused the Victorian government to feel that £5000 per year spent on preventing that sort of outcome through compulsory vaccination might be a wise investment.[621] The cost of containing and eliminating the outbreak was not the full cost of an outbreak; the presence of smallpox had a negative effect on commerce in general. James Backhouse Walker, a Hobart solicitor and historian, described the effect of the 1887 Launceston epidemic in his journal:

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[616] 'Vaccination Law Amendment Bill', *VPD*, LC, 1874, Vol. 18, pp. 592-3; 'Vaccination Law Amendment Bill', *VPD* , LC, 1874, Vol. 18, pp. 634-6;'Vaccination Law Amendment Bill', *VPD*, LC, 1874, Vol. 19, pp. 744-5; 'Vaccination Law Amendment Bill', *VPD*, LC, 1874, Vol. 19, pp. 832-3; 'Vaccination Law Amendment Bill', *VPD*, LC, 1874, Vol. 19, pp. 940-1; Vaccination Law Amendment Bill', *VPD*, LC, 1874, Vol. 19, p. 1100.
[617] G. Turnley, 'The Vaccination Act, 1882: Report by the Superintendent of Vaccinations up to the 29th Day of August, 1883', *TPP*, 1883, No. 112.
[618] G. Turnley, 'Vaccination: Report for 1884', *TPP*, 1885, No. 26, p. 3.
[619] *TV&P*, HA, No. 14, September 16, 1886, p. 52.
[620] A. Mault, 'Central Board of Health: Report for 1887', *TPP*, 1888, No. 102, p. 6.
[621] 'Non-Compulsory Vaccination Bill', *VPD*, LA, 1895-6, Vol. 79, p. 3371.

> The country people won't come into the town, nor will they get supplies thence, for fear of infection being conveyed to them. …Trade is at an absolute standstill… the T.S.N. Coy's steamers are idle, and the N.Z. steamers have ceased for the present to call. All this means thousands a year loss to the colony. Moreover, the papers, H.A. Perkins, and the Board of Health, have made such a fuss about typhoid and smallpox, and been so persistently alarmist, that the idea is now universally prevalent in the other colonies, that Tasmania is thoroughly infected, and a dangerous place to come to. The consequence will be practically no summer visitors; and, the result will be most disastrous to shopkeepers, and lodging house keepers, and the crowds of other people, of one sort and another, who look to the summer as an opportunity of making a harvest out of the foreigners. This coming on the top of the prevalent depression will make this year a very hard one for everyone in business.[622]

Fear of smallpox caused significant economic consequences for affected towns, with wider repercussions for the whole colony. Outbreaks of this magnitude were extremely rare, however, and the success of other methods, such as isolation and disinfection, in controlling and eventually eradicating the epidemic in spite of low levels of vaccination only served to weaken the arguments for compulsory vaccination.

Although vaccination was the only preventive measure given much attention initially, other methods came to play increasingly important roles. Baldwin argued that, 'Universal vaccination, though a broader intervention than imposing quarantines at the borders, was cheaper and more cost-effective than the alternative.'[623] This may have been true of the European nations, which were small, densely populated and contiguous, and where smallpox was endemic, but had less resonance in the Australian colonies, where one of Baldwin's other ideas was more relevant. He argued that a country's 'topography', its geographical features, population and demography, could dictate its predisposition to certain forms of prophylaxis.[624] The increasing reliance on quarantine in the colonies, contemporaneous with Britain's move away from quarantine and towards medical inspection, has been well noted and Maglen argued that it was precisely because of Baldwin's topographical factors.[625] The colonies occupied two islands with only a handful of major ports, and most land based intercolonial traffic occurred along a limited number of arteries. Geographical

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[622] P.B. Walker (ed.), *Prelude to Federation (1884-1898): extracts from the journal of James Backhouse Walker, F.R.G.S., legal practitioner, historian, author* (Hobart: O.B.M., 1976), pp. 60-61.
[623] Baldwin, *op. cit.*, p. 534.
[624] Baldwin, *op. cit.*, pp. 222-226.
[625] A. Bashford, 'Quarantine and the imagining of the Australian nation', *Health* 2(4) (1998): 387-402; K. Maglen, 'A World Apart: geography, Australian quarantine, and the Mother Country', *Journal of the History of Medicine and Allied Science* 60(2) (2005): 196-217.

facts, especially those relating to distance, have long been recognised as central to much of Australia's history.[626] Added to these facts were perceptions of risk, intimately connected with any analysis of cost against benefit.

Maglen argued that the poor sanitary situation of the colonies compared to Britain, their lower rates of vaccination, and the fact that many infectious diseases were not endemic to Australia, but occurred only when introduced through international shipping, were factors that contributed to differences between the prophylactic choices of Britain and its colonies.[627] Smallpox, as was established in Chapter Two, was included within these exotic infectious diseases, but it was only one of many. The medical profession consistently, and the public periodically, supported vaccination, but it was a specific preventive only useful against one disease. Quarantine was useful against a whole range of infectious threats, and the colonies were ideally situated for its operation. Once started along that path, circumstances became self-perpetuating; failure to achieve universal vaccination contributed to greater emphasis on quarantine, but then better quarantine regulations contributed to falling vaccination rates. Frank Tidswell, in an address to the Australasian Association for the Advancement of Science in January 1898, directly attributed the neglect of vaccination in New South Wales to the system of quarantine used there, labelling reliance on it 'misguided'.[628] The problem with quarantine was that once it was breached, there was both panic about the spread of the disease and panic that restrictions would be placed on trade, and thus excessive faith in quarantine was a major factor in contributing to cycles of panic and apathy regarding vaccination.

In a similar way, the medical profession did not view preparations for isolation of smallpox cases and the disinfection or destruction of property as an alternative to compulsory vaccination, but rather as another line of defence. These methods were not preventive; they were a means of managing disease once it had overcome both quarantine and vaccination and established itself in the colony. As J.S.C. Elkington argued, in the wake of the 1903 Launceston outbreak, 'Isolation is only shutting the stable door after the steed is stolen. Vaccination is the lock which keeps the thief

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[626] G. Blainey, *The Tyranny of Distance: how distance shaped Australia's history* (rev. ed.), (Melbourne: Sun Books, 1982).
[627] Maglen, *op. cit.*, pp. 213-215.
[628] F. Tidswell, *A Brief Sketch of the History of Small-Pox and Vaccination in New South Wales* (read before the Australasian Association for the Advancement of Science, January 7, 1898), (Sydney: William Applegate Gullick, Govt. Printer, 1899), p. 5, 7.

out.'[629] Those opposed to compulsory vaccination, such as James Hume Cook, argued that isolation was more effective than vaccination and should therefore replace it.[630] Public health professionals, however, saw vaccination, quarantine, isolation and disinfection as complementary rather than competing. As Roe and Bashford have both noted, protecting the public health was often described in military terms, depicting it as an epic battle, and success depended on multiple lines of defence.[631]

Colonial medical men saw quarantine against smallpox as a necessary anachronism, outdated when judged by international standards, but indispensable considering the parlous state of vaccination.[632] It nevertheless remained the best means of preventing the introduction of infectious diseases from abroad. On an intercolonial level, however, quarantine measures proved more problematic, as there existed significant variation in the operation of quarantine between the colonies. In addition, throughout the 1880s there was a growing sense that quarantine between such closely situated colonies was nonsensical. The Australasian Sanitary Conference, held in Sydney in 1884, asserted that:

> The countries which together constitute Australasia are separated from the rest of the world by a barrier of time-distance which at present is of some practical value to them as against contagious disease. But, between themselves, no such barrier exists; intercommunication is easy, rapid, and constant; and although at present it may be possible occasionally for them to institute a kind of quarantine against each other, it is obvious that even now only very imperfect measures of that sort can be taken, while in the near future, increase of traffic will render even those impossible. Hence it appears absolutely essential that Australasia should for this purpose be regarded as one country.[633]

Retrospectively, this position seems almost self-evident, but it was one that had developed over time through the practical experience of implementing sanctions against each other. Discrepancies between the preventive and managerial measures adopted by each colony led to pressure being exerted to achieve a degree of equilibrium. These pressures usually manifested themselves in economic forms. All of the colonies would impose quarantine restrictions of ships arriving from

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[629] J.S.C. Elkington, *Vaccination and Common Sense*, (Hobart: Government Printer, 1903), p. 2.
[630] 'Non-Compulsory Vaccination Bill', *VPD*, LA, 1895-6, Vol. 78, p. 2483.
[631] M. Roe, 'The Establishment of the Australian Department of Health: its background and significance', *Historical Studies* 17(67) (1976), pp. 190-191; Bashford (1998), *op. cit.*, p. 394.
[632] *The Australasian Sanitary Conference of Sydney, NSW, 1884, Report, Minutes of Proceedings and Appendix*, (Sydney: Government Printer, 1884), p. 10.
[633] *Ibid.*, p. 3.

infected ports in order to protect their communities from the introduction of disease. This was more difficult between the colonies than between countries because of their relative nearness and interdependent trade. Victoria, possessing a more organised public health system and being generally more willing to engage in interventionist strategies, was usually quick to quarantine or impose strict medical inspection upon ships from its neighbours during smallpox outbreaks.[634] This caused serious problems for the other colonies. Alfred Mault blamed the high expenditure used to contain the 1887 Launceston outbreak partly on the actions of the other colonies regarding quarantine leading to exceptional postal and telegraphic expenditure.[635] This led him to argue strongly for the replacement of quarantine with medical inspection, based on the British model, although he was the only Australian health representative to hold this view.

The Tasmanian government did its best to convince the Victorians to relax the quarantine restrictions as the 1887 outbreak continued. On October 14, Chief Secretary Philip Oakley Fysh told the Victorian Chief Secretary in a telegram that 'quarantine going on satisfactorily. Disease well in hand.'[636] And, then, with increasing urgency, on November 11:

> Smallpox last Launceston case developed on Saturday 22nd ultimo, the only other case viz. at Evandale is completely isolated and all who were connected with the patient have been quarantined. Under these circumstances cannot you recommend to your Central Board of Health the adoption of such a regulation as issued in the New Zealand Gazette 24th October granting pratique to vessels carrying surgeons?[637]

The impact of such stringent regulations on commerce over a period of months was significant, and compromises were sought. During the 1881 Sydney outbreak, the secretary of W. Liddeley & Co., agents for the Australasian Steam Navigation Company, wrote to the Chief Secretary of Victoria and irritably noted that:

> Ever since small pox broke out in Sydney, we have had each ship examined, that is passengers and crew: prior to their leaving, and obtained from the Doctor a

[634] It did so against Sydney in 1877 (PROV: VPRS 1411/P0000/31) and 1881 (PROV: VPRS 1411/P0000/35) and Tasmania in 1887 ('Central Board of Health: Report for 1887', *TPP*, 1888, No. 102).
[635] 'Central Board of Health: Report for 1887', *op. cit.*, p. 6; A. Mault, 'Quarantine: memorandum by the secretary of the Central Board of Health', *TPP*, 1888, No. 90.
[636] PROV: CSD 87/9436-87/9744, VPRS 3992/P0000/203, file 9548.
[637] PROV: CSD 87/10641-87/10770, VPRS 3992/P0000/208, file 10654.

> certificate of health …the cost of same is considerable. We observe that the Bill of Health does not save the ship from being examined at your port.[638]

The Victorian authorities replied that, while the possession of a clean Bill of Health would not exempt the ship from inspection, it could certainly contribute to the Health Officer deciding to lessen the length of detention he considered necessary for the examination of all on board. In their efforts to protect their colony, and their commercial interests, from the introduction of smallpox, the Victorian authorities were largely unmoved by the inconveniences their actions caused for traders from other colonies.

New South Wales was more flexible in its approach to preventing the introduction of disease than Victoria. Although the outbreak of smallpox in Launceston in 1887 caused the New South Wales Central Board of Health to detain all vessels arriving from Tasmania in quarantine, these restrictions were removed as soon as they felt that the Tasmanian authorities were taking every reasonable precaution against the spread of disease.[639] Vessels would still be medically inspected at the entrance to the port, but if found to be free of any suspicion of infectious disease, then pratique would be granted as normal. The restrictions placed upon all Tasmanian shipping – not just that from Launceston – had such a negative effect on commerce that the Secretary of the Tasmanian Central Board of Health sent detailed telegrams to each of the colonial Boards of Health nearly every day, giving extensive descriptions of the epidemic and the actions taken to enforce isolation. This information was accompanied by repeated requests for a removal of restrictions.

The threat of disease from a neighbouring colony caused a great deal of communication between the various Boards, which worked to create a sort of moderating force between the colonies. In the case of the 1887 Launceston outbreak, not only did the Tasmanian Board frequently update the other colonies on developments, but the other colonies would notify each other whenever a change in the actions of the Board was implemented.[640] Once the New South Wales authorities began granting pratique to Hobart vessels (although still not those from Launceston), Victorian authorities found their own, more stringent regulations undermined, and relaxed quarantine to a degree as a

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[638] PROV: CSD 81/7660-81/8602, VPRS 3991/P0000/1275, file 7710.
[639] SRNSW, WSRC: CSD 5/4936, 28 September 1887, pp. 10-11; 5 October 1887, pp. 16-17.
[640] *Ibid.*, p. 17.

consequence.[641] Although this policy did not guarantee uniformity between the colonies, it allowed the colonies to influence each other's actions relating to health, and forced them to deal with threats within their own jurisdictions quickly and efficiently. Further, it caused individual companies to take health precautions to facilitate the granting of pratique, such as causing all crew members to be vaccinated. New South Wales and Tasmania's approach was motivated by pragmatism, whereas Victoria's was more consistent with medical advice, yet all demonstrated elements of commercial pressure informing their actions. While New South Wales and Tasmania were most concerned with minimising negative effects on trade immediately, Victorian authorities sought to avoid potentially worse consequences for the economy, should smallpox be allowed into the colony.[642]

The difference was, to a great extent, attributable to administrative factors; the Victorian authorities were prepared for instances in which intercolonial quarantine was deemed appropriate, whereas New South Wales and Tasmanian authorities responded to proximal threats in a more *ad hoc* manner. The centrality of administrative realities to the development of public health, and the complexity of this relationship, has been identified across a range of nations.[643] In India, for example, vaccination administration was extremely decentralised, with different systems operating even within presidencies.[644] Local administrators interpreted and implemented instructions according to a wide range of influences, from aetiology and ideology to local issues and practical constraints, which greatly limited the spread of vaccination coverage in the nineteenth century.[645] Further, the problems thus encountered resulted in prophylactic innovation, particularly regarding lymph production and preservation in tropical climates, which led to restructuring and adaptation of administrative structures that can only be adequately explained with reference to the particular variables and sequences of the Indian experience.

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[641] Walker (1976), *op. cit.*, p. 61.
[642] PROV: CSD 81/10949, VPRS3991/P0000/1236, file 10969.
[643] S. Bhattacharya, M. Harrison and M. Worboys, *Fractured States: smallpox, public health and vaccination policy in British India, 1800–1947* (Hyderabad: Orient Longman, 2005), pp. 26-64; Baldwin, *op. cit.*, pp. 344-354; G. Mooney, ' "A Tissue of the Most Flagrant Anomalies": smallpox vaccination and the centralization of sanitary administration in nineteenth-century London', *Medical History* 41(3) (1997): 261-290; E.P. Hennock, 'Vaccination Policy against Smallpox, 1835-1914: a comparison of England with Prussia and Imperial Germany', *Social History of Medicine* 11(1) (1998): 49-71; D. Brunton, 'The Problems of Implementation: the failure and success of public vaccination against smallpox in Ireland, 1840-1873' in G. Jones and E. Malcolm (eds.), *Medicine, Disease and the State in Ireland, 1650-1940* (Cork: Cork University Press, 1999): 138-157.
[644] Bhattacharya, Harrison and Worboys, *op. cit.*, pp. 26-27.
[645] *Ibid.*, p. 49; S. Bhattacharya, 'Re-devising Jennerian Vaccines?: European technologies, Indian innovation and the control of smallpox in South Asia, 1850-1950', *Social Scientist* 26(11/12) (1998): 27-66.

Similarly, prophylactic choices made by European countries were influenced initially by administrative realities, and the consequences of these initial decisions combined to produce reforming pressures. The absence of centralised administration of preventive legislation in London, for example, led to compulsory vaccination being included under the auspices of the Poor Law authorities, resulting in uneven implementation and significant public opposition, and ultimately contributing to the movement away from widespread compulsory and interventionist measures in England.[646] Ireland, despite possessing the same legislation as England, was significantly more successful in achieving high levels of vaccination because it utilised a more streamlined administration through the dispensary officers.[647] This approach was the result of the development of medical services and convenience, rather than any cogent planning. However, rather than replacing ideology with administrative imperatives as the guiding force behind the range of prophylactic choices made by states, this instead highlights the importance of assessing the contribution of the whole range of factors in their historical specificity.

In the Australian colonies, it was practical considerations, including administrative constraints, economic pressures and intercolonial pressures, that contributed to the decisions made by each colony regarding whether to implement compulsory vaccination or not. These initial decisions were crucial to the subsequent development of vaccination, and public health, policies. Moreover, smallpox and vaccination contributed to wider state developments, of a more national character. Practical experience of the working of quarantine, particularly in relation to smallpox, contributed to the movement of the colonies towards Federation in two ways: in the 'imagining' of a cohesive 'geo-body', as described by Bashford; and in the pressures that arose for uniformity of regulations between the colonies.[648] Quarantine became a recurrent subject of discussion between the colonies towards the end of the century, as the representatives strove to achieve uniformity.[649] Upon Federation, quarantine was the only public health power given to the Commonwealth in the Constitution. As the colonies moved towards a new, national identity, desire for uniformity in other aspects of public health policy increased as well, including vaccination. It was obvious that

[646] Mooney, *op. cit.*; Hennock, *op. cit.*
[647] Brunton, *op. cit.*, pp. 150-151.
[648] Bashford (1998), *op. cit.*
[649] M. Roe, 'The Establishment of the Australian Department of Health: its background and significance', *Historical Studies* 17(67) (1976), pp. 176-177.

compulsory vaccination had not been a success in the other colonies, and so James Hume Cook argued that it was necessary in Victoria 'to have the law made optional so as to bring it into line with the law in the other colonies'.[650] His argument failed at that time, but the aberrance of the Victorian position became increasingly obvious, and contributed to the eventual introduction of a conscientious objection clause in 1919. This clause was added to the Health Act 1919, as a result of the recommendations of a Select Committee appointed for the purpose which emphasised, in its findings, the desirability of bringing Victorian law into line with the other Australian states, as well as New Zealand and Great Britain.[651]

Practical factors, then, affected the course of compulsory vaccination in the Australian colonies. Economic considerations could both hinder the progress of public health initiatives and contribute to decisions to develop them, both within and between colonies. When economic concerns were combined with topographical imperatives, the suitability of the colonial situation to the operation of quarantine became increasingly apparent and, once begun, caused behaviours at the public and state levels that resulted in a self-reinforcing cycle of loss of faith in universal vaccination and increased reliance on quarantine. From this perspective, the state does not appear to be a grand agent of ideologically-driven policy, but rather acting in a reactive way, buffeted by competing demands, rebalanced at each new juncture. The absence of an overarching motivating force lent an impression of trial and error to the course of public health, and conferred especial significance to administrative experiences in determining developments. Practical considerations certainly influenced the detail of public health policies, within the limits set by political and social factors.

[650] 'Non-Compulsory Vaccination Bill', *VPD*, LA, 1895-6, Vol. 78, p. 2482.
[651] J.H.L. Cumpston, *Health and Disease in Australia: a history*, introduced and edited by M.J. Lewis, (Canberra: Australian Government Publishing Service, 1989), pp. 188-189.

4.7: Conclusion

The 'stateless germs' threatening states across the globe were only a small part of the public health equation. The idea commonly presented by contemporary anti-vaccinationists that it was a choice of 'lymph or liberty' was falsely dichotomous, and fails to acknowledge the range of responses engaged in and the complex interactions with liberalism. Although political ideology was frequently invoked as justification for responses to smallpox, it did not determine them. Nor did the colonies attempt to copy the example set by Britain without consideration for local conditions. Medical expertise provided a range of prophylactic strategies and offered opinions on the most desirable balance of approaches, becoming increasingly influential as expert positions within the state bureaucracy became entrenched in the structures of government. The administrative and statistical methods employed by the new public health professionals, too, became an integral part of the process of government, and contributed to the changes in preferred prophylactic strategies as the states pursued the goal of public order and regulation to avoid the problems associated with panic and epidemics.

However, individual decisions were ultimately dictated by prevailing conditions of geography, economics, administration and precedent, which had, in part, been influenced by British example, political ideology, medical expertise and public reactions. It is tempting to seek an underlying theme that explains why different states used different techniques in seeking to protect the public health but, as Maglen observed, 'whether it is through ideas of race or geography or ideology – too many anomalies arise in the face of such attempts.'[652] These anomalies can only be reconciled through a more nuanced approach, taking a wide variety of factors into consideration in combination with the order in which events occurred.

From such a perspective, the differences between the strategies implemented by each of the colonies become less obvious. The absence of a grand generalisation explaining the motivation of the colonial governments highlights the similarities between their situations and how easily the decisions that were made could have gone in a different direction. Had the New South Wales authorities had more money in the 1850s, they too might have attempted to implement compulsory

[652] K. Maglen, 'A World Apart: Geography, Australian Quarantine, and the Mother Country', *Journal of the History of Medicine and Allied Sciences* 60(2) (2005), p. 217.

vaccination, or had the Tasmanian government thought more deeply about the logistics of enforcing compulsion, they might not have passed the legislation in the first place.

The experience of working to protect the public from the ravages of smallpox had long lasting effects on the state. It contributed to the development of a national identity along geographical boundaries that were negotiated through the workings of prophylactic techniques. It also resulted in the growth of bureaucratic structures that privileged medical expertise and forged an important relationship between the state and allopathic medicine. Smallpox provided much of the impetus for public health development, and the operation of vaccination helped to clarify ideas about the extent of state responsibility for public health and the ways in which this goal could be achieved. Within this extended process of refinement, a range of strategies were imposed upon the people of New South Wales, Victoria and Tasmania, and the ways in which they responded to these impositions are examined in greater detail in the next chapter.

CHAPTER FIVE:
Vaccination and the Public

5.1: Introduction

Describing the responses of the public to compulsory vaccination presents a significant challenge, both because of the extreme range of these responses and the relative dearth of first-hand evidence for the 'average' citizen. The figures presented in Chapter Two provide some indication of how the populations of New South Wales, Victoria and Tasmania reacted to vaccination, but cannot be more than an indication because they are equally indicative of variations in a range of other factors. The most important of these were: the maturity and efficiency of the respective colonial organisational structures employed for the administration of vaccination programs; the bureaucratic statistical collection methods; a unified and influential medical profession; and the presence or absence of compulsory vaccination legislation or smallpox. The interconnected nature of all of these factors and community attitudes makes it difficult to interpret the figures, and the trends that they suggest, in any meaningful way in the absence of further information. It is therefore necessary to re-examine them in conjunction with evidence from other sources.

Much of the historiography of vaccination has focused on compulsory legislation and the resistance to it.[653] Barrow has suggested that a consequence of this focus has been a lack of distinction

[653] A. Beck, 'Issues in the Anti-vaccination Movement in England', *Medical History* 4 (1960): 310-321; R.J. Lambert, 'A Victorian National Health Service: state vaccination, 1855-71', *The Historical Journal* 5(1) (1962): 1-18; R. M. MacLeod, 'Law, Medicine and Public Opinion: the resistance to compulsory health legislation 1870-1907', *Public Law*, Summer 1967: 107-28, 189-211; M. Kaufman, 'The American Anti-Vaccinationists and the arguments', *Bulletin of the History of Medicine* 5 (1967): 463-478; T. Meade, 'Civilizing Rio de Janeiro: the public health campaign and the riot of 1904', *Journal of Social History* 20(2) (1986): 301-322; J.D. Needell, 'The *Revolta Contra Vacina* of 1904: the revolt against "modernization" in Belle-Epoque Rio de Janeiro', *Hispanic American Historical Review* 67(2) (1987): 233-269; D. Porter and R. Porter, 'The Politics of Prevention: anti-vaccinationism and public health in nineteenth-century England', *Medical History* 32(3) (1988): 231-252, pp. 236-237; N. Williams, 'The Implementation of Compulsory Health Legislation: infant smallpox vaccination in England and Wales, 1840-1890', *Journal of Historical Geography* 20(4) (1994): 396-412; P. Sköld, 'Offer and Request: preventive measures against smallpox in Sweden, 1750-1900', *Health Transition Review* ; A. Clark, 'Compliance with Infant Smallpox Vaccination Legislation in Nineteenth-century Rural England: Hollingbourne, 1876-88', *Social History of Medicine* 17(2) (2004): 175-198; J.E. Keelan, *The Canadian Anti-Vaccination Leagues, 1872-1892* (Ph.D. thesis: University of Toronto, 2004), pp. 16-18, 279-281; N. Durbach, *Bodily Matters: the anti-vaccination movement in England, 1853-1907* (Durham: Duke University Press, 2005), pp. 32-36, 41-47.

between non-vaccinating parents and anti-vaccinationists, in a manner comparable to contemporaries who labelled all non-vaccinating parents as 'lazy'.[654] A result of this conflation has been the temptation to be excessively dismissive with respect to the possible convictions of those non- or anti-vaccinating parents who, when faced with the imminent threat of epidemic smallpox, appeared to contradict their earlier stance by having their children vaccinated. The problem, Barrow argued, is that the parental weighing of risks becomes underrated.[655] By failing to recognise the import of changing circumstances, both the depth of parental responsibility and the range of potential responses are underestimated.

There is no doubt that compulsory smallpox vaccination was a contentious issue. Responses ran the full gamut from extreme anti-vaccinationism, through apathy and vacillation, to active embracing and promotion. The proportions of the population who occupied each position on that spectrum varied between colonies and over the course of the second half of the nineteenth century. The competing demands of medicine and politics were played out in the public arena, as the medical profession and the state attempted to regulate the behaviour of the population as a whole in regards to disease management. In focusing on the population, these elite groups failed to take into adequate account the ability of the individual, within certain parameters, to object or acquiesce to vaccination programs.

A factor contributing to this failure was the way in which information about the public was collected and organised. Both the state and the medical profession increasingly relied on statistical methods of describing and assessing policies or treatments, and the two fields overlapped in the discipline of epidemiology.[656] The aim of liberal governance was to produce self-governing citizens, whose behaviour would be regulated by the development of social norms and public opinion. The organisation of modern society, however, created a category of the population – the

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[654] L. Barrow, 'The Clashing Knowledge-claims in Nineteenth-century English Vaccination' in W. de Blécourt and C. Usborne (eds.), *Cultural Approaches to the History of Medicine: mediating medicine in early modern and modern Europe* (Basingstoke: Palgrave Macmillan, 2004): 171-191, p. 179.
[655] *Ibid.*
[656] G. Rosen, *A History of Public Health* (exp. ed.) (Baltimore: The Johns Hopkins University Press, 1993), pp. 148-152, 235-239; I. Hacking, 'How Should We Do the History of Statistics?' in G. Burchell, C. Gordon and P. Miller (eds.), *The Foucault Effect: studies in governmentality, with two lectures by and an interview with Michel Foucault* (London: Harvester Wheatsheaf, 1991): 181-196; M. Poovey, *Making a Social Body: British Cultural Formation, 1830-1864* (Chicago: University of Chicago Press, 1995), pp. 31-34; M. Poovey, *A History of the Modern Fact* (Chicago: University of Chicago Press, 1998); A. Bashford, *Imperial Hygiene: a critical history of colonialism, nationalism and public health* (Houndmills, Basingstoke: Palgrave Macmillan, 2004), pp. 8-9, 35.

working poor – who were seemingly unable to exercise self-government, and therefore required government from above.[657] To render the people governable, they were aggregated through numerical representation into abstract categories, causing the obfuscation of the individual and causing the concept of population to be simultaneously constructed and made the focus of attention.[658] The state provision of vaccination provided an opportunity for the description of the social body through figures and thus the vaccination debate exhibits the tensions between the individual and the community inherent to this system of government.

This chapter analyses the responses of the public by grouping them into pro-vaccination, anti-vaccination, and those who sat between the two extremes. Each group comprises a separate chapter which will identify the composition of the group, its arguments and motivations, building upon the data presented in Chapter Two. By examining the whole spectrum of responses, this section aims to avoid the conflation identified by Barrow, while assessing how the tensions between individual and population created within the vaccination debate were resolved by the public.

[657] A. Smith, *An Inquiry into the Nature and Causes of the Wealth of Nations* (New York: The Modern Library, 1937), pp. 3-16, 99-143, 669-680; Poovey, *Making a Social Body*, *op. cit.*, p. 34.
[658] M. Foucault, *The History of Sexuality, Volume One: An Introduction* (New York: Vintage Books, 1980), p. 139-145.

5.2: Pro-vaccinationism

The distinction, among pro-vaccinationists, between those who advocated compulsory vaccination and those who were merely personally in favour of the operation is an important one. Those people who were pro-compulsory vaccination, however, were the most vocal. In most cases, those who promoted universal vaccination sooner or later came to support compulsion, even if they harboured some ideological reservations, as the voluntary system demonstrated its inadequacies in practice. Hence, in this section, pro-vaccinationism is used to refer to those who advocated compulsory vaccination enforced by law.

Doctors dominated the pro-vaccination contingent, both in attempts to influence legislation and manipulate the general public. However, vocal non-medical pro-vaccinationists did exist, albeit in a minority. The most visible were those politicians who found vaccination to be compatible with their political aims. While many lay people sympathised with the pro-vaccination cause – especially during times of panic – few felt motivated to contribute publicly to the debate. This was due, at least partly, to the perception that it fell within the area of medical expertise, and for this reason, the few non-medical public pro-vaccinationists deserve further attention.

Alfred Joseph Taylor, for instance, was a librarian at the Tasmanian Public Library and a particularly enthusiastic lay participant in the vaccination debate.[659] He wrote two sizable pamphlets promoting vaccination, and several letters to the editor of the *Mercury* when it was topical.[660] He was an advocate of vaccination first, and of compulsion only as a secondary concern. Because of the reality of the situation, Taylor argued that vaccination had to be made compulsory under legislation: 'at least for those who are unable to protect themselves – the children of the State'.[661] Even after the passing of the 1898 Tasmanian Vaccination Act in which a conscientious objection clause was added, Taylor reiterated his conviction regarding the best means of ensuring the protection of the public:

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[659] M. Roe, 'Taylor, Alfred Joseph (1849-1921)', *ADB*, Vol. 6 (Melbourne: Melbourne University Press, 1976), pp. 246-247.
[660] A.J. Taylor, *Some Facts and Figures Relating to Vaccination Illustrating Errors of the Anti-Vaccinationists* (Hobart: Calder, Bowden & Co., 1891); *idem.*, *Is It Good to be Vaccinated?: some reasons for answering in the affirmative* (Hobart: Tasmanian News, 1903).
[661] Taylor, *Some Facts and Figures*, *op. cit.*, p. 20.

> The only effectual preventive of the disease, the only safeguard against the spread of the disease, if it does occur, is to be found in COMPULSORY VACCINATION. Under compulsory legislation, wisely and properly administered, we may hope to protect ourselves from the terrible and far-reaching effects of smallpox.[662]

This would, he believed, allow vaccination to be carried out in an organised and systematic manner, minimising stresses on the administration and thereby reducing risks. Ideally, everyone would vaccinate voluntarily, eliminating the necessity for state intervention. Ultimately, he believed that with 'our legislators… rests the responsibility, and with them must rest the consequences of neglect.'[663] Taylor had received little formal education, but demonstrated considerable enthusiasm on many issues, including free, secular and compulsory education, federation, capital punishment, as well as scientific and medical themes.[664] His participation in the vaccination debate was, then, not an expression of extraordinary passion for this particular topic, but rather was indicative of his character in general, as an inquisitive and outspoken contributor to public discourse.

Similarly, D. Kinnear Brown, who wrote *Small-Pox! A Treatise* during the 1881 Sydney epidemic, had wider publishing interests.[665] He was responsible for *Brown's Monthly: a humorous, literary and critical journal* and several yearbooks and almanacs regarding New South Wales.[666] His interest in public issues is reflected in his focus in *Small-Pox!* upon the Government's response to the outbreak. While he recommended the use of vaccination and revaccination as important tools for preventing the spread of smallpox, his main interest lay in critically analysing the role of the state in disease management, rather than in influencing the behaviour of the public.

One professional group who might have been expected to participate in the diffusion of smallpox vaccination in the colonies was the clergy. Particularly in Europe, the influence of clergy and the organisational structure of the parishes were frequently utilised as part of the pro-vaccination

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[662] Taylor, *Is It Good to be Vaccinated?*, *op. cit.*, p. 8. Emphasis in original.
[663] Taylor, *Some Facts and Figures*, *op. cit.*, p. 20.
[664] The Crowther Tasmaniana Library at the State Library of Tasmania holds an extensive collection of Taylor's writings.
[665] D. K. Brown, *Small-Pox! A Treatise* (Sydney: J.G. O'Connor, 1881).
[666] D. K. Brown, *Brown's Monthly: a humorous, literary and critical journal* (Melbourne: D.K. Brown, 1879-); *idem.*, *The History of the year: a record of the chief events and topics of interest from January 1 to December 31, 1884* (Sydney: John Woods & Co., 1885); *idem.*, *The History of the year: a record of the chief events and topics of interest from January 1 to December 31, 1885* (Sydney: George Robertson, 1886); *idem.*, *An Almanac and Guide 1885* (Sydney: John Woods, 1885); *idem.*, *An Almanac and Guide 1886* (Sydney: John Woods, 1886).

campaign.[667] The inclusion of the church in the popularisation of vaccination was credited with being partly responsible for the greater success of vaccination compared to inoculation. However, this did not occur in the Australian colonies, as parish structure was underdeveloped in the young colonies and did not have the same history of social functions as those in England, for example, limiting the potential utility of church organization. Further, use of the clergy in popularising vaccination was most common in the early nineteenth century and during this period the colonial populations were so small and dispersed that an organisational structure for vaccination was unnecessary. In colonial Australia, compulsory vaccination was constructed as an issue within the medical and state domains, largely exclusive of lay participation. These factors combined to preclude the church from similar involvement in the implementation of vaccination policy to that in other western countries. Although individual clergymen occasionally contributed to the vaccination debate from a personal perspective, the profession as a whole was not involved in the implementation of vaccination, nor debates surrounding it.

The few pamphleteers who can be identified as non-medical men, then, were exceptional individuals who were broadly interested in topical issues of the day and outspoken on a range of them. There is no evidence of anyone feeling sufficiently moved to publish a pro-vaccination pamphlet and nothing more, who was not a member of the medical profession. The effort and expense of such a venture, when there were plenty of other vocal proponents arguing the pro-case and most of whom were 'experts' on the issue, would have provided ample obstacles to prevent single-issue lay involvement at this level.

Far more common as evidence of vocal lay pro-vaccinationism were letters to the editors of newspapers. Pseudonyms were common, which makes identification difficult, but at least some of the contributors were non-medical men. In addition, newspaper articles representing the views of

[667] M.C. Nelson and J. Rogers, 'The Right to Die? Anti-vaccination activity and the 1874 smallpox epidemic in Stockholm', *Social History of Medicine* 5(3) (1992): 369-388, p. 373; P. Sköld, 'The History of Smallpox and its Prevention in Sweden', *Asclepio* 54(1) (2002): 71-91; *idem.*, 'The Key to Success: the role of Local Government in the organization of smallpox vaccination in Sweden', *Medical History* 44(2) (2000): 201-226; R.J. Lambert, 'A Victorian National Health Service: state vaccination, 1855-71', *The Historical Journal* 5(1) (1962): 1-18; G. Scarpelli, '"Nothing in Nature that is not Useful": the anti-vaccination crusade and the idea of *harmonia naturae* in Alfred Russel Wallace' *Nuncius* 7(1) (1992): 109-130; M. Pammer, 'Vom Beichtzettel zum Impfzeugnis: beamte, ärzte, priester und die einfürung der vaccination', *Österreich in Geschichte und Literatur* 39(1) (1995): 11-29; A. Gérard, 'Le Debut de la Vaccination Jennerienne dans le Department du Nord: accueil de la population', *Revue du Nord* 66(261-262) (1984): 557-573; Y-M. Bercé, 'Le Clerge et la Diffusion de la Vaccination', *Revue d'Histoire de l'Eglise de France* 69(182) (1983): 87-106; D. Fernández-Galiano, 'El Arzobispo Fonte y la Introduccion de la Vacuna en la Huasteca Mexicana', *Asclepio* 44(1) (1992): 291-308.

the paper were indicative of some currents of public thought on the issue. Of course, the degree to which public debate over vaccination could be carried out in newspapers was limited somewhat by the views of the editors, but the number of publications in existence meant that most views were catered for. The author of *The Vaccination Question*, for example, informed its readers that the *Daily Telegraph* and the *Tasmanian News* were inclined towards expressing anti-vaccination sentiment, that the *Mercury* allowed discussion on both sides of the debate (although usually ending by siding with 'medical orthodoxy'), and that the *Launceston Examiner* was the most staunchly pro-vaccination newspaper, although it too would sometimes admit to its pages 'contributions more or less damaging to the fashionable medical creed'.[668] Indeed, in June 1863, the *Mercury* announced that it had received an anti-vaccinationist article from 'W.P.C.', but refused to publish it on the grounds that it neither supported the *Mercury's* own views nor 'contained anything deserving of notice on the other side.'[669] The editors were 'rather disposed to strengthen the hands of the government, than to embarrass them.'[670] Arguments needed to meet a certain standard, determined by the editors, to warrant being presented before the general public, which underlines the important role played by the print media in mediating the messages of both sides of the debate.

Tasmania's reputation as the 'Sanatorium of the South' made it 'particularly expose[d]…to the dangers of visits from persons recovering from disease, or who have been mixing with the sick' and hence one anonymous correspondent to the editor of the *Mercury* urged the Government 'for more efficient legislation on the subject of vaccination, which, though nominally compulsory, is almost universally neglected.'[671] The author further noted that the outbreak in Sydney at that time had caused 'a little flutter, but chiefly on the part of the medical gentlemen who are more anxious to protect the people than the people are to be protected, showing that compulsion must be had recourse to.'[672] This specific observation of medical enthusiasm and lay ambivalence was also more generally true of responses to vaccination in the Australasian colonies throughout the late nineteenth century. Nevertheless, periods of panic inspired by the presence or threat of epidemic smallpox provoked some lay pro-vaccinationism in the pages of the colonial newspapers.

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[668] *The Vaccination Question: Lymph or Liberty? An attempt to educate a minister of education*, (Hobart: Calder, Bowden & Co, 1888).
[669] *Mercury*, June 25, 1863, p. 2, c. f.
[670] *Ibid.*
[671] *Mercury*, February 7, 1877, p. 2, c. c-d.
[672] *Ibid.*

Interestingly, the form taken by these persuasive pieces of pro-vaccinationism did not vary greatly across colonies or time. How vaccination worked had not been satisfactorily explained by science, nor was its action uncomplicated; its results demonstrated trends, but not straightforward causation. This state of affairs contributed to the longevity of the vaccination debate. The pro-vaccinationists consistently appealed to a standard set of evidence for their position, in an attempt to impress upon the general community the imperative of the operation. This consisted of: emphasising the potential devastation of an epidemic; using statistics to 'prove' the efficacy of vaccination; quoting the opinions of medical experts and others with extensive experience of smallpox; and recitations of the history of smallpox and vaccination.

A persistent theme was the belief of the pro-vaccinationists that the colonists, having experienced the extraordinary good fortune to have lived largely free from the scourge of smallpox, did not fully appreciate the vulnerability of their position nor the severity of the impact that smallpox would have on a poorly-protected population, should it gain a foothold. Christopher Rolleston, the Registrar-General whose report essentially caused New South Wales to be the only colony without compulsory vaccination legislation, believed that if parents knew of the dangers of smallpox and the real threat of its introduction to the colonies, they would happily vaccinate voluntarily.[673] However, more than two decades later, the *Age* lamented that little had changed:

> Surely those who are advocating a cessation of vaccination here are ignorant of or have forgotten what a frightful and loathsome disease it protects us from, and that in England alone it is estimated that 57,000 lives are annually saved by vaccination, to say nothing of the thousands who are also saved from frightful disfigurement or loss of sight and hearing.[674]

Similarly, Dr W.B. Carpenter attributed the questioning of the benefits of vaccination at least partly to the 'entire ignorance of the present generation, save the few who have specially studied the medical history of the last century, as to the ravages of small-pox, before the introduction of vaccination by Jenner'.[675] Acting to manipulate the public's baser emotions, and focussing especially on fear and panic as the emotions most likely to produce action, the pro-vaccinationists made every effort to keep the spectre of epidemic smallpox foremost in the minds of parents.

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[673] C. Rolleston, 'Vaccination. (Report of the Registrar-General.)', *NSWV&P*, LA, 1856-7, Vol. 2, p. 695.
[674] *Age*, 23 July, 1881, p. 7, c. d.
[675] *Age*, 4 August, 1881, p. 5, c. g-h.

The presumed devastation that was predicted to be the natural consequence of an unchecked smallpox epidemic in the colonies most frequently referred to the potential death-toll, as well as legacies of deaf, blind and hideously scarred survivors. However, once outbreaks had been experienced, another form of devastation presented itself. Although the outbreaks were minor by European standards, simply the presence of smallpox caused a great deal of anxiety in neighbouring colonies, and harsh quarantine sanctions were implemented on a number of occasions. These sanctions impacted heavily on the colony in general, and on the lives and liberties of a large number of individuals, with the result that the economic consequences of smallpox often caused a louder outcry than the merely physical. In a letter to the *Mercury*'s editor during the 1887 Launceston epidemic, 'Sentinel' argued that the extreme quarantine measures being implemented against the colony could have been avoided through universal vaccination, the neglect of which he attributed to the recent agitation for political ends of Edward Braddon, Minister for Lands, and his followers.[676] For an economy heavily dependent upon tourism, the bad press generated from the outbreak had devastating consequences even after the lifting of sanctions.[677]

Similarly, during the 1881 Sydney epidemic, 'Medicus' bemoaned the impact of smallpox upon commercial interests and argued that it was entirely preventable:

> To me, who am not a politician, nor a commercial man, it seems very ridiculous that our infant, but growing, commerce, should be stopped by the bugbear of "small-pox in Sydney." There is one way, and only one way, to get rid of this more than nightmare, and this is universal vaccination of all human beings in the colony, and insisting on those who may be born in it to be vaccinated before the age of 60 days.[678]

Although a significant incentive for universal vaccination, particularly from the 1880s onwards, economic considerations paled in comparison with the emphasis placed upon the predicted mortality of smallpox. Smallpox was described as a 'filthy disease', a 'foul and fatal disease', and

[676] *Mercury*, 15 October, 1887, p. 4, c. b.
[677] P.B. Walker (ed.), *Prelude to Federation (1884-1898): extracts from the journal of James Backhouse Walker, F.R.G.S., legal practitioner, historian, author* (Hobart: O.B.M., 1976), pp. 60-62.
[678] *Sydney Morning Herald*, 13 July, 1881, p. 6, c. c-d.

a ‘dire malady’, from which parents were urged to ‘protect your baby’ through vaccination.[679] Ryan’s 1881 pamphlet declared that ‘Only those who have been eye-witnesses of small-pox as it occurs in countries where vaccination is not enforced can have any idea of the loathsomeness and terrible fatality; or can form any just estimate of the boon conferred upon humanity by Jenner’s great discovery.’[680] Actually seeing smallpox was considered important, and medical practitioners usually gained some first-hand experience of it during their training in Britain. The lay population, it was argued, were being lulled into a false sense of security by the good fortune of the colonies. Verbal descriptions of the horrors of smallpox were used extensively, and illustrations in publications such as the *Australasian Sketcher* depicted scenes associated with a smallpox outbreak, although never the symptoms or victims themselves. Later in the century, photographs began to be used to great effect, by focusing precisely on those elements missing from the illustrations.

For example, *The History and Effects of Vaccination* was reprinted on several occasions complete with photographs of several cases from the Sydney outbreak taken by John Ashburton Thompson, some of which are shown in Figures 8 and 9, and Sandwith’s *The Value of Vaccination* included copies of his lantern slides for visual impact.[681] Cited in *The History and Effects of Vaccination*, Dr Drury argued that ‘Small-pox persuades them’ and in the absence of real smallpox, the emotionally confronting images of sufferers – especially those of distressed infants – possessed sufficient shock value to stimulate fear and hence support for vaccination.[682]

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[679] J.S.C. Elkington, *Vaccination and Commonsense* (Hobart: Department of Public Health, 1903), p. 3; O. Penfold, *Calf-Lymph Culture and Vaccination*, (Melbourne: Stilwell and Co., 1887), p. 4; *The History and Effects of Vaccination, with illustrations of cases of smallpox which occurred in Sydney from the Edinburgh Review, April, 1899* (Sydney: William Applegate Gullick, 1901), p. 1.
[680] J.P. Ryan, *Small-Pox and Vaccination* (Melbourne: Australian Health Society, 1881), p. 1.
[681] *The History and Effects of Vaccination, with illustrations of cases of smallpox which occurred in Sydney from the Edinburgh Review, April, 1899* (Sydney: William Applegate Gullick, 1901) and (Sydney: William Applegate Gullick, 1913); F.M. Sandwith, *The Value of Vaccination* (Sydney: William Applegate Gullick, 1913).
[682] *The History and Effects of Vaccination, op. cit.*, p. 18.

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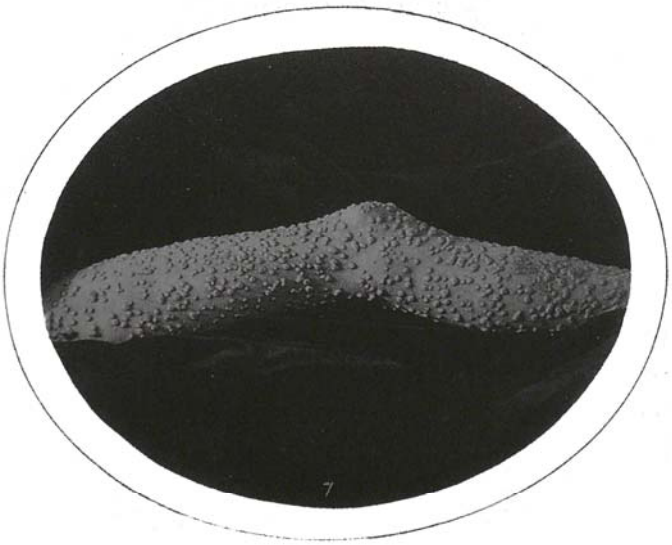

Variola discreta, 9th day of eruption.

Figure 8: John Ashburton Thompson's photographs of the physical symptoms of smallpox on the ninth day since their first appearance.[683]

[683] J.A. Thompson, *A Report to the President of the Board of Health, containing photographs of a person suffering from variola discreta, and accounts of the case* (Sydney: Government Printer, 1886).

Figure 9: Nurse with child suffering from discrete smallpox.[684]

[684] *Ibid.*

Maehle has argued that medical practitioners seized upon photographs for their 'supposed *objectivity* in representing reality', and Fox and Lawrence pointed to its lasting reputation as a faithful reproducer of reality.[685] While this belief was beginning to be qualified by 1900, it did not affect its use for clinical or didactic purposes. Maehle also noted the development of photographic conventions in medicine, as they changed from the conventions of general portrait photography to focus, by the late nineteenth century, on the symptoms of disease by having the subjects pose naked against neutral backgrounds, and often only the relevant body part was photographed. Thompson's photographs in Figure 8 demonstrate these characteristics, whereas Figure 9 more ably conveys the misery of the smallpox sufferer. Maehle argued that the development of such conventions could 'be interpreted as a reflection of a more and more somatic and localistic concept of disease, due to the growing influence of the natural and basic medical sciences on nineteenth-century medicine.'[686] On the other hand, it could also be interpreted as an attempt to medicalise the resultant image in an effort to avoid accusations of making a spectacle of suffering.[687] While this was more of an issue for particularly unusual abnormalities, the relative rarity of smallpox in the colonies combined with its considerable visual impact provided a level of freak value.

The use of shocking descriptions and photographs was not a sophisticated tactic; indeed, it was aimed at the ignorant masses who were 'toiling all day in a factory', and who had 'not learnt enough history, logic, or arithmetic to enable them to follow the arguments in support of vaccination'.[688] Sustained fear campaigns, combined with legislative compulsion, was considered by pro-vaccination leaders to be the best way to ensure the vaccination of the lower orders, although the former was generally described as 'education' designed to combat the ignorance of the poor. For the educated audience, 'history, logic, or arithmetic' regarding vaccination was abundantly available.

'Arithmetic' took the form of political arithmetic, or statistics. Hacking has described the 'avalanche of numbers, the incessant counting of social and biological facts, and the almost

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[685] A.-H. Maehle, 'The Search for Objective Communication: medical photography in the nineteenth century', in R.G. Mazzolini (ed.), *Non-Verbal Communication in Science Prior to 1900* (Florence: Olschki, 1993), p. 568. Emphasis in original. D.M. Fox and C. Lawrence, *Photographing Medicine: images and power in Britain and America since 1840* (New York: Greenwood Press, 1988), pp. 7-8.
[686] Maehle, *op. cit.*, p. 583.
[687] Fox and Lawrence, *op. cit.*, pp. 25-26.
[688] *The History and Effects of Vaccination*, *op. cit.*, p. 18.

insanely precise measures of physical quantities' of the nineteenth century as primarily a means of 'knowing' something about the given issue, motivated by a Benthamite desire for the greatest happiness of the greatest number.[689] Figures, like photographs, gave the appearance of objective truth, and provided the credibility of the scientific. Dr J. McCredie declared that the 'best of all proofs is experience and tabulated results.'[690] He was evidently not alone in this belief as most pro-vaccination pamphlets presented statistical evidence to support their claims of the efficacy of the operation as a preventive measure, initially from overseas sources and later from local epidemics, notably Launceston and Sydney.[691] One pro-vaccination tract concluded that the statistical evidence it provided 'conclusively proves the value both of vaccination and revaccination' and

> …ought to induce those who are endeavouring by means of leaflets, pamphlets, and unreasonable abuse, to prejudice persons unable to judge for themselves, to consider that they are incurring a serious responsibility in trying to mislead the public regarding an important and valuable remedy which has been the means of saving thousands of lives.[692]

Their faith in the power of numbers to illuminate reality was deep, and it is interesting to note that their force was not directed at everyone, but specifically at the leaders of anti-vaccinationism. That is, statistical 'proof' was aimed at an elite audience and not designed for popular persuasion, betraying an underlying assumption that, in the absence of the mischievous actions of the anti-vaccinationist leadership, the general public would happily cooperate with vaccination programs.

Over time, it became clear that vaccination was not the absolute protection that Jenner had claimed, and proponents of vaccination instead argued that it provided a mitigating force, that would probably spare the individual from infection, but if it did not, then the disease would run a modified course, with significantly less chance of death and permanent disability or extensive

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[689] I. Hacking, 'How Should We Do the History of Statistics?' in G. Burchell, C. Gordon and P. Miller (eds.), *The Foucault Effect: studies in governmentality, with two lectures by and an interview with Michel Foucault* (London: Harvester Wheatsheaf, 1991): 181-196, quotation p. 190.
[690] *Sydney Morning Herald*, 20 August, 1881, p. 3, c. f.
[691] The following examples represent only a small percentage of the total: *The History and Effects of Vaccination*, *op. cit.*; Penfold, *op. cit.*; *Vaccination. Facts about small-pox and vaccination* (Melbourne: Government Printer, 1898); Ryan, *op. cit.*; Taylor (1891), *op. cit.*; J.S.C. Elkington, *Vaccination and Commonsense* (Hobart: Department of Public Health, 1903); *Age*: 22 October, 1857, p. 4, c. d-e; 4 August, 1881, p. 5, c. g-h; *Sydney Morning Herald*: 30 July, 1881, p. 7, c. e; 1 August, 1881, p. 6, c. b; 25 August, 1881, p. 6, c. d-e; *Mercury*: 9 August, 1881, p. 3, c. g; 20 August, 1881, p. 2, c. b-d; 2 January, 1882, Supplement, p. 2, c. f; 1 November, 1886, p. 2, c. c-e; 24 October, 1887, p. 4, c. b.
[692] *Mercury*, 10 February, 1877, p. 3, c. d.

scarring. This line of reasoning reflected a wider shift, observed by Hacking, in that statistical thinking had contributed to the evolution of the perception of epidemics from 'deterministic scourge' to 'probabilistic contagion'.[693]

Far from weakening the pro-vaccination case, the cultural development towards indeterminism actually gave greater justification for compulsory vaccination. Robert Murray Smith, a liberal and ardent supporter of free trade, perhaps most effectively identified the crux of the matter when he examined the basis of compulsory vaccination during debate over a Non-Compulsory Vaccination Bill in Victoria. He argued that, as vaccination was not 'an absolutely complete defence', unvaccinated people continued to pose a threat – albeit reduced – to vaccinated people, as well as to themselves.[694] Thus, 'the liberty of the subject' argument did not apply, as the decision not to vaccinate risked the lives of others in addition to the life of the individual and therefore,

> Under these circumstances, a man had no more right to decline to be vaccinated than he had to keep a dung-heap within a short distance of his neighbours' windows. He was a danger to public health, and for that reason alone compulsory vaccination should be maintained.[695]

His argument was particularly sound as the anti-vaccinationists admitted that vaccination provided considerable protection against small pox, and pro-vaccinationists conceded that it was not a complete prophylactic. Compulsory vaccination offered the opportunity to redefine the boundary conditions so as to shift the probabilities in favour of health over disease.

Pro-vaccinationists, then, tried to publicise the advantages of vaccination using the language of probability. John Elkington, a public health expert, rather vehemently pushed vaccination using numerical evidence from the 1903 Launceston outbreak:

> Did it ever strike you that NO VACCINATED PERSON UNDER 20 YEARS of age took smallpox in that outbreak, while 28 of the UNVACCINATED UNDER 20 WERE ATTACKED AND 5 OF THEM DIED? Why was it that only 6 of the 24 vaccinated people who took smallpox had severe attacks, and only 4 of them died, while out of the 42 PERSONS WHO HAD NO VACCINATION MARKS, 35 HAD SEVERE ATTACKS, AND 15 DIED?[696]

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[693] Hacking, *op. cit.*, p. 189.
[694] 'Non-Compulsory Vaccination Bill', *VPD*, LA, 1900, Vol. 95, p. 1694-5.
[695] *Ibid.*
[696] Elkington (1903), *op. cit.*, p. 2. Emphasis in original.

He presented these, and many more, figures in order to assist parents in their 'duty to the community to come to a right conclusion.'[697] His condescending tone and liberal use of emphasis contributed to a sense that his figures were more impressive and conclusive than they really were, a quality that was particularly important at that time, as a conscientious objection clause was in force from 1898 in Tasmania. He supported his arguments with the weight of expert opinion, and emphasised the importance of first-hand experience of smallpox in assessing the credibility of witnesses. Doctors, nurses and officials of smallpox hospitals were among those who possessed 'the most accurate knowledge of the disease', and they were, he claimed, 'strikingly unanimous in advising vaccination', whereas anti-vaccinationists 'almost without exception' did not have much practical experience with smallpox. Elkington denounced the latter as 'the arm-chair generals who criticise the fight from the fireside.'[698] Anti-vaccinationists were thus dismissed as simultaneously ill-informed and cowardly.

The anti-vaccinationists were attacked even more directly in Taylor's *Some Facts and Figures Relating to Vaccination*, which he published so 'that the public may not be deceived by the specious arguments advanced by Anti-Vaccinationists', whom he regarded as 'well-intentioned but misguided individuals'.[699] Taylor critiqued the statistics used by anti-vaccinationists and offered plenty of his own, agreeing to a point with the well-known English anti-vaccinationist, Alfred Russel Wallace, whom he quoted as saying that 'the utility or otherwise of vaccination is purely a question of statistics'.[700] This point was not original to Wallace, as it had been regularly argued that the issue was one of statistics since its first articulation in the eighteenth century in relation to variolation. Representatives of both sides indicated that they believed that the question could be settled, that there was a 'truth' about the worth of vaccination and that it could be discovered through objective scientific and mathematical processes. As the medical profession failed to produce a sound theoretical basis for vaccination, they had to rely on empirical evidence, which could be difficult to interpret. Because of the nature of the human body and its afflictions, causation was difficult to determine, and confounding variables were plentiful. This meant that both sides could use statistics with apparently equal success.

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[697] *Ibid.*, p. 1.
[698] *Ibid.*
[699] Taylor, *op. cit.*, pp. 3, 5.
[700] *Ibid.*, p. 5.

Although Taylor focused much of his attention on statistical analysis of vaccination, he asserted that 'the masses pay little attention to statistics'.[701] He implied that, while figures were the best available form of evidence on this topic, only the educated upper classes could fully appreciate the worth of statistical evidence. For this reason, he believed that misrepresentations in words were no less damaging than the misrepresentations in figures that he had just exposed. The testimonials of experts were useful as tools to persuade 'the masses', but Taylor accused the anti-vaccinationists of selectively quoting medical men, to make them fallaciously appear to be undermining vaccination. The anti-vaccinationists, however, were not the only ones making use of expert opinion to substantiate their claims.

Expert testimony featured prominently within pro-vaccination arguments. High profile experts from around the world, although most frequently British, were quoted in support of vaccination. G. Fortescue's letter to the *Sydney Morning Herald* drew extensively on the work of James Marson, whom Fortescue described as 'one of the greatest English authorities on the subject'.[702] Marson was the chief surgeon at the Highgate Smallpox Hospital in London, and his testimony was used by many pro-vaccinationists, including J.S. Norrie, who also quoted from the work of Dr. Lankester, the coroner of Central Middlesex.[703] Dr Lauderdale, the Sanitary Commissioner for Bengal, was cited by A. Young in his letter to the editor of the *Mercury* as a contribution to the humanised versus calf lymph debate.[704] A report from Sydney, cautiously pro-vaccinationist, deferred to a representative body of medical authority:

> …let us hear what the London Royal College of Physicians has to say. First, that the disease terminates fatally to the extent of 35 per cent. in non-vaccinated subjects, while only one death in a hundred takes place where it has been applied. Secondly, disfigurement is the exception rather than the rule where the patient has been vaccinated. Such, then, is the latest testimony of a corps of the most experienced and distinguished practitioners.[705]

The words of medical men in Britain or India were valued more highly than local practitioners because of their greater experience with smallpox and because of the prestige associated with the

[701] *Ibid.*, p. 12.
[702] *Sydney Morning Herald*, 1 August, 1881, p. 6, c. b.
[703] *Sydney Morning Herald*, 25 August, 1881, p. 6, c. d-e.
[704] *Mercury*, 2 January, 1882, Supplement, p. 1, c. f.
[705] *Mercury*, 21 January, 1882, Supplement, p. 2, c. c.

larger and more established institutions. Taylor quoted medical experts, in conjunction with statistics, forcefully to present the pro-vaccination case. Appealing to well-known and respected authorities was especially useful to non-medical pro-vaccinationists as a means of strengthening the legitimacy of their opinions.

The arguments supported by these testimonies were straightforward, and only changed slightly over the course of the second half of the nineteenth century. Early proponents emphasised that vaccination properly performed was the only sure protection against smallpox, and compulsion was only thought necessary as a means of saving the ignorant and lazy from themselves. Later, as it became clear that even when adequately performed, vaccination failed to act as an absolute preventive, the pro-vaccinationists concentrated even more heavily on the necessity of compulsion to minimise the risk to all, vaccinated and unvaccinated.

The pro-vaccinationists consistently emphasised the welfare of the community in preference to individual liberty. This was done both explicitly, through the repetition of '*Salus populi suprema lex*' as a 'generally recognised principle', and implicitly, through the association of vaccination with public health.[706] Although liberal principles were important to many pro-vaccinationists, problems of liberty were avoided by framing any opinion other than pro-vaccinationism as misguided, ill-informed, erroneous, or the result of indolence. Worse, it was positively dangerous, as G. Henry Elliott, a surgeon from Evandale, Tasmania, argued: 'considering the enormously increased risks of contracting small pox that every unvaccinated person has, I deny the right of any one becoming the starting point of an epidemic which might be the cause of spreading the disease indefinitely'.[707] Benevolent compulsory legislation rescued those who did not have the capacity to understand this from failing to make the right decision in what was, to the pro-vaccinationists, no real choice at all.

Although one author believed that 'it is not the duty of the State to do for its subjects what they can do for themselves', he argued that 'If ever there was a cause in which the violation of this wholesome rule is justifiable, it most assuredly is furnished by the threatened approach of an

[706] *Mercury*, 1 November, 1886, p. 2, c. c-e.
[707] *Daily Telegraph*, 15 November, 1886, p. 3, c. g-h.

epidemic of small-pox'.[708] Similarly, the editor of the *Daily Telegraph* argued that 'for the Government to suspend or repeal the act till supported by a majority of the medical faculty, would be to render itself liable to grave charges of premature submission to popular agitation without regard to future contingencies, against which it was its duty to provide.'[709] Vaccination was presented as a moral responsibility of parenthood, and pro-vaccination authors were swift to denounce those who wavered:

> Any delay therefore on the part of parents in getting their children vaccinated will be most culpable and reprehensible, and they are both morally and legally bound to make use of the only available means to avert the threatened danger from their families.[710]

This tactic was essentially designed to inspire guilt and shame, and yet for those working-class families who strove to defend their respectability and responsible parenting, it was well aimed.

The use of history as a tool of persuasion was very similar to the use of expert testimony. While it perhaps did not hold up to the rigorous enquiry of the most intelligent and educated of audiences, this was not for whom it was primarily intended. The triumphalist histories that were produced of Jenner's discovery and the subsequent way in which vaccination swept across the globe were at pains to emphasise the progress of medicine towards triumph over the evil scourge of disease. Jones's *Small Pox & Vaccination* was essentially a work of history, and yet it was described as 'a forcibly written pamphlet', and one that 'should do good, and serve to stir the unthinking public out of its complacency'.[711] Ryan, too, used history to support his propositions, as did William Bell in his series of articles in the *Sydney Morning Herald*.[712] They were didactic, morally loaded and provided a beneficial education to the ignorant classes to assist them in making the correct choices. From the pro-vaccinationist perspective, once the 'facts' were presented, only one decision could logically be made, and continued anti-vaccinationism baffled many of them.

The introduction of conscientious objection clauses in Tasmania in 1898 and in Victoria in 1919 appears, at first, to be the loss of the pro-vaccination case. However, anti-vaccinationists generally

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[708] *Age*, 23 July, 1881, p. 4, c. h-i.
[709] *Daily Telegraph*, 13 July, 1885, p. 2, c. e.
[710] *Age*, 12 November, 1857, p. 5, c. f.
[711] R. Jones, *Small Pox & Vaccination* (Melbourne: Board of Public Health, n.d.).
[712] Ryan, *op. cit.*; *Sydney Morning Herald*, 22 October, 1857, p. 5, c. c-e; 4 November, 1857, p. 8, c. 1-c.

sought the total repeal of the compulsory vaccination laws, not merely their mitigation. The facility for conscientious objection, recommended in the Final Report of the Imperial Royal Commission into Vaccination in 1896, was a compromise supported by pragmatic pro-vaccinationists to allow the continuance of a law that inspired significant resistance.[713] The insistence that any legalised objection be 'conscientious' was necessary because, while the colonial governments did not want to threaten the success of their legislation by making martyrs out of those who truly believed that vaccination was prejudicial to the health of their child, neither did they want to allow mere laziness to reduce the overall efficacy of the vaccination programs. The existence of a compulsory law with the capacity for legalised conscientious objection demonstrated the responsibilities of the citizen to the state, to behave in ways that promoted and protected the public health, and the state to the citizen, to ask only what is just and to implement laws in an equitable manner.[714]

Following the passing of the 1898 Act, pro-vaccinationists in Tasmania exhibited considerable optimism that vaccination could finally be efficiently administered in that colony and achieve improved participation rates. Alfred Mault, Secretary of the Tasmanian Central Board of Health, noted that, in England, the conscience clause had been widely expected to negate the value of the Vaccination Act, but instead it was found that

> …the other new provisions have more than countervailed; for though about a quarter of a million "conscientious" declarations were made during the year, the effect of supplying calf lymph and domiciliary vaccination has been such as to increase the total number of vaccinations.[715]

The Board was convinced that once the appropriate regulations were approved by Parliament that the Tasmanian health authorities would be able to replicate the English success. Even after their early optimism failed to come to fruition and the 1903 Launceston outbreak highlighted the state's poor vaccination record, ardent pro-vaccinationists maintained their support for the compulsory law with provision for conscientious objection. John Elkington, who had been invited by the Tasmanian government to manage the 1903 outbreak, described the legislation's facility for

[713] 'Final Report of the Royal Commission Appointed to Inquire into the Subject of Vaccination', *British Parliamentary Papers*, 1896.
[714] Levi and De Tray applied a similar argument to conscientious objection and compulsory military service. M. Levi and S. De Tray, 'A Weapon Against War: conscientious objection in the United States, Australia, and France', *Politics and Society* 21(4) (1993): 425-464.
[715] A. Mault, 'Central Board of Health: report for the year 1898', *TPP*, 1899, No. 33, p. 9.

parental choice as 'a heavy responsibility, but I would not desire to have it otherwise. It is your duty to the community to come to a right conclusion.'[716] To Elkington and his fellow pro-vaccinationists, there was only one right conclusion, but it was important that parents came to it without coercion. Implicitly, of course, Elkington's argument suggested that in claiming a conscientious objection to vaccination, parents were actually declaring their irresponsibility.

The pro-vaccinationists appealed to science and progress, to moral responsibility and the public health. They believed that vaccination was effective against incursions of smallpox into the population, and on that basis desired its universal adoption. They furthermore believed it to be safe, and worked to make it still safer through technological advancements over time. Compulsion was initially advocated to overcome apathy, and later to combat anti-vaccinationism, and the loss of personal liberty it entailed was deemed justifiable by the good that it would afford society as a whole. Extant evidence suggests that the vocal proponents of compulsory vaccination were predominantly from the elite sections of society: public figures such as politicians and public health officials. Their insistence on compulsion as the only practicable means of ensuring universal vaccination was at least partly a function of their elite status, as it caused them to characterise non- or anti-vaccinating lower class parents as either ignorant or lazy. That is, they believed non-vaccination reasoning was necessarily faulty and therefore needed to be overcome by the superior knowledge and experience of their social betters, justifying any limitation of their liberty. The failure of the pro-vaccinationists to allow for the possibility of an informed and responsible decision to avoid vaccination alienated certain segments of the community and contributed to the rise of anti-vaccinationism.

[716] J.S.C. Elkington, *Vaccination and Common Sense* (Hobart: Government Printer, 1903), p. 1.

5.3: Anti-vaccinationism

Individuals who were opposed to the practice of vaccination were also, logically, hostile to compulsory vaccination legislation, and these were the most common type of anti-vaccinationists. However, there were instances of people who were personally in favour of vaccination who held serious reservations about the implementation of compulsion, and they perhaps have some claim to anti-vaccinationism as well.[717] This latter type of anti-vaccinationist became increasingly visible from 1881 onwards, and the most prominent examples were liberal politicians. There are problems with this approach, however. The colony of New South Wales proved to be resistant to the arguments of the pro-vaccinationists, but expended a great deal of money and effort in providing vaccination facilities for those citizens who chose to avail themselves of it, and in promoting the operation to encourage voluntary participation, especially during times of threat. Their opposition was significantly different in character to that of the former group, who were opposed to vaccination in totality. For this reason, this chapter differentiates between anti-compulsionists and anti-vaccinationists.

Many anti-vaccinationists used pseudonyms or remained anonymous, both on pamphlets and in letters to editors of newspapers. In some cases this was significant: 'A Father' was emphasising his moral responsibility to act in the best interests of his children, and 'Aesculapius Peripateticus' highlighted his medical credibility.[718] 'A Convert to Anti-Vaccination' was clearly a more direct personality, but others, like 'Growler', used names that were irrelevant to anti-vaccination.[719] Of those who did not hide their identity, the most prominent was John Le Gay Brereton in New South Wales. Having qualified in orthodox medicine in Britain, Brereton later converted to homoeopathic principles, and he established a successful practice in Sydney.[720] Although homoeopathists were to be found on both sides of the debate in the colonies, Brereton also exhibited attachment to other alternative practices, notably hydrotherapy. Durbach argued that anti-vaccinationism was a cause that consolidated pre-existing alliances between heterodox

[717] *Daily Telegraph*, 6 February, 1885, p. 3, c. f.
[718] *Mercury*, 19 August, 1881, p. 4, c. c; *Daily Telegraph*, 4 November 1886, p. 3, c. c; *Daily Telegraph*, 10 November 1886, p. 3, c. e; *Daily Telegraph*, 16 November 1886, p. 3, c. f; Aesculapius Peripateticus, *Cancer – a result of vaccination* (Melbourne: J.C. Stephens, 1898).
[719] *Mercury*, 6 November, 1886, p. 3, c. f-g; 28 August, 1881, p. 3, c. c.
[720] H. P. Heseltine, 'Brereton, John Le Gay (1827 - 1886)', *ADB*, Volume 3, (Melbourne: Melbourne University Press, 1969), pp. 227-228.

healthcare practitioners and, while there is some evidence to suggest that medical dissenters were often anti-vaccinationist, this link seems to have been weaker in the colonies than in Britain.[721] At least partly, this was the result of a significantly less virulent anti-vaccination movement, with fewer members. The Melbourne Branch of the British Union for Abolition of Vivisection – a movement with strong links to anti-vaccinationism in Britain – published a strongly anti-vaccinationist pamphlet entitled *Vaccination a Failure*, but not until 1946.[722]

At best the association with alternative practices was a trend rather than a clear connection, and many anti-vaccinators did not fit within its boundaries. For instance, John Morton, who wrote *Vaccination and its Evil Consequences*, was an allopathic general practitioner.[723] Of course, many anti-vaccinationists had no connection with medical practice of any variety. One pamphleteer identified himself only as 'An M.P.', and the members of the colonial parliaments who chose to introduce anti-compulsory vaccination legislation, most notably James Hume Cook, had no medical affiliations.[724] Thomas Oswin Button, who expressed his anti-vaccinationist feelings in a letter to the editor of the *Mercury* in 1881, was a farmer.[725] Another Hobart objector, the anonymous author of *The Vaccination Question*, was described by George Harrison, a fellow pamphleteer, as 'a Hobart journalist'.[726] Vocal anti-vaccinationists were overwhelmingly male, as were pro-vaccinationists, although they frequently directed their arguments explicitly towards mothers.[727]

There was little vociferous anti-vaccination agitation until the 1870s, and there was a marked increase during the 1880s that subsided, but did not disappear entirely, following the publication of the Final Report of the Imperial Royal Commission into Vaccination in 1896. With the introduction of a conscientious objection clause in Tasmania in 1898, agitation ceased in that colony, but flared again in Victoria and New South Wales in 1913, during the variola minor

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[721] N. Durbach, *Bodily Matters: the anti-vaccination movement in England, 1853-1907* (Durham: Duke University Press, 2005), p. 27.
[722] B.J. Parkinson, *Vaccination a Failure* (Melbourne: Ruskin Press, 1946).
[723] J. Morton, *Vaccination and its Evil Consequences, Cow-Pox and its Origin, Small-Pox, &c.* (Parramatta, NSW: C.E. Fuller, 1875).
[724] An M.P., *Compulsory Vaccination: weighed and found wanting. A array of Facts and Figures versus Fads and Follies* (Hobart: Propsting and Cockhead, 1888).
[725] AOT: RGD 37/1/40/820 (1881); *Mercury*, 6 September, 1881, p. 3, c. c-d.
[726] *The Vaccination Question: Lymph or Liberty? An attempt to educate a minister of education*, (Hobart: Calder, Bowden & Co, 1888); G. Harrison, *A Word to Legislators. Culpable Compulsion: a condemnation by competent authorities* (Hobart: Calder, Bowden and Co., 1889).
[727] See, for example, Morton, *op. cit.*

outbreak in Sydney. During this time, compulsory legislation was again proposed in New South Wales, causing vehement reaction from the anti-vaccinationists, which received support from a statistical report by G.H. Knibbs, the Government Statistician in Melbourne.[728] Using statistics relating to smallpox and vaccination in Australia and other countries, such as Britain and Japan, Knibbs concluded that vaccination caused more deaths than smallpox, and that it was ineffective as a preventive measure. After this point, vaccinations declined in Victoria, despite remaining ostensibly compulsory, until a conscientious objection clause was added in 1919 and implemented in 1920, leading to extremely low rates in all three states.

The arguments of the anti-vaccinationists were surprisingly uniform between the colonies and over time, and the types of evidence they favoured paralleled those used by the pro-vaccinationists. Their primary contention was that vaccination did not work as a preventive measure against smallpox. A Hobart 'M.P.' used examples, testimony and statistics to make a case for vaccination's 'futility as a prophylactic'.[729] By using these methods, he attempted to present his evidence as objective, factual, and unbiased by his personal feelings:

> A sincere desire to arrive at the real truth in a matter of so paramount importance as that of the physical well-being of the rising generation, has alone induced the compiler – himself a family man – to address himself to the task of collecting the array of arguments which will be found to exist against a continuance of the practice of Compulsory Vaccination.[730]

His own lack of expertise was mitigated by his use of expert testimony, his objectivity guaranteed by his use of statistical evidence, and his status as a 'family man' provided an untainted motivation for his interest.

Further, M.P.'s use of quotations from 'Medical and Scientific men' highlighted disunity of medical opinion, and undermined claims that vaccination was a reliable preventive measure; these were common themes in anti-vaccination and anti-compulsion literature.[731] As 'No Compulsion' wrote in a letter to the editor of the *Mercury* in 1881:

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[728] G.H. Knibbs, *Appendix to Monthly Summary of Australian Statistics: statistics of smallpox and vaccination in Australia and other countries, Bulletin No. 18* (Melbourne: Commonwealth Bureau of Census and Statistics, 1913).
[729] An M.P., *op. cit.*, preface.
[730] An M.P., *op. cit.*, preface.
[731] *Sydney Morning Herald*, 3 August, 1881, p. 6, c. a.

> The public have a right to expect when a law such as compulsory vaccination maintains among them proof of its undoubted efficacy as a remedy or preventive of one disease, and of its not being an introducer of others, both of which propositions, however, are subject of difference of opinion among doctors.[732]

Albert Fraser, the Honorary Secretary of the Deloraine Anti-Compulsory Vaccination Society, agreed that the worth of vaccination needed to be beyond reasonable doubt to justify compulsion, and argued that vaccination failed to meet this basic criterion. He used statistics and quoted medical men, both sourced from England, to support his case and concluded that:

> In the face of such strong opposition as is now being offered, it will be impossible to maintain compulsory vaccination much longer. It must be admitted that vaccination has not done for us what was expected of it. Small-pox is ever present with vaccination, and it is a most remarkable thing that it seems to keep away from the very places where the Vaccination Acts are systematically evaded.[733]

The argument that vaccination was ineffective for its designated purpose was echoed in both Sydney, by Brereton, and in Melbourne, by W.J. Miles, among others.[734] By stressing the disunity of medical opinion, they were subtly attacking the medical profession's claim to expertise. This aim was extended by suggestions that medical men could not be trusted to be impartial on the issue because of their financial interest in the matter.[735] More importantly, their arguments eroded the legitimacy of compulsion.

The primary proposition of ineffectiveness was supplemented by several secondary arguments. These were that vaccination was not only useless, but also dangerous, to health, and that smallpox was not the devastating scourge that the medical fraternity alleged it to be. The latter argument was designed to counter the panic that erupted each time smallpox threatened the colonies, causing parents who would otherwise have evaded the law, to have their children vaccinated. John Morton argued that smallpox mortality before vaccination had been artificially increased by poor treatment regimens and that, if left to run its natural course, it would be seen to be not nearly as dangerous as

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[732] *Mercury*, 19 August, 1881, p. 4, c. b-c.
[733] *Mercury*, 6 November, 1886, p. 3, c. f-g.
[734] *Sydney Morning Herald*, 18 July, 1881, p. 6, c. e-f; *Age*, 4 August, 1881, p. 5, c. f-g.
[735] *Can Disease Protect Health?: The "Age" and Vaccination, by one of the "Unscientific Mob"; The Case Against Compulsory Vaccination by A Physician* (Melbourne: A.H. Massina & Co., 1890); and An M.P. *op. cit.*; *Mercury*, 28 August, 1881, p. 3, c. c; *Daily Telegraph*, 2 November 1886, p. 3, c. a; 15 November 1886, p. 3, c. h; 16 November 1886, p. 3, c. f.

once believed.[736] John Le Gay Brereton supported this, and added that current treatments further reduced the threat, so that 'natural small-pox, under rational treatment, is not the terrible disease it once was, and is still supposed to be.'[737] This attitude was also represented in claims that smallpox was present in England permanently, and did not cause anywhere near the level of panic produced in the colonies, and by the frequent publication of 'cures' for smallpox and remedies to prevent pitting.[738] Further, vaccination was blamed, not only for failing to protect against smallpox, but for making people more susceptible to it by weakening the constitution and thus acting to increase the incidence of smallpox.

The former argument, that vaccination was actively dangerous, took several common forms: that vaccination was a poison, that it transmitted secondary diseases, and that it caused other diseases to appear in the vaccinated body. Characterisation of vaccine lymph as a poison ranged in severity from raising doubts over the quality, purity, provenance or variety of lymph used by vaccinators through to declarations that all lymph was 'septic poison'. George Harrison, for example, questioned the ability of legislators to make appropriate decisions on the issue: 'What do they know of vaccine lymph, its nature, origin, genesis, and history, the *rationale* of its operations, and its consequences?'[739] At the other extreme, John Morton argued that vaccine lymph was an animal septic poison, which worked to modify smallpox by impoverishing the blood and therefore removed the nourishment necessary for the disease to flourish.[740] While he did not deny that vaccination had the potential to modify smallpox, he argued that it did so at the cost of the human constitution. Similarly, a Melbourne pamphleteer denounced inconsistent defences of vaccination, and cried:

> …upon twaddle of this problematical character the colony is spending thousands of pounds, and its young life sapped by this insistence of a medical rite, fad, or dogma to poison the life blood of every infant, and, by so doing, lowering its vitality, and rendering it less able to resist the ordinary complaints incidental to childhood in all "civilised" communities.[741]

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[736] Morton, *op. cit.*, pp. iii-iv.
[737] *Sydney Morning Herald*, 4 July, 1881, p. 6, c. d; B. Wannan, *Folk Medicine* (Melbourne: Sun Books, 1977), p. 153.
[738] *Sydney Morning Herald*, 25 August, 1881, p. 6, c. d-e.
[739] Harrison, *op. cit.*, p. 3. Emphasis in original.
[740] Morton, *op. cit.*, p. iv, 5.
[741] *Can Disease Protect Health?: The "Age" and Vaccination, by one of the "Unscientific Mob"; The Case Against Compulsory Vaccination by A Physician* (Melbourne: A.H. Massina & Co., 1890), p. 6.

The use of the word poison to describe vaccine lymph was not merely a rhetorical device, but represented a popular understanding of health, infection and disease. As Worboys has pointed out, the development of theories of disease during the late nineteenth century was not continuous and cumulative, but rather was uneven, composite of competing factions, and evolutionary in nature.[742] 'Germ theory' was not a single, coherent theory; there were many theories that revolved around a central concept of germs, often revolving around ideas of 'seed' and 'soil'. Within this framework, the concerns of Morton and his contemporaries become increasingly rational. Far from comprising a lunatic fringe reliant on crank theories and fear-mongering, the colonial anti-vaccinationists were often intelligent and respectable members of society who harboured grave doubts about the safety of this operation being thrust upon the community, based on reasonable understandings of how the body worked.

This was even more evident in objections to vaccination based on the belief that it was a means of propagating diseases other than vaccinia, an objection raised by anti-vaccinationists in many different countries.[743] As Hobart anti-vaccinationist George Harrison argued, that 'disease can be, and often has been, introduced with Vaccination, and that any existing predisposition to disease is frequently excited thereby, no one at all versed in this controversy could honestly deny.'[744] Harrison was particularly insistent that vaccination was a means of spreading leprosy, but the operation was most frequently linked to syphilis, a disease that carried an intense social stigma. John Le Gay Brereton warned of the dangers:

> …contagious disease such as erysipelas, syphilis, leprosy, &c., are capable of being conducted from one subject to another by vaccination. It can be proved on the most reliable authority that wholesale syphilization has been so effected; nor indeed, can it be otherwise, when we bear in mind that syphilis, like other deadly animal poisons, can lie latent and undetectable for years, or even a life-time, in the system; and may yet, when conveyed to another subject, break out into activity.[745]

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[742] M. Worboys, *Spreading Germs: disease theories and medical practice in Britain, 1865-1900* (Cambridge: Cambridge University Press, 2000).
[743] Durbach (2005), *op. cit.*, pp. 97, 132-133; D. Arnold, *Colonizing the Body: state medicine and epidemic disease in nineteenth-century India* (Berkeley: University of California Press, 1993), p. 140; P. Baldwin, *Contagion and the State in Europe, 1830-1930* (Cambridge: Cambridge University Press, 1999), pp. 273, 284; F. Fenner, D.A. Henderson, L. Arita, Z. Ježek, and I.D. Ladnyi, *Smallpox and its Eradication* (Geneva: World Health Organization, 1988), pp. 263-264, 270.
[744] Harrison, *op. cit.*, p. 5.
[745] *Sydney Morning Herald*, 4 July, 1881, p. 6, c. d.

Furthermore, he argued that there was little hope of avoiding the transmission of secondary diseases through more careful or different types of vaccination. Lymph procured from calves or other animals was 'to leap out of the frying-pan into the fire', as he argued that infections from animals produced more terrible results in humans in the same way that diseases 'from a different race are more deadly than when derived from one of our own race.'[746]

The fear of transmission of secondary diseases was the most widespread concern associated with vaccination. Almost all anti-vaccination writings at least alluded to this possibility, with most making as much as possible out of this argument. Furthermore, it resonated with the public. George Turnley, the Vaccination Superintendent in Tasmania, noted some trends in anti-vaccination sentiment in his 1880 Report.[747] He argued that the belief of the majority of the poor that vaccination causes or transmits other diseases was so ingrained that only the imminent threat of contagion was sufficient to cause them to vaccinate their children. Similarly, Victorian politician L.L. Smith observed that there existed a 'prejudice against vaccination which arose from the impression that other diseases were introduced with the vaccine virus into the bodies of children'.[748] This was a very real and clearly reasonable fear for parents. Arm-to-arm vaccination could transmit a range of human diseases, including erysipelas, syphilis, and hepatitis.[749] Although this was recognised as early as 1814, it remained contested by most of the medical profession for the majority of the nineteenth century, who blamed the parents for unfairly attributing pre-existing conditions to vaccination.

At least partly to address these concerns, calf lymph was introduced to the colonies for mass vaccination purposes, and later glycerinated calf lymph became standard. The shifting between types of lymph, and the continual disagreement between medical men as to which kinds were safer than others, served to increase concerns about the safety of the operation in general and anti-vaccinationists took advantage of this uncertainty. There was widespread debate over the issue of whether vaccine lymph had deteriorated since the time of Jenner and lost its potency.[750] Claims that lymph was 'oozing fetid matter' sourced from 'the consumptive or glandered horse', that

[746] *Ibid.*
[747] G. Turnley, 'Vaccination: Report for 1880', *TPP*, 1881, No. 38, p. 3.
[748] 'Small-pox', *VPD*, Assembly Session 1872, Vol. 14 p. 590.
[749] Fenner, *et al.*, *op. cit.*, pp. 264-265.
[750] *Mercury*, 20 August, 1881, p. 3, c. a-e.

‘‘regenerated’ or animalised lymph’ could retain the syphilitic taint, and confusion over spurious lymph all served to exacerbate existing concerns.[751]

Vaccination was not only accused of transmitting disease, but of *causing* it. ‘Aesculapius Peripateticus’, for instance, posited that vaccination caused cancer and that it was responsible for the recent purported rise in the incidence of cancer.[752] He argued that it took cows four to five years to grow to adulthood, whereas people took around 21 years. Therefore, the more rapidly reproducing bovine material would ‘starve and kill’ the human constitution into which it was introduced, and, ‘although the process at first be slow, and the result be long deferred, may (ay, must) at length cause a cancer.’[753] He used two techniques to persuade his readers: first, he endeavoured to highlight his scientific credibility, and secondly, he utilised readers’ emotions of disgust by describing calf lymph as ‘a clear form of infected and corrupted lymph, virtually *pus*, a morbid product’.[754] This declinicised the operation and undermined any medical mystique. His aim was to undermine vaccination from the calf so as to subvert the operation as a whole: ‘Where the so-call human lymph is employed, Syphilis, Leprosy, and Tuberculosis follow in its train; and wherever calf-lymph is used, Tuberculosis and Cancer spread like a conflagration.’[755]

In his introduction to Aesculapius Peripateticus’s text, Ernst Mëyer made clear the relevance of his findings to the colonial context:

> In Victoria, Vaccination is compulsory, and for many years past has been extensively practised… Queensland is without compulsion. …In Victoria, the mortality from Cancer is undoubtedly getting larger, and this colony has the worst record in Australasia for Cancer; and Queensland the best.[756]

Mëyer further emphasised the author’s extensive experience in medical research and public health in both England and the colonies. Despite his anonymity, the word of ‘Aesculapius Peripateticus’ was to be taken as that of an expert of good Imperial standing, for parents to take appropriate notice of while formulating their opinion on vaccination.

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[751] *Age*, 4 August, 1881, p. 5, c. f-g; *Sydney Morning Herald*, 18 July, 1881, c. e-f; 12 July, 1881, p. 6, c. e-f.
[752] Aesculapius Peripateticus, *Cancer – a result of vaccination*, with introduction and notes by Ernst Mëyer (Melbourne: J.C. Stephens, 1898), p. 7.
[753] *Ibid.*, pp. 4-5.
[754] *Ibid.*, pp. 5-6. Emphasis in original.
[755] *Ibid.*, p. 7.
[756] *Ibid.*, pp. 2-3.

Evidence of anti-vaccinationism among the general populace is rarer. Some trends, however, can be discerned, the most significant of which is the rise of popular anti-vaccinationism during the 1880s. In the north of Tasmania, for example, there arose a number of Anti-Compulsory Vaccination Societies in the mid-1880s. The Launceston branch was the first to form, and deputations to Deloraine and Ulverstone soon founded branches in those towns.[757] The stated aim of these societies was to act to repeal the compulsory clause of the Vaccination Act and to help, when deemed prudent, with the fines of those prosecuted for non-compliance.[758] They attempted to achieve these aims by petitioning the local mayor, organising public meetings, and collecting a levy from members to defray expenses. One such public meeting in Launceston unanimously passed two resolutions:

> That in the opinion of this meeting vaccination is not proved to have a preventive or modifying influence upon smallpox, whilst it has been shown to be a vehicle for the spread of many dangerous and loathsome diseases.[759]

And:

> That this meeting sympathises with the sufferers from the present prosecutions under the Compulsory Vaccination Act, and is of the opinion that the time has arrived when that act should be repealed, and resolves that Parliament be petitioned for that purpose.[760]

Public meetings expressing popular concern regarding the practice of vaccination were not, however, always indicative of anti-vaccinationism. Although George Turnley noted widespread fear of secondary disease transmission as early as 1880, this did not mean that most people were therefore anti-vaccination.[761] For instance, a public meeting at the Hobart Town Hall was convened by the Mayor and held on 19 August, 1881, to discuss compulsory vaccination, and approximately 1000 people attended.[762] Although some anti-vaccinationists were present, and presented their cases, the main objective of the meeting was to obtain a supply of calf lymph with which to equip the public vaccinators so that all parents had the opportunity to choose which type of lymph they preferred their child to be vaccinated with. They desired that compulsion be suspended until this could be secured, but did not seek any more than this, indicating that, overall,

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[757] *Examiner*, 30 June, 1885, p. 2, c. e; 2 July, 1885, p. 2, c. f.
[758] *Ibid.*; *Daily Telegraph*, 6 February, 1885, p. 3, c. f.
[759] *Mercury*, 14 July, 1885, p. 3, c. d.
[760] *Ibid.*
[761] G. Turnley, 'Vaccination: Report for 1880', *TPP*, 1881, No. 38, p. 3.
[762] *Mercury*, 20 August, 1881, p. 3, c. a-e.

the people harboured significant concerns about specific aspects of vaccination, while being supportive of the operation in general.

This well-attended meeting demonstrated the very responsible interest of a significant number of ordinary people, negating contemporary arguments that non-vaccination was largely the result of apathy. Significantly, however, neither was it necessarily the result of anti-vaccinationism, as the conflation of non- and anti-vaccinating parents present in a proportion of the historiography would imply. In this instance, the majority of people were not even opposed to compulsion, as long as a choice of lymph was provided. The form of their discussion recognised the right of the state to legislate for the health of the population, while asserting the need for this legislation to be administered in a just manner. Further, the participants demonstrated a belief that public opinion had an important role to play in defining, assessing and moderating what constituted 'a just manner'.

However, over the subsequent few years, demonstrations of unequivocal anti-vaccinationism among the public increased in frequency. One important way in which ordinary people unequivocally expressed their anti-vaccinationism was through petitioning parliament, and this occurred in both Tasmania and Victoria on a number of occasions. In 1885, three petitions were presented to the Tasmanian Legislative Council regarding vaccination legislation. Two were against the compulsory clauses of the Vaccination Act, 1882, from the inhabitants of East and West Devon, with 157 and 411 signatures respectively.[763] The other called for the total repeal of the Act, with 564 signatures from the inhabitants of Launceston. The petitions argued that vaccination was not proved to be effective in preventing smallpox, whereas it had been proved, in their eyes to be a 'vehicle for the spread of many dangerous and loathsome diseases'.[764]

Although no legislative change occurred as a result of these petitions, compulsory vaccination continued to be debated. In 1886, an amendment repealing the compulsory clause was introduced, and during the discussion of this bill, Edward Braddon, Member for West Devon, noted that 'There were anti-vaccination societies in all parts of the colony, which were daily gaining in strength.'[765] However, Braddon was accused by his contemporaries of pursuing the repeal of the Compulsory

[763] 'Vaccination Act: petition for repeal of compulsory clauses', *TPP*, 1885, No. 131, p. 3.
[764] *Ibid.*
[765] *Mercury*, 22 October, 1886, p. 3, c. c-d.

Vaccination Act 'for political ends', as part of his strategy to further destabilise the Agnew government.[766] He therefore may have been overstating the prevalence of anti-vaccination societies to support his case. There were certainly Anti-Compulsory Vaccination Societies in Ulverstone, Deloraine, and Launceston, although there remains a dearth of evidence for others. Braddon's actions received vocal support in the north of the colony, with letters to the editor of the *Daily Telegraph* – acknowledged as the newspaper most favourably disposed to anti-vaccinationism – from self-described mothers and fathers in Scottsdale and Ringarooma, who argued their case predominantly in terms of the liberties of freeborn Englishmen and the inequity of 'class legislation', targeting the poor.[767]

In any case, the size and influence of the anti-vaccination societies were not sufficiently significant to warrant legislative change, and the bill lapsed. In 1888, a petition from 46 electors of Hobart asked the House of Assembly for the reintroduction of that bill, as they opposed compulsion, despite the 1887 outbreak in Launceston, which had caused considerable economic hardship for Hobart traders through harsh quarantine restrictions.[768] The timing of substantial anti-vaccination action in Tasmania coincided with that in the other Australian colonies and in Britain, suggesting that colonial anti-vaccinationism was not a purely localised reaction, but that the population were aware of international developments and were responding to events and ideas on a much wider scale.

By the late 1880s, a considerable number of parents were choosing not to vaccinate and, in doing so, were breaking the law. The Tasmanian authorities only sporadically enforced the relevant Act, but following the first smallpox outbreak in Launceston, the Government felt that it should be properly administered, at least for a while. Given the panic that arose as a result of this outbreak, and the disorganised and uninspiring official response to it, enforcing the compulsory clauses of the Act offered the government a highly visible means of convincing both intercolonial observers

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[766] P.B. Walker (ed.), *Prelude to Federation (1884-1898): extracts from the journal of James Backhouse Walker, F.R.G.S., legal practitioner, historian, author* (Hobart: O.B.M., 1976), p. 61; S. Bennett, 'Braddon, Sir Edward Nicholas Coventry (1829-1904)', *ADB*, Volume 7 (Melbourne: Melbourne University Press, 1979), pp. 378-380.

[767] *Daily Telegraph*, 2 November 1886, p. 3, c. a; 4 November 1886, p. 3, c. c; 10 November 1886, p. 3, c. e; 15 November 1886, p. 3, c. h; 16 November 1886, p. 3, c. f; 24 November 1886, p. 3, c. f-g. For more on the tradition of appealing to English liberties in Tasmania, see S. Petrow, 'A Case of Mistaken Identity: the Vandemonian Spirit and the law', *Tasmanian Historical Studies* 6(1) (1998): 22-32; *idem.*, 'Carriages and Scab: elite contention against the law in nineteenth century Tasmania', *Newcastle Law Review* 2(2) (1997): 70-91

[768] *TV&P*, HA, No. 47, 6 September 1888.

and local citizens that it was acting to control the spread of disease.[769] On 16 August 1888, returns of convictions between 15 April and 15 June were tabled in the Tasmanian House of Assembly, indicating that a concerted effort had been made over that period to prosecute parents who failed to vaccinate their children. Although the Tasmanian government did not control the municipal police, they received a great deal of support from the police on this issue. Vaccinators forwarded the names of parents whose children had not been vaccinated to the Superintendents of Police, who were to take proceedings against these parents. The Central Board of Health Interim Report for 1888 praised the police for their cooperation, noting especially the 'very complete' action taken by the Superintendents in Launceston, Campbell Town, Deloraine, Evandale, Fingal, Longford, Westbury, Emu Bay, George Town, Mersey, Russell and Selby.[770] Further, the Report noted that, in many cases,

> ...the number of fines imposed is very small in comparison with the vaccinations effected, showing how much intelligence has been displayed as well as zeal, and demonstrating that the real utility of the compulsory clauses of "The Vaccination Act" consists in the opportunity they give to capable officers to get the law obeyed without resorting to actual penal enforcement.[771]

The Board also noted that fining did not necessarily prevent parents having their children vaccinated subsequently, and cited as evidence 27 examples in which this had occurred.

During this period in 1888, 778 males and 14 females appeared on summons or were heard *ex parte*, and of these, 351 males and 10 females had their cases withdrawn by the prosecution, 103 males and 2 females had their cases dismissed, and 324 males and 2 females were summarily convicted or held to bail.[772] However, the District Court Records show that in the majority of cases outside Hobart, the child had already been vaccinated privately or the cases were adjourned to allow time for the child to be vaccinated.[773] Only a minority of the cases in this record were fined the 10s and court costs. Opposition to compulsory vaccination was strongest in Hobart, where vaccinations dropped to zero in 1889, reversing the earlier north-south division.[774] Whereas

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[769] For a detailed description of the official response to this outbreak see M. Roe, 'Smallpox in Launceston, 1887 and 1903', *Tasmanian Historical Research Association Papers and Proceedings* 23(1976): 111-148.
[770] Central Board of Health: interim report for 1888, *TPP*, 1888, No. 118.
[771] *Ibid.*
[772] *Statistical Returns of Tasmania*, (Hobart: Parliament of Tasmania).
[773] 'Record of Cases heard in District Courts, 1883-1894', AOT: LC 250/1/1.
[774] A. Mault, 'Central Board of Health: report for 1889', *TPP*, 1890, No. 25, pp. 18-19.

Launceston, Deloraine and East and West Devon had exhibited greater anti-vaccinationism than the south in the 1870s and early 1880s, in the wake of the Launceston epidemic, the northern towns acquiesced more readily and the area comprising Hobart, Bothwell, Hamilton, and New Norfolk became the seat of Tasmanian anti-vaccinationism.[775]

The renewed attention paid to prosecution for non-compliance in Tasmania was not received well by those members of the community opposed to compulsory vaccination. On the same day that the first month's worth of convictions was tabled, a petition was presented on behalf of 2428 signatories, asking that compulsory vaccination be repealed.[776] This was less than a year after smallpox had first appeared in Tasmania, demonstrating clearly that the low levels of vaccinations were not due to indifference or apathy but, at least to a significant degree, to a genuine and deeply held objection to the imposition of vaccination on the public by the government.

Public reaction to prosecutions in Victoria was another indication of growing dissatisfaction with the compulsory system. Anti-vaccination groups never made an appearance in Victoria, with L.L. Smith referring in Parliament to groups in England, but having to explain their nature, as if they were a foreign concept: 'In England, …there were societies called anti-vaccination societies, which had an aggregate of 20,000 members, all of whom were opposed to vaccination, chiefly owing to the prejudice which prevailed against the use of humanized lymph.'[777] Nevertheless, the public exhibited many concerns that corresponded with those of the English anti-vaccinationists. Durbach described how the repeated fining of English non-compliers sometimes led to imprisonment for debt, which served to increase anti-vaccination fervour, as it was considered unnecessarily harsh to gaol these parents with common criminals.[778] Further, the auctioning of anti-vaccinationists' property to meet their debts acted as a rallying point for supporters of the convicted non-complier.

Although to a much lesser extent, the Victorian experience did, in some ways, reflect that of England. The case of Joseph F. Peasley, for example, raised doubts about the fairness of the law. Peasley was fined five times for non-compliance with the compulsory vaccination law and then gaoled for non-payment of the fine, despite being quite ill and needing to be kept in the gaol

[775] *Ibid.*, p. 19.
[776] *TV&P*, HA, No. 35, 16 August 1888.
[777] 'Central Board of Health', *VPD*, LA, 1887, Vol. 55, p. 1238.
[778] Durbach (2005), *op. cit.*, pp. 99-102.

hospital.[779] In the Legislative Assembly, W.T. Carter took up Peasley's case, enquired of the Solicitor-General how many times one person could legally be fined for a single case of non-compliance with the Act and pressed for him to 'follow the well-recognised principle in the administration of British law of having all possible regard to conscientious scruples, even while the provisions of the law are carried out'.[780] The Solicitor-General, George Turner, replied to Carter's question by quoting the President of the Board of Public Health, who argued inflexibly that it was 'not a principle to accept a conscientious scruple as a sufficient reason for non-compliance with a plain duty positively imposed by law.'[781] However, Turner tempered the President's harsh message with an offer to take into account the particular circumstances of this case, and 'if a petition asking for the discharge of Peasley in the way of mercy was presented to the Governor, and the facts were found to be as stated, he would be happy to recommend His Excellency to comply with the request.'[782]

Prosecutions for non-compliance were relatively frequent in Victoria, and they contributed to the high levels of vaccination that colony enjoyed for the entire second half of the nineteenth century. However, the number of prosecutions increased towards the close of the century as anti-vaccination sentiment spread, and this caused some questioning of the validity of the compulsory nature of the Act. In July 1895, James Hume Cook enquired as to whether the Premier intended to 'amend the Health Act 1890 as to make vaccination optional instead of compulsory' for two reasons: first, 'the very unsatisfactory and utterly illogical position of the law with regard to the influx of persons from other colonies where vaccination was not compulsory,' and, secondly, 'the great dissatisfaction which prevailed among the general public'. [783] As evidence for the latter point, Cook cited 'the large number of cases brought before the courts, in which persons were summoned for the non-vaccination of their children, and in which the persons proceeded against preferred to

[779] Although Tasmanian anti-compulsory vaccinationists sometimes referred to imprisonment as a possible consequence of non-compliance, there is no evidence that this ever occurred in Tasmania. The compulsory clause of the act was so infrequently enforced that few dissenters were ever fined, let alone to an extent that imprisonment for debt was required, and it seems most likely that these anti-vaccinationists were influenced by events in Victoria, England and elsewhere. *Daily Telegraphy*, 14 July, 1885, p. 2, c. g-h.
[780] 'Vaccination', *VPD*, LA, 1892-3, Vol. 69, p. 438. Similar complaints were also expressed over the prosecution of David Andrade: 'Police', *VPD*, LA, 1892-3, Vol. 71, p. 3112.
[781] 'Vaccination', *VPD*, LA, 1892-3, Vol. 69, p. 438.
[782] *Ibid.*, p. 439.
[783] 'Public Health Act', *VPD*, LA, Session 1895-6, Vol. 77, p. 809.

pay fines, and even in some cases to go to gaol rather than permit their children to be vaccinated.'[784]

Cook pursued non-compulsory vaccination persistently between 1895 and 1900, forming a defining feature of his time in Parliament, but was never able to get his Bills passed sufficiently rapidly. Nevertheless, he represented a growing minority of Victorians who felt that compulsory vaccination was an unjust imposition of law. There were many among the anti-vaccinationists who echoed his concerns about the justice of compulsion, and many who appealed to 'the boasted English principle of fair play and the liberty of the subject' as a reason to abolish compulsory vaccination.[785] In the earlier expressions of objection, it was argued that:

> …vaccination either is, or is not an antidote against small-pox; if it is, let those who think so, get vaccinated, and thereby satisfy themselves they are out of danger, while those who like myself think the remedy worse than the chance of the disease remain unvaccinated. Surely we will not hurt you.[786]

Although it became increasingly clear that vaccination mitigated the risk of infection from smallpox, rather than providing total and lasting protection, appeals to liberty did not cease. Instead, they increased, because it simultaneously became apparent that there were other problems attendant on vaccination that had not been obvious at the start. A Tasmanian objector observed that recent agitation had described the 1881 Act as 'the most despotic that ever passed a body of men elected by a people, one opposed to the principle of British justice, attacking the liberty and conscience of the subject'.[787] The relative youth of the colonies denied their citizens much in the way of precedent, and given that there was a strong identification with the mother country of England, it was to be expected that ideals, especially the right of the free-born Englishman to protect himself from government intrusion, would be appealed to in contentious matters.

The issue of the liberty of the individual to make his or her own choices was most frequently utilised by Tasmanian anti-vaccinators. Those in New South Wales did not often need to, and Victoria's anti-vaccination movement was much less pronounced until the turn of the century.

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[784] *Ibid.* Imprisonment for debt incurred through non-compliance with the Vaccination Act seems not to have occurred in Tasmania, probably as a result of inconsistent and largely ineffective implementation of the Act.
[785] *Mercury*, 24 September, 1863, p. 2, c. e-f.
[786] *Ibid.*
[787] *Mercury*, 28 August, 1881, p. 3, c. a-e.

Tasmania also possessed a stronger tradition of opposition to state interference with the rights and liberties of freeborn Englishmen.[788] One Hobart pamphleteer reasoned:

> I know that it is a most unfair usurpation of my neighbour's rights, for he has as much right to judge for himself as I have to judge for myself. The question is not one on which any majority, however large, is justified in dictating to any minority, however small.[789]

Not everyone maintained such a rigid position, however. Tasmanian anti-vaccinationist pamphleteer George Harrison, reiterating English anti-vaccinationist politician J. Allanson Picton, established a set of conditions that needed to be present to justify compulsion:

1. No conspicuous difference of authoritative opinion as to the grounds of the enactment, and its practical effect.
2. Clear proof to the satisfaction, not merely of experts but of ordinary commonsense, that a serious public evil can be averted in the way suggested, and in no other.
3. Such a preponderance of assent to the law that its enforcement causes no considerable irritation.
4. No reasonable cause of offence to the individual conscience.
5. No invasion of inalienable responsibilities.[790]

Although he proceeded to conclude that all of the necessary conditions were absent from compulsory vaccination, Harrison at least allowed for the possibility of legitimate compulsion, which was necessary given the contemporaneous increase in compulsory legislation in other areas, such as education and contagious diseases.

Tasmania's experience of public discussion over the extent of legitimate compulsion was echoed in later arguments concerning compulsory vaccination in the neighbouring colony of Victoria. Ernest McCormick's 1913 attack, for instance, did not focus on the evils of vaccination so much as its inability to meet certain requirements; he argued that 'it should involve no risk and confer a complete and enduring immunity from small-pox' and doubted whether the 'State should countenance or encourage, far more enforce, a practice so profoundly open to question.'[791] Arguments based upon individual liberty were perhaps the strongest in the anti-vaccination arsenal, because they did not require their audience to agree with them on issues concerning vaccination

[788] Petrow (1997), *op. cit.*, pp. 71-2, 90-91.
[789] *The Vaccination Question*, *op. cit.*, p. 25.
[790] Harrison, *op. cit.*, p. 4.
[791] E. McCormick, *Is Vaccination a Disastrous Delusion?* (Melbourne: W.T. Pater & Co., 1913), pp. 4, 16.

itself, but merely their right to have opinions and to act as they believed to be right for themselves and their families.

Statistics, testimony, history and experience were all used by the anti-vaccinationists as components of their arguments. Their use of these categories of evidence differed from that of the pro-vaccinationists only in their rejection of the orthodox medical perspective. For example, Albert Fraser, the Honorary Secretary of the Deloraine Anti-Compulsory Vaccination Society, wrote a three part history of early vaccination that presented similar facts to those in pro-vaccinationist histories, but portrayed Jenner as a duplicitous and greedy villain, highlighting his monetary rewards and confusion over the source of lymph, whether cowpox or horse grease.[792] Fraser justified his approach by arguing that:

> The history of vaccination is very little understood. For generations from the highest to the lowest people have been taught to believe and take for gospel all that the doctors may say. But we are entering upon a more enlightened age, men are beginning to read and think for themselves, and will no longer be bound to accept the opinions of others contrary to their own conscientious convictions.[793]

Representative of many anti-vaccinationists, Fraser emphasised the ability of the individual to act responsibly, rejecting the right of medical experts to decide for everyone. Illustrations or photographs were not widely used in the colonies by opponents of vaccination, but written descriptions of the horrors it could entail produced a similar effect. Their use of expertise was more nuanced than that of the pro-vaccinationists; while they did not deny that medical practitioners had an important role to play in the vaccination debate, they refuted their right to claim decisive influence in all aspects of it. The anonymous author of *The Vaccination Question* summarised this position by dividing the debate into three questions, each falling into a separate category of responsibility: what is vaccination (a medical question which should be asked of a medical man); is it protective against smallpox (a statistical question to be resolved through figures); and should vaccination be compulsory (a state question to be answered by statesmen, moralists and philosophers).[794] In addition, several anti-vaccinationists pointed to the financial benefits that medical men stood to gain from compulsory vaccination, and used this to emphasise

[792] *Daily Telegraph*, 22 November 1886, p. 3, c. f; 23 November 1886, p. 3, c. g-h; 24 November 1886, p. 3, c. g.
[793] *Daily Telegraph*, 22 November 1886, p. 3, c. f.
[794] *The Vaccination Question*, *op. cit.*, p. 5.

the importance of balancing expert advice with alternative viewpoints. This attitude widened the scope for involvement in the vaccination debate without trivialising its significance.

Because of the close association between medicine and vaccination, and the strengthening link between medicine and science, there have been connotations of links between anti-vaccinationism and heterodox medical and anti-scientific beliefs.[795] However, these associations have perhaps been overstated, as both orthodox and heterodox practitioners were to be found on both sides of the debate, and anti-vaccinationists frequently used contemporary scientific techniques in their analyses and arguments.[796] To some extent, these associations are a product of nineteenth-century orthodox medical views that characterised those who failed to vaccinate as ignorant. This was, in turn, the result of the conflict between elitist and democratic epistemologies which were increasingly associated with the division between orthodox and heterodox practitioners and which have been echoed in historical scholarship.[797]

Keelan argued that Canadian anti-vaccinationists interpreted vaccination data using the same techniques as the pro-vaccinationists, and that their analysis differed only in their rejection of the principles of vaccination.[798] This is true of anti-vaccinationist arguments more generally. They employed the same categories of evidence as the pro-vaccinationists; it was not their techniques that differed, but the conclusions they drew from the data. Given the ambiguous nature of the evidence available, it was easy for a range of conclusions to be drawn, depending on the principles from which the individual interpreter was working.

The anti-vaccinationists, then, argued their case on both practical and ideological grounds, and used very similar categories of evidence to the pro-vaccinationists. By using the words of medical men and the language of science against them, those opposed to vaccination sought to undermine

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[795] R. M. MacLeod, 'Law, Medicine and Public Opinion: the resistance to compulsory health legislation 1870-1907', *Public Law*, Summer 1967: 107-28, 189-211; M. Bliss, *Plague: a story of smallpox in Montreal* (Toronto: Harper Collins, 1991), p. 212; N. Durbach, *Bodily Matters: the anti-vaccination movement in England, 1853-1907* (Durham: Duke University Press, 2005), pp. 32-36, 41-47.

[796] D. Porter and R. Porter, 'The Politics of Prevention: anti-vaccinationism and public health in nineteenth-century England', *Medical History* 32(3) (1988): 231-252, pp. 236-237; J.E. Keelan, *The Canadian Anti-Vaccination Leagues, 1872-1892* (PhD thesis: University of Toronto, 2004), pp. 16-18, 279-281.

[797] L. Barrow, 'The Clashing Knowledge-claims in Nineteenth-century English Vaccination' in W. de Blécourt and C. Usborne (eds.), *Cultural Approaches to the History of Medicine: mediating medicine in early modern and modern Europe* (Basingstoke: Palgrave Macmillan, 2004): 171-191.

[798] Keelan, *op. cit.*, pp. 115-119.

the credibility of the operation's proponents, while simultaneously strengthening their own. They believed that vaccination was either unsafe or ineffective, and that the potential benefits of universal vaccination were not worth the cost to individual liberty or health. Where the pro-vaccinationists emphasised moral responsibility to the community, the anti-vaccinationists focused on individual rights and the responsibility to one's own family, and in doing so, appealed to the presumed ideals of the English citizen, with which the colonists identified. Most importantly, they asserted their right to decide for themselves and rejected the idea that medical experts should make decisions for them and their families.

Like the pro-vaccinationists, the most outspoken anti-vaccinationists were of the educated middle and upper classes. The anti-vaccinationists, however, received a greater proportion of vocal support from the working classes, particularly during the 1880s. Even at its peak, popular support for the anti-vaccinationist cause never reached the intensity achieved by the movement in England. This was largely attributable to the obvious differences between England and the colonies in the implementation of compulsory vaccination: Victoria administered the legislation more consistently, Tasmania gave it up more quickly, and New South Wales never attempted the ambitious tactic. This leaves a large proportion of the population unaccounted for at this stage, as they could not fairly be categorised as either pro- or anti-vaccination.

5.4: Between Extremes

The introduction of a conscientious objection clause into compulsory vaccination legislation in England has been portrayed by some authors as a triumph of pressure group politics.[799] However, in examining the dynamics of the vaccination debate in Leicester – often cited as an exemplar of anti-vaccinationism – Fraser argued that the unpopularity of vaccination in Leicester was less a consequence of anti-vaccinationism than it was a result of the success of an alternative system of preventing smallpox.[800] The public assessed the risks of vaccination as greater than its benefits, in the light of the alternative means of prevention, focused on notification and isolation. This perspective shifts attention away from the vocal minorities and towards the bulk of the population, whose attitude towards vaccination was more practical than ideological.

With both the pro- and anti-vaccinationists using similar techniques and forms of proof in the attempts to convince the wider public of their respective cases, and both sides playing on the fears of parents surrounding the health and safety of their children, it is little wonder that most people sat somewhere between these two extreme positions. The vaccination statistics provided in Chapter Two show clearly that, left to their own devices, most people showed no clear allegiance to either faction, but rather vacillated depending on a range of factors.

Doctors, especially those most closely connected to state vaccination, consistently characterised these parents as 'careless', 'apathetic', and 'ignorant'.[801] Because they sincerely believed in the benefits offered by vaccination, these medical men found it difficult to understand how anyone could, in all good conscience, fail to take advantage of its provision by the state. They attributed low vaccination rates to 'a want of knowledge on the part of the public of the advantages of

[799] R.M. MacLeod, 'Law, Medicine, and Public Opinion: the resistance to compulsory health legislation, 1870-1907', *Public Law* (1967): 107-128, 189-211; N. Durbach, ''They Might as Well Brand Us': working-class resistance to compulsory vaccination in Victorian England', *Social History of Medicine* 13(1) (2000): 45-62; *idem.*, 'Class, Gender, and the Conscientious Objector to Vaccination, 1898-1907', *Journal of British Studies* 41(1) (2002): 58-83. Bashford has suggested a similar appraisal of anti-vaccinationism in the Australian colonies, A. Bashford, *Imperial Hygiene: a critical history of colonialism, nationalism and public health* (Houndmills, Basingstoke: Palgrave Macmillan, 2004), p. 51.

[800] S.M.F. Fraser, 'Leicester and Smallpox: the Leicester method', *Medical History* 24 (1980): 315-332.

[801] See, for example, E.S.P. Bedford, 'Small-pox. Enclosure in His Excellency the Lieutenant-Governor's Message No. 22', *TPP*, 1853, No. 58; G. Turnley, 'Vaccination: report for 1884', *TPP*, 1885, No. 26, p. 3; A. Savage, 'Vaccine Institution', *NSW V&P*, LC, 1848; C. Rolleston, 'Vaccination. (Report of the Registrar-General.)', *NSWV&P*, LA, 1856-7, Vol. 2, pp. 693; R. Greenup, 'Vaccination', *NSWLCJ*, 1865, p. 699; F. Campbell, 'Vaccination', *NSWLCJ*, 1867-8, Part 1, No. 66, p. 829; T.P. Anderson Stuart, 'Vaccination', *NSWLCJ*, Vol. 50, 1892-3, Part 2, p. 171.

vaccination and re-vaccination' and a lack of understanding of 'what the effect of an outbreak of small-pox would be, did it get beyond control'.[802] Further, they dismissed parental concerns about secondary diseases with reference to the lack of understanding of mothers, and their propensity to confuse *post hoc* with *propter hoc*.[803] Although they blamed the anti-vaccinationists for spreading doubt and shaking faith in the value of vaccination, they did not believe this situation to be irreversible or the objections too deeply held, because it was early observed that the immediate threat of an epidemic caused the majority of parents to get their children vaccinated.[804] They therefore believed that public participation in vaccination programs was simply a matter of education, and that once there was a general understanding of the 'facts', all parents would voluntarily take part. It was, from the medical perspective, 'unnecessary to do more than to awaken the attention of the adult community to the extreme importance of taking steps which will obviously be so conducive to their own personal safety.'[805]

The medical profession in Tasmania tried to use health education to encourage the public to conform to the Compulsory Vaccination Acts, in the absence of enforcement through prosecutions. The profession in New South Wales, without any relevant legislation at all, relied almost entirely on public education to improve uptake. Richard Greenup, the New South Wales Vaccination Superintendent, noted in 1858 that 'Almost all the Vaccinators complain of the apathy of parents', and he attempted to address this situation by publishing John Simon's letter on smallpox to the London General Board of Health.[806] He described it is 'such a mine of information, and so full of valuable statistics, that it leaves nothing to be desired'.[807] Traditional health education focused on individual responsibility for disease prevention and relied upon professional expertise to define the healthy, and consequently only legitimate, choice.[808] Representatives of the medical profession, then, saw vaccination as the only logical course of action, when in full possession of the facts, and protest or dissent was irrational or ignorant action.

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[802] *AMG*, November 1881, p. 20-21; February 1884, p. 110.
[803] *Sydney Morning Herald*, 19 February, 1869, p. 3, c. d.
[804] A.J. Taylor, *Is It Good to be Vaccinated? Some reasons for answering the question in the affirmative* (Hobart: Tasmanian News Office, 1903), p. 8; *AMG*, August 1892, pp. 328-9; E.S. Hall, 'Officer of Health: report, New Town, Sandy Bay, and Wellington', *TPP*, 1878, No. 23; E.S.P. Bedford, 'Vaccination', *NSWLCJ*, 1874, p. 195.
[805] W. Champ, 'Small-Pox. Report from the Select Committee appointed to take into consideration His Excellency's Message, No. 22', *TPP*, 1853, No. 77.
[806] R. Greenup, 'Vaccination', *NSWV&P*, LA, 1858, Vol. 3, p. 1250.
[807] *Ibid.*
[808] D. Gastaldo, 'Is Health Education Good for You? Re-thinking health education through the concept of bio-power', in A. Petersen and R. Bunton (eds.), *Foucault: Health and Medicine* (London: Routledge, 1997), p. 117, 113-133.

For this reason, the medical profession were completely baffled by the public's continued failure to increase uptake of vaccination during non-panic years, which is expressed in the vaccination statistics for New South Wales and Tasmania. Pamphlets were written, personal influence was utilised, and entire societies dedicated to the sanitary education of the public were formed, and still voluntary rates of vaccination remained low in years in which the threat of smallpox was not apparent, and even, in some later cases, when it was. The majority of the population appeared to vacillate on the issue of vaccination; avoiding it for the most part, yet clamouring for it when smallpox threatened. Were they lazy, or ignorant, as contemporary medical observers described them? Or were they anti-vaccination, but with only shallow convictions, as suggested by some historical scholarship?

Beck has provided a perspective that goes some way towards explaining this conundrum, by arguing that 'protests, fears, criticism, or resistance' are not a '*pure problem of information*'.[809] By defining themselves as health experts, the medical profession tried to arrogate the right to prescribe behaviours for others by virtue of logic. However, this attitude was founded on the premise that all of society approached decision making from a similar perspective, and this was patently untrue. As Beck argued:

> Even in their highly mathematical or technical garb, statements on risks contain statements of the type *that is how we want to live* – statements, that is, to which the natural and engineering sciences *alone* can provide answers only by overstepping the bounds of their disciplines.[810]

Applied to this case, this means that both the problematic status of smallpox and the perception of vaccination as either a potential answer or a further problem were social constructs and not facts, no matter which experts declared them to be so or how many statistics were provided. Hence, efforts to educate the public about the dangers of smallpox or risk statistics could not convince those who understood the basic categories of health and disease differently from the dominant theories of orthodox medicine.

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[809] U. Beck, *Risk Society: towards a new modernity*, trans. Mark Ritter (London: Sage, 1992), p. 58. Emphasis in original.
[810] *Ibid.* Emphasis in original.

The decision of whether to vaccinate or not was essentially reducible to an analysis of risk, balancing perceived costs and benefits. The term 'risk' was rarely used in the nineteenth-century medical literature, arising in its modern form in the mid-twentieth century.[811] However, the concept of balancing benefits and dangers was clearly observable in eighteenth-century debates over smallpox inoculation, and this precedent established the idea that the balance of benefits and dangers could be assessed using mathematics. Further, it closely associated the evaluation of smallpox prevention techniques with risk assessments. Arguments, both for and against vaccination and compulsion, were framed in these terms and the word itself was occasionally used to refer to the probabilistic nature of contracting disease.[812]

From an orthodox medical perspective, the benefits of vaccination clearly outweighed the costs, but the profession failed to take into account the subjective nature of risk. Hobson-West noted that vaccination is viewed as particularly risky because 'vaccination is about children and the vulnerable, parents have a lack of control over the outcome, the benefits are unclear and difficult to see or quantify, and damage is potentially long term or fatal.'[813] Although she was referring to the present day, this view is equally applicable to the situation in the nineteenth century; perhaps even more so, as the role of the state in protecting the weaker members of society was developing during that period, and there was a greater sense of individualism.

Because of the emotional dimension of vaccination, trust in the local medical man was especially relevant to individual decision-making processes. Hamlin, noting that the crucial problem of all public health initiatives was that they involved 'the imposition of the will of some on the doings of others', argued that the reception of these initiatives by the public was governed less by the nature and magnitude of the intervention than by the identity of the intervener and 'the prior relations between the agents of those programs and the recipients of their actions.'[814] The importance of this relationship is clear in the case of the English vaccination program, in which the program was

[811] T. Schlich, 'Risk and medical innovation: a historical perspective', in T. Schlich and U. Tröhler (eds.), *The Risks of Medical Innovation: risk perception and assessment in historical context* (London: Routledge, 2006), pp. 3-7.
[812] See, for example, *Daily Telegraph*, 15 November 1886, p. 3, c. g-h.
[813] P. Hobson-West, 'The Construction of Lay Resistance to Vaccination', in I. Shaw and K. Kauppinen (eds.), *Constructions of Health and Illness: European perspectives* (Aldershot: Ashgate, 2004), p. 96.
[814] C. Hamlin, 'Review: Peter Baldwin. *Contagion and the State in Europe, 1830-1930*', *Bulletin of the History of Medicine* 75 (2001): 137-139, p. 138.

viewed with suspicion because of its operation by the Poor Law authorities.[815] Similarly, its influence was clear in instances where vaccination was performed by medical students in the Hobart General Hospital, an institution with connotations of care for the destitute and involving the submission of one's bodily health to those not yet fully qualified in their profession.[816] Even from a more general perspective, past experience was influential in the public acceptance of interventions. In Victoria, where the vaccination program was operated continuously, consistently and efficiently, administrators encountered less resistance than in Tasmania, where it was operated inconsistently and enforced only sporadically, or New South Wales, where attempts to make it compulsory were only attempted relatively late in the nineteenth century.

Resistance to vaccination has been attributed, at least partly, to a lack of trust in the medical profession and science generally.[817] This is not to suggest that opposition to vaccination was a result of straight-forward anti-scientific feeling. Both pro- and anti-vaccinationists appealed to medical experts and scientific objectivity as proof of their claims, and so there was no one set of 'facts' that could be clearly defined as 'scientific'. Medical opinions varied widely; it was common to ask 'When doctors differ, who is to decide?'[818] This contributed to a cultural distrust of experts, and combined with the presence of such a wide range of alternative health practitioners, passive acceptance of the allopathic position was never a foregone conclusion.

Pro-vaccinationists accused parents of not understanding the horrors of smallpox, and that it was this failure on their part that led to complacency. However, the reaction to the actual presence of smallpox indicates the contrary and that, if anything, the public overestimated the potential damage that smallpox was likely to cause. Tisdall's account of the response of the small gold-mining community of Walhalla, in the Gippsland region of Victoria, to the presence of a case of smallpox in their midst in 1868 demonstrated clearly that real, as opposed to threatened, smallpox resulted in great distress and extreme measures for its containment.[819] He also made it clear that vaccination was embraced with hope, but not relied upon. The township was composed primarily of miners,

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[815] G.K. Behlmer, *Friends of the Family: the English Home and its Guardians* (Stanford: Stanford University Press, 1998), pp. 84-88; N. Durbach, *Bodily Matters: the anti-vaccination movement in England, 1853-1907* (Durham: Duke University Press, 2005), pp. 5, 94-99.
[816] 'Vaccination. Report from the Select Committee', *TPP*, 1863, No. 90.
[817] *Ibid.*, p. 98.
[818] *Mercury*, 20 August, 1881, p. 3, c. b.
[819] H.T. Tisdall, *A Tale of Old Walhalla: how we fought the smallpox in Walhalla* (Moe: Advocate Print, 1965).

and these presumably burly men were the ones who exhibited the greatest fear of the disease and threatened violence when isolation was broken or it was suggested that a corpse be carried through the town to reach the cemetery.[820] Everyone was vaccinated but even with this precaution taken, the residents were still extremely reluctant to relax any of the sanitary defences, and the four men who carried the corpse to its burial place required 'liberal offers of reward' and to be 'well primed within with whisky and without with carbolic acid'.[821] It was therefore not a failure to appreciate the consequences of smallpox that caused low uptake of vaccination.

Given the concerns that were expressed so frequently about the safety of vaccination, in all its forms, it seems more likely that the risk presented by hypothetical smallpox dimmed when compared to the perceived risk presented by actual vaccination. This equation was weighted differently when the smallpox shifted from the hypothetical to the actual. Similarly, the benefits of vaccination were perhaps not especially compelling in the absence of smallpox, and yet as soon as smallpox presented itself, even questionable benefits were greater than the benefits of *not* vaccinating, as there was a good chance that it would work as it was alleged to do.

The concerns over the safety of vaccination, and especially those related to the transmission or causation of diseases other than vaccinia, were of considerable importance to parents. Although the majority of doctors asserted the complete safety of the operation, when properly performed, there was a degree of disagreement present within the profession, and there was substantial anecdotal evidence to the contrary. This provided sufficient doubt to create much uneasiness in the minds of parents, who lacked the tools to ascertain the 'truth' of these allegations for themselves. Parents relied on external knowledge for information regarding their levels of risk, causing them to lose what Beck termed 'an essential part of their cognitive sovereignty.'[822] They were increasingly reliant on expert authority, while remaining sceptical of experts and perhaps maintaining incompatible conceptions of health.

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[820] The bodies of victims of this smallpox outbreak were buried, not cremated, as the cremation movement was in its infancy in the colonies in the 1860s. The cremation debate was coeval with the vaccination debate, was largely spearheaded by medical practitioners and utilised, *inter alia*, sanitary arguments relating to the containment of infectious diseases. The disease used most prominently in such arguments was cholera, although instances of smallpox, such as in the Walhalla example, contributed to these concerns. See R. Nicol, *At the End of the Road: government, society and the disposal of human remains in the nineteenth and twentieth centuries* (St. Leonards: Allen & Unwin, 1994), pp. 169-199; *idem.*, *This Grave and Burning Question: a centenary history of cremation in Australia* (Adelaide: Adelaide Cemeteries Authority, 2003), pp. 95-98.
[821] *Ibid.*, pp. 6-7.
[822] Beck, *op. cit.*, p. 53.

As vaccination was compulsory, and enforced, in Victoria, there was considerably less opportunity for parents to exercise discretion on this issue, and so the issue of parental apathy was not significant there. However, within the boundaries set for them, Victorian parents demonstrated that they were not blindly accepting of expert directives, but rather showed that they were taking responsibility for their children's interests and making decisions based on the information available to them. The 1887 Mitchell controversy in Victoria provides a good example of the way in which most citizens were neither pro- nor anti-vaccination, but accepted vaccination in principle while retaining some concerns over policy details. Rumours were circulating that the calf lymph produced by the Central Board of Health contained blood and hairs, and that 'such lymph was calculated to produce disease'.[823] Graham Mitchell was a veterinarian who had been employed by the Victorian government to establish and maintain calf lymph supplies at the Model Farm, but who subsequently established himself independently and performed private vaccinations, without any medical qualifications.[824] By October 1887, it was reported that 13,800 parents had paid Mitchell to vaccinate their children with his lymph, rather than receive gratuitous vaccination through the public system. While not seeking to avoid vaccination altogether, a distinct choice was being made that indicated that a significant proportion of the community harboured doubts about the safety of the government sponsored lymph and yet believed that Mitchell's lymph was both safe and effective. Similarly, in a letter to the *Mercury* in Tasmania, William Thomas urged parents to 'insist upon your children being vaccinated (if vaccinated at all) with lymph from a pure source' because 'it will be far better to risk your children having the small-pox than to poison their bodies with unmentionable diseases.'[825]

An important consequence of the vaccination debate was that it contributed to a clarification of the roles and responsibilities of government in the lives of its citizens. At the public meeting on vaccination held in Hobart on 20 August 1881, the Reverend Thomas Jones articulated some of this reasoning. Given that vaccination, properly performed, was generally agreed to prevent smallpox, he reasoned, 'then the Government were so far justified in trespassing upon the liberty of the subject as to compel vaccination for the prevention of the spread of the disease.' However, the

[823] 'Vaccination', *VPD*, 1887, Vol. 54, p. 1603.
[824] PROV: VPRS 1226/P0000/91.
[825] *Mercury*, 2 August, 1881, p. 2 Supplement, c. a.

right to enforce vaccination entailed the responsibility of the state to provide 'pure' lymph, and Reverend Jones believed calf lymph to be the best option:

> Now, if it were desired to have a healthy population, the highest religious duty incumbent on the Government was to see that that which was to be circulated in the blood should be pure, unadulterated, and uncontaminated – (applause) – and without wishing in any way to infringe on the privileges of the medical men, we did believe that we ought to be protected by the Government, whose duty it was to see that we should have so much of the liberty of the subject retained to us, as that we should be allowed to choose the source from whence ourselves and our children should be vaccinated.[826]

Reverend Jones, and many of the people at the meeting, accepted the right of the state to legislate for public health. The source of contention was that, depending on the perspective adopted, the interests of the individual and the community could come into conflict. Although governments and the medical profession analysed the value and success of vaccination programs at a social level, it was experienced at an individual level and each person's response to vaccination could only be the product of their individual understanding of health and disease, risk and benefit. In order to remove the conflict of interests between these two levels, it was important that the government removed or mitigated sources of perceived risk so that individual cost/benefit analyses more frequently aligned with analysis at the population level. Therefore, offering different types of lymph was more successful at encouraging voluntary vaccination than attempts by the medical profession to educate the public of the scientifically supported safety of humanised lymph.

Throughout this period, the role of the state was developing to include responsibility for the well-being of its citizens, and most people were willing to accept some loss of individual liberty to achieve this goal. However, as the vaccination debate made clear, the equation was not always straightforward, and so maintaining the appropriate balance between population health and individual sovereignty depended, not on professional expertise or scientific findings, but on public opinion. As long as the majority of people felt that the risks were being sensibly managed, then interventionist legislation was largely accepted. Thus, over the second half of the nineteenth century, publicly-funded vaccinators moved from offering only humanised lymph, to offering a choice between humanised and calf lymphs, to using only glycerinated calf lymph, despite expert

[826] *Mercury*, 20 August, 1881, p. 3, c. b.

assurances that it was unnecessary, because it satisfied the level of perceived safety that the public demanded.

For the vast majority of people, vaccination was obviously not an ideological issue with a clear delineation between for and against. Rather, it was viewed more in terms of risk assessment and the individual decisions were influenced by the presence or absence of smallpox, the perceived readiness of the health authorities to deal with an incursion of smallpox using other measures, the perceived inconveniences or risks associated with both the vaccinator and the lymph, and the relative threat presented by smallpox in an Australian context. These assessments were further complicated by the efficiency of the compulsory legislation administration. When identification and prosecution for non-compliance were almost certain, the costs of resistance were significantly greater than when prosecution was unlikely. Further, when administered consistently, vaccination was viewed as more normal and less risky than elsewhere.

Proponents of both sides of the argument attempted to manipulate perceptions of each of these factors, and, while the repetition of this information meant that most people were acquainted with the major arguments both for and against, people were also influenced by what their families and friends thought and did. When five children at Nugent, in southern Tasmania, became ill after having been vaccinated by Dr Walden, the Public Vaccinator for the Sorell district, their parents were quick to attribute the illness to vaccination.[827] More than 250 cases had been done using the same lymph, the remainder being successful in every respect, and it is therefore reasonably unlikely that the parental suspicions were correct, but, in a small community like Nugent, it was easy for the parents to persuade each other that the causal link was the temporally convenient vaccination operation. Having submitted to the operation in a colony where it was not effectively enforced, these parents demonstrated that acceptance of the benefits of the operation did not negate any claim to doubts over its safety.

Over time, the power of smallpox to persuade people to vaccinate appeared to wane, and medical commentators blamed complacency. As Turnley wrote, 'It appears as though former alarms, which had passed away unattended by any adverse circumstances, had rendered the public callous to

[827] A. Mault, 'Central Board of Health: report for the year 1900', *TPP*, 1901, No. 51, pp. 9-10.

danger, - in short, that familiarity had produced its proverbial effect.'[828] However much Turnley might have lamented this attitude in the public, it was nevertheless entirely rational; why vaccinate when appearances of smallpox were invariably dealt with by the authorities using isolation, disinfection and other sanitary techniques? Furthermore, if it appeared that the authorities were not gaining the upper hand in a timely fashion, then vaccination could still be resorted to at that point.

Vaccination was reasonably traumatic for parents and child alike; the mother watched the doctor scrape her infant's arm in one or more places and then smear pus-like matter into the wounds. It was counter-intuitive on several levels, but concerns were opposed by the extreme dread of smallpox present amongst the colonial populations. With such a wide range of health practitioners, patent medicines and medical theories available to the public, it was perhaps advantageous to approach all with an equal degree of caution. Vaccination has acquired, over time, a solid theoretical grounding and extensive empirical evidence to suggest that it is an effective prophylactic against smallpox. However, this was far from clear during the nineteenth century and, furthermore, many of the dangers attributed to it have been vindicated by modern-day experts. Barrow's call for greater attention to be paid to the 'parental weighing of risks' was justified. Far from being ignorant or apathetic, most people probably made the best decision that they could with the information they had, within the conceptual frameworks available to them at the time.

[828] G. Turnley, 'Vaccination: Report for 1884', *TPP*, 1885, No. 26, p. 3.

5.5: Conclusion

The responses of the public to vaccination and compulsion therefore took a range of forms. Although those who were most vocal and conspicuous in their engagement with the vaccination debate tended to represent the extreme ends of the spectrum, the bulk of public opinion was less polarised. The patterns of behaviour described by the vaccination statistics suggested apathy and ignorance to contemporary health observers, and widespread – if fickle – anti-vaccinationism to more recent commentators. Closer inspection, however, revealed that most parents could not be accurately described in either of these ways. Instead, decisions about whether, and when, to vaccinate a child were made on individual bases and took into account a wide range of relevant information. Therefore variations in behavioural patterns at the population level, particularly when smallpox threatened, can be explained in terms of changes in the balance of benefits and dangers, rather than shallow anti-vaccinationism or a fleeting awakening from apathy.

The leaders of the pro- and anti-vaccination movements attempted to influence the beliefs and actions of the public by utilising a variety of persuasive techniques. These ranged from unsophisticated methods based on the manipulation of fear and disgust to the use of history, expert testimony and statistical analysis in attempts to 'prove' their cases and elucidate the 'truth' about vaccination. Interestingly, both pro- and anti-vaccinationists used the same categories of evidence to support their arguments, suggesting that they agreed that there was a 'truth' that could be reached through appropriate standards of proof. Evidence based upon experience and in mathematical forms was privileged above other categories, yet the difficulties inherent in interpreting biological data, combined with the personal nature of risk assessment, allowed for a range of rational responses to the same information and circumstances.

The practical consequence of variations in public responses to vaccination was a quandary for liberal governance, as tensions were created between individual and population through techniques of control that relied on self-government but assessed the totality. Ideals were balanced against realities, leading to the simultaneous and contradictory growth of liberal individualism and

bureaucratic universality.[829] The latter sought to overcome the apparent irrationality of some segments of the former, although this judgement was subjective. Barrow located these tensions in the incompatibility of elitist and democratic epistemologies, and Bashford argued that they formed part of the rocky and uneven path from sovereign power to governmental modes of control.[830] The vaccination debate was significant for its contribution to the ongoing process of clarifying the roles and responsibilities of government in the lives of its citizens.

The tensions between individual liberty and community welfare were ultimately resolved with reference to public opinion. State responsibility for protecting the population, including public health, was largely accepted and it was recognised that this necessitated some loss of liberty. However, as expertise was becoming increasingly integral to state administration, the issue of consent became correspondingly significant. The public recognised that experts had an important role to play in informing and administering health policy, but denied them the right to make decisions on behalf of the individual. Hence, maintaining the appropriate balance between the concerns of the population and the individual depended upon public opinion rather than expert directives.

The composition of the pro- and anti-vaccination groups reflected the different conceptions of legitimate health interventions. Vocal pro-vaccinationists were mostly medical men who emphasised the role of expertise in creating sound policies, whereas the anti-vaccinationists came from more diverse occupational backgrounds and emphasised that medical expertise formed only one part of the process of policy formation. The leaders of the pro- and anti-vaccination factions tended to be educated, from the middle or upper classes, and comfortable being public figures. Although the anti-vaccination cause tended to receive more support from the working-classes than the pro-vaccinationists, most people were neither one nor the other, retaining the facility to alter their position in light of changing circumstances. Leaders of both sides explicitly aimed separate arguments, based on different categories of evidence, at different classes. The class-based

[829] M. Poovey, *Making a Social Body: British Cultural Formation, 1830-1864* (Chicago: University of Chicago Press, 1995), p. 113.
[830] L. Barrow, 'The Clashing Knowledge-claims in Nineteenth-century English Vaccination' in W. de Blécourt and C. Usborne (eds.), *Cultural Approaches to the History of Medicine: mediating medicine in early modern and modern Europe* (Basingstoke: Palgrave Macmillan, 2004): 171-191; A. Bashford, *Imperial Hygiene: a critical history of colonialism, nationalism and public health* (Houndmills, Basingstoke: Palgrave Macmillan, 2004), pp. 51-58; *idem.*, 'Epidemic and Governmentality: smallpox in Sydney, 1881', *Critical Public Health* 9(4) (1999): 301-316.

assumptions underlying compulsory vaccination legislation are thus apparent, raising further questions about the interaction between concepts of citizenship and interventionist legislation, which will be investigated in greater detail in the next chapter.

CHAPTER SIX:
Vaccination, Identity and Citizenship

6.1: Introduction

The development of concepts of citizenship and identity can be a problematic line of historical enquiry because of their subjective and negotiable nature, and the selective nature of source material, particularly in colonial settings. In order to circumvent this difficulty, categories of discourse that contribute to the construction of identity may be used as a means of exploring different facets of these concepts. Several historians have pointed to medicine as one such category.[831] Medicine and medical discourses intervene, as Craddock and Dorn observed, 'in formulations of belonging and exclusion, and in constructs of nationalism, class, race, citizenship and gender that get generated, contested, and solidified.'[832] Examining the ways in which medicine interacted with aspects of identity such as class, gender and race can therefore illuminate developing conceptions of colonial citizenship.

More specifically, the intersection of vaccination with these aspects of identity has been used to draw conclusions about citizenship. For instance, the language of citizenship formed an important component of the arguments of both sides of the vaccination debate in Victorian England. In particular, anti-vaccinationists claimed control over their own and their children's bodies, not as a universal right, but one derived from their English citizenship.[833] National debate over the

[831] D. Arnold, *Colonizing the Body: state medicine and epidemic disease in nineteenth-century India* (Berkeley: University of California Press, 1993); J.W. Leavitt, ''A Worrying Profession': the domestic environment of medical practice in mid-19th-century America', *Bulletin of the History of Medicine* 69 (1995):1-29; S. Craddock and M. Dorn, 'Nationbuilding: gender, race, and medical discourse', *Journal of Historical Geography* 27(3) (2001): 313-318; S. Craddock, 'Engendered/Endangered: women, tuberculosis, and the project of citizenship', *Journal of Historical Geography* 27(3) (2001): 338-354; B. Pati and M. Harrison, 'Introduction' in B. Pati and M. Harrison (eds.), *Health, Medicine and Empire: perspectives on colonial India* (Hyderabad: Orient Longman, 2001): 1-36; B. Andrews and M.P. Sutphen, 'Introduction' in M.P. Sutphen and B. Andrews (eds.), *Medicine and Colonial Identity* (London: Routledge, 2003), pp. 4-6; W. Anderson, *The Cultivation of Whiteness: science, health, and racial destiny in Australia* (New York: Basic Books, 2003); *idem.*, 'Postcolonial Histories of Medicine', in F. Huisman and J.H. Warner (eds.), *Locating Medical History: the stories and their meanings* (Baltimore: The Johns Hopkins University Press, 2004), pp. 292-298.
[832] Craddock and Dorn, *op. cit.*, p. 314.
[833] N. Durbach, ''They Might As Well Brand Us': working-class resistance to compulsory vaccination in Victorian England', *Social History of Medicine* 13(1) (2000): 45-62; *idem.*, 'Class, gender, and the conscientious objector to

conscientious objection clause revealed classed and gendered assumptions about the nature of conscience, and the acquisition of legal recognition of the secular conscience of women and workers marked a significant point in the development of English citizenship.

The diffusion of vaccination technology throughout the world frequently occurred along lines of European colonial expansion. Under these circumstances, the decisions of whether to offer vaccination or not, and whether to enforce its application or not, as well as the myriad administrative choices, were necessarily political acts. In colonial settings, the beneficence of western medicine and, by extension, of colonial rule was demonstrated through the development of vaccination programs.[834] The administrative requirements of such programs led to the growth of health bureaucracies that had an exclusionary effect, 'further separating colonized from colonizers, the sick from the healthy, native disease carriers from non-immune foreigners.'[835] In the Australian colonies, Bashford argued that the smallpox management strategies of compulsory isolation and compulsory vaccination focused attention on issues of consent and the rights and responsibilities of citizens and non-citizens, with particular emphasis on racial divisions.[836]

This chapter seeks to extend this area of enquiry by examining the points where the vaccination debate intersected with issues of class, race and gender in the eastern Australian colonies. In doing so, the aim is to investigate how vaccination contributed to, and reflected, the development of colonial conceptions of citizenship and identity. There were, inevitably, inequalities in the application of vaccination and compulsion, as well as the extent to which objections were considered seriously. These become clearest in cases when the vaccination debate affected people whose citizenship was contested, and therefore by examining issues of class, race and gender, the vaccination debate offers some suggestions about the relationship between citizens and the state.

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vaccination, 1898-1907', *Journal of British Studies* 41(1) (2002): 58-83; *idem.*, *Bodily Matters: the anti-vaccination movement in England, 1853-1907* (Durham: Duke University Press, 2005), pp. 69-112, 171-197.

[834] Arnold, *op. cit.*, pp. 120-121, 133-139; W. Anderson, 'Immunization and hygiene in the colonial Philippines', *Journal of the History of Medicine and Allied Sciences* 62(1) (2007): 1-20.

[835] Anderson, 'Immunization and Hygiene', *op. cit.*, p. 11. See also S. Watts, *Epidemics and History: disease, power and imperialism* (New Haven: Yale University Press, 1997), pp. 118-119.

[836] A. Bashford, *Imperial Hygiene: a critical history of colonialism, nationalism and public health* (Houndmills, Basingstoke: Palgrave Macmillan, 2004), pp. 51-58.

6.2: Issues of class

The aim of compulsory smallpox vaccination legislation was to achieve universal vaccination, which would protect the colonies from the importation of a greatly feared disease. From this egalitarian beginning, however, significant class differences arose, both in the way vaccination was administered and how members of each class responded to the imposition of state vaccination. These differences stemmed partly from inequalities in the distribution of the disease itself. Internationally, smallpox was recognised as a disease that did not discriminate on the basis of rank, proving equally disastrous to both the prince and the peasant, but over the course of the nineteenth century became acknowledged as most likely to appear among the overcrowded and insanitary living conditions of the poor.[837] In the Australian colonies, smallpox often appeared first – and disproportionately – among the poorer classes.[838] That the incidence of disease, and not just smallpox, was higher among the poor contributed to, and reflected, middle-class perceptions of the poor and their living conditions as sources of disease that threatened the rest of society through their ignorance and negligence.

In England and the United States, this attitude has been linked to an increase in the policing of parental behaviour during the late nineteenth century, in which the middle classes attempted to impose their ideas of respectability and self-improvement on the working class.[839] This policing was manifested through the implementation of an array of interventionist legislation, including compulsory vaccination. Despite social, demographic and administrative differences, the class-based policing of parents identified in England was present in the Australian colonies also.[840] In

[837] F.B. Smith, *The People's Health, 1830-1910* (Canberra: Australian National University Press, 1979), pp. 157-158; D.R. Hopkins, *Princes and Peasants: smallpox in history* (Chicago: Chicago University Press, 1983), pp. 3, 87-88; R. Evans, *Death in Hamburg: society and politics in the cholera years, 1830-1910* (Oxford: Clarendon Press, 1987), pp. 225, 467-469; P. Sköld, *The Two Faces of Smallpox: a disease and its prevention in eighteenth- and nineteenth-century Sweden* (Umeå: The Demongraphic Data Base, Umeå University, 1996), pp. 81, 93-97.

[838] M. Roe, 'Smallpox in Launceston, 1887 and 1903', *Tasmanian Historical Research Association Papers and Proceedings* 23 (1976): 111-148, p. 141; P.H. Curson, *Times of Crisis: epidemics in Sydney, 1788-1900* (Sydney: Sydney University Press, 1985), pp. 94-95, 102; J.H.L. Cumpston, *Health and Disease in Australia: a history*, introduced and edited by M.J. Lewis (Canberra: Australian Government Publishing Service, 1989), p. 181.

[839] G.K. Behlmer, *Friends of the Family: the English home and its guardians, 1850-1940* (Stanford: Stanford University Press, 1998), pp. 74-76; S. Craddock, 'Engendered/Endangered: women, tuberculosis, and the project of citizenship', *Journal of Historical Geography* 27(3) (2001): 338-354; P.K. Gilbert, 'Producing the Public: public medicine in private spaces', in S. Sturdy (ed.), *Medicine, Health and the Public Sphere in Britain, 1600-2000* (London: Routledge, 2002): 43-59.

[840] C. Twomey, 'Gender, Welfare and the Colonial State: Victoria's 1864 *Neglected and Criminal Children's Act*', *Labour History* 73 (1997): 169-186; *idem.*, 'Courting Men: mothers, magistrates and welfare in the Australian

theory, all legislation regarding vaccination was uniformly applicable to all members of colonial society, regardless of class. In practice, however, significant class differences were present in all of the colonies, despite each colony operating its vaccination programs in very different ways and one not employing compulsory vaccination at all.

Edward Swarbreck Hall, a Tasmanian medical practitioner, was aware that the vaccination cause would suffer if it acquired classed associations, as occurred in Britain. He argued that free vaccination should be available to all, regardless of their ability to pay, so that it would be seen 'not as a pauper provision, but as a wise precaution of State medicine for the general welfare of the people.'[841] Nevertheless, across the colonies, a reluctant attitude towards vaccination came to be associated with the lower classes. In New South Wales, Health Officer Arthur Savage complained that despite much advertising, the 'humbler classes' consistently failed to come to him for vaccination and, in fact, 'Every one of the forty-four I have vaccinated at their own houses.'[842] Savage needed to maintain the human chain in order to sustain lymph supplies and so a degree of coercion seems not unlikely. However, it is equally reasonable to suppose that these families found vaccination less objectionable in the privacy of their own homes, where their inability to afford a private practitioner was not obvious to all the world, and where there was not an assembly of the poor and their distressed children, as depicted in Figures 10 and 11 on pages 317 and 319.

Attending a public vaccinator was unlikely to be an enjoyable experience, but the Victorian authorities had managed to normalise and institutionalise the procedure. Its sustained operation in Victoria meant that the program ran significantly more smoothly there than in New South Wales or Tasmania, where vaccination was not implemented consistently enough to achieve the same results. Even so, James Hume Cook claimed that

> ...quite a number of persons rather than have their children vaccinated have resorted to a subterfuge to overcome the law. They have moved district, or from one street to another, ever from one colony to another, in order to overcome the difficulty. They will not submit to vaccination if they can help it.[843]

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colonies', *Women's History Review* 8(2) (1999): 231-246; C. Evans, 'Excellent Women and Troublesome Children: state foster care in Tasmania, 1896-1918', *Labour History* 83 (2002): 131-148.

[841] E.S. Hall, 'Vaccination. Petition of Dr. E.S. Hall', *TPP*, 1869, No. 69, p. 4.

[842] A. Savage, 'Vaccine Institution', *NSWLC V&P*, 1849, Vol. 2, p. 879.

[843] 'Compulsory Vaccination Abolition Bill', *VPD*, LA, 1898, Vol. 88, p. 1262.

Despite the efforts of the administrators of the colonial vaccination programs to make it non-pauperising, there is certainly a sense that public vaccination, funded by the government, was directed at the working class, and that members of this class were often unenthusiastic about the provision of this service. As became clear in Chapter Five, the most vocal members of both the pro- and anti-vaccination factions tended to be from the educated classes, but the anti-vaccinationists tended to receive more support from the rank and file. George Turnley, Tasmanian Vaccination Superintendent, for example, complained of 'the general apathy which exists amongst the Classes for whom gratuitous vaccination is more particularly intended'.[844] Further, he argued:

> …with a very large number, there is a positive objection to the operation, induced in great measure by the many articles which have appeared in the public prints; setting forth not only the many evils which follow the operation, but also pronouncing it to be useless as a protective measure.[845]

Similarly, Savage noted that 'the inhabitants of Sydney, particularly of the humble classes, seem to be but periodically moved as to the necessity for vaccination.'[846] To a considerable extent, the focus of state-funded public vaccination upon the poorer elements of society was guided by professional fee structures and economic concerns, but was consolidated by concerns that the poor, who often lived in unsanitary and crowded conditions, constituted a threat to the public health and that mass vaccination was therefore in the public interest.

The apathy or anti-vaccinationism of the lower classes was, as established in Chapter Three, frequently attributed by pro-vaccinationists to ignorance. This 'ignorance' meant they were making poor or illogical choices, which could only be remedied, so the medical profession argued, by taking away their ability to make a choice and enforcing compulsory vaccination. One cause of lower-class 'ignorance', especially around mid-century, was their lack of contact with medical 'experts'. Working-class families could not afford to engage the services of private medical practitioners, and instead sought health care from alternative providers, and this had important consequences for lower class attitudes towards vaccination. For example, medical practitioners who attended births would often ensure that the child was vaccinated, but among the poorer classes, births were attended by midwives, not medical practitioners, and they would not do

[844] AOT: CSD 13/60/976.
[845] *Ibid.*
[846] A. Savage, 'Vaccine Institution', *NSW V&P*, LC, 1849, Vol. 2, p. 879.

anything regarding vaccination.[847] Colonial doctors were mostly middle-class, and had greater professional contact with the middle and upper-classes and thus, during this period, it was from these sections of society that the majority of support came for vaccination.

That the uneducated poor were the focus of compulsory legislation can be seen in Victoria, where universal compulsion was mostly achieved and yet some distinction between the classes remained. In 1874, while discussing the Vaccination Law Amendment Bill, it was proposed that repetitive penalties for non-compliance be included, albeit with a total limit of £5. When it was pointed out that by paying a penalty of £5, vaccination could be easily avoided by those who could afford to do so, it was replied that 'there might be some parents who had conscientious scruples against vaccination, and it was not considered desirable to overload the penalties.'[848] Considering that a tradesman earned 5 to 10s. per day, and agricultural or pastoral labourers between 4 and 12s. per day, it seems unlikely that this Member of Parliament believed there would be any working-class parents with 'conscientious scruples' informing his or her anti-vaccination stance.[849] It also suggests that at this relatively early stage, objections to compulsory vaccination from middle-class parents were not numerous, or the Act would quickly have become unworkable in that form. Even much later, in 1895, class inequity in the effects of prosecution remained, as James Hume Cook noted: 'These penalties were a tremendous infliction upon the poor of the colony. Those who could afford to pay continued to pay, but those who could not afford to pay were imprisoned under the 329th section of the Act.'[850]

Public vaccination in England was avoided, as far as possible, by a great proportion of the public for a number of reasons. Public vaccinators predominantly used the arm-to-arm method, in an effort to maintain supplies of lymph, whereas private vaccinators tended to offer calf lymph.[851] Public vaccination was therefore increasingly regarded with suspicion, because of the risk of

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[847] 'Vaccination. Report from the Select Committee', *TPP*, 1863, No. 90.
[848] 'Vaccination Law Amendment Bill', *VPD*, LC, 1874, Vol. 20, p. 2506.
[849] *Statistical Returns of Tasmania*, 1873-4, pp. 60-61.
[850] 'Non-Compulsory Vaccination Bill', *VPD*, LA, 1895-6, Vol. 78, p. 2482. Fines were not an unusual form of punishment in the nineteenth century, and in fact became increasingly common towards the end of the nineteenth and the beginning of the twentieth centuries, as part of a more general trend towards diversification of responses to offending. Incarceration for fine default was relatively common for a range of offences, not just non-compliance with compulsory vaccination laws. Those imprisoned for debt were held for short periods of time, usually in police gaols or local prisons and were not in penitentiaries with more serious offenders. See M. Finnane, *Punishment in Australian Society* (Melbourne: Oxford University Press, 1997), pp. 33-35, 53, 162-163.
[851] Durbach (2000), *op. cit.*, p. 47.

secondary disease transmission, the lack of choice of vaccinifers, the association with the Poor Law, and the general unpleasantness of the public vaccination station.[852] In the absence of natural cowpox occurring in the colonial cattle, humanised lymph was generally the only form available in the Australian colonies, either directly from the vaccinifer's arm or stored on glass or ivory points, until the 1880s. There were no Poor Law authorities for gratuitous vaccination to be associated with in the colonies, and there was no difference in the type of lymph offered by private or public vaccinators before the 1880s, and hence the negative connotations associated with public vaccination were less acute than those experienced in England. Yet it would be a mistake to assume that there were no negative connotations at all.

The organised and consistent administration of vaccination achieved early on in Victoria seems to have avoided these problems to a large extent. The variable nature of state support for vaccination in Tasmania, however, meant that the procedure did not always take place on neutral or acceptable ground. During the 1863 panic, gratuitous vaccination was operated out of the Hobart General Hospital by medical students.[853] Although the students performed many vaccinations during this time, their apparent success is more indicative of the strength of the panic than the acceptability of the arrangements, as the working-class applicants objected to both the site and the vaccinators.[854] The hospital presented the likelihood of coming into contact with other diseases, as well as possessing the stigma of being an institution for the desperate and depraved, and the fact that it was students performing the operation implied that working-class infants were for practising upon.

Concerns about the safety of humanised lymph came to a head in the panic caused by the 1881 Sydney outbreak, and resulted in change to the class composition of resistance to vaccination. Prior to the Sydney outbreak, colonial vaccination officials complained of lower-class reluctance allegedly founded upon the belief that vaccination either caused or transmitted other diseases.[855] With the appearance of smallpox in Sydney in 1881, however, came an explosion in debate over smallpox, vaccination and other methods of containing or controlling epidemic disease, leading to

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[852] *Ibid.*; L. Barrow, 'In the Beginning was the Lymph: the hollowing of stational vaccination in England and Wales, 1840-98', in S. Sturdy, *Medicine, Health and the Public Sphere in Britain, 1600-2000* (London: Routledge, 2002): 205-223.
[853] *Mercury*, 3 September 1863, p. 2, c. b-c; *Mercury*, 9 September 1863, p. 2, c. f-g.
[854] 'Vaccination. Report from the Select Committee', *TPP*, 1863, No. 90, p. 12.
[855] G. Turnley, 'Vaccination: report for 1880', *TPP*, 1881, No. 38, p. 3; R. Greenup, 'Vaccination', *NSWV&P*, LA, 1859-60, Vol. 4, pp. 777, 779.

members of the 'educated classes' in all three colonies also became increasingly anxious about the risks of vaccination.

The educated background of the middle classes and class affiliation with the medical profession had allowed concerns over humanised lymph to remain latent for some years. The sudden surge in public debate regarding the safety of different types of lymph at this time increased concerns of this kind among the educated classes, increasing the pressure on administrators to offer calf lymph. Private vaccinators responded to this demand, but public vaccinators initially continued using only humanised lymph and so those who could not afford to be vaccinated privately had no choice of lymph. Frederick William Piesse, a prominent Tasmanian medical practitioner, defended the poor, urging 'that the Government should not compel the poor (against their will) to accept vaccination from such a source while the richer members of the community are able to protect themselves by procuring Calf lymph.'[856] He argued that the uneducated poor did not know that calf lymph was superior and that it was therefore the Government's responsibility to ensure that the compulsory act was administered in the safest way possible. Despite his good intentions, Piesse demonstrated a continuation of that elitist perspective, in which it was the responsibility of the state, informed by the relevant experts, to provide for the uninformed and negligent classes what they could not – or did not – do for themselves.

In a related example, the Public Vaccinator at Swansea in Tasmania, Dr Edward Vines, alleged that the educated classes were failing to comply with the Act, but that the poorer classes were embracing his services. In response, a member of the public using the pseudonym 'Variola' retorted that, 'although some here do not believe in the efficacy of vaccination, they do not desire to evade the law, but with others, prefer to have their children vaccinated by their own medical officer,… in him the public have every confidence.'[857] Vines's critic here suggested that it was not vaccination itself that was objectionable, but Vines's performance of it. Calf lymph was not yet available in Tasmania, although it would be soon, and so the only tangible difference between Vines's vaccinations and those performed by a private practitioner was that the parent may have had more control over which child the lymph was taken from to be inserted into their own offspring in the latter instance, thus supporting the case that concerns about compulsory

[856] AOT: CSD 13/38/525.
[857] *Mercury*, 5 August, 1881, p. 4, c. c.

vaccination centring on the possibility of transmitting secondary diseases were increasing among the educated classes.

'Variola' argued that the poorer classes were submitting to Vines only because he threatened them with a £5 fine for non-compliance, whereas the educated class were unmoved by this threat, 'as they know no magistrate would be justified in imposing the highest penalty, unless in extreme cases, such as stubborn resistance to the law.'[858] Interestingly for a physician, Vines defended the lower classes and decried this situation as blatant class legislation, in desperate need of reform to make it universally applicable:

> Is there one law for the rich and another for the poor? The existing machinery of the Government for carrying out vaccination, I am told only extends to "those who are unable to pay" for the private performance of the operation. There are then absolutely no means for ensuring the vaccination of a large proportion of the community! The "Vaccination Act," with the terrors of the law in its threat of a penalty of £5 on those who fail to avail themselves of public vaccination, is held over the heads of those who are presumably unable to pay a fee, say of 5s., for having it done privately, whilst the more well-to-do escape the law and its terror altogether.[859]

It was, therefore, even easier in Tasmania than in Victoria for middle-class parents to exercise conscientious objection or, indeed, to be entirely apathetic regarding the issue, as they were unlikely to be identified or prosecuted for their actions. Not falling under the responsibility of the public vaccination program, there was no organisational structure in place to monitor their behaviour and if by sheer bad luck they were to be prosecuted, they could afford the fine.

Vines's concerns about the class bias in the operation of the Act were shared by Tasmanian anti-vaccinators, who argued that these were grounds for abolishing the legislation altogether. A series of letters to the *Daily Telegraph* in 1886 demonstrated the connections that were made between the class inequalities of the vaccination legislation and citizenship. 'A Father' of Scottsdale argued that, 'while we are forced into such an unnatural thing as compulsory vaccination, we are little better than common slaves. It is simply depriving an Englishman of his liberty.'[860] He quickly received support for his position, including 'Another Father' of Scottsdale, who described the

[858] *Ibid.*
[859] *Mercury*, 9 August, 1881, p. 3, c. c.
[860] *Daily Telegraph*, 4 November, 1886, p. 3, c. c.

Compulsory Vaccination Act 'as being a piece of class legislation, opposed to that freedom which is the birthright of every British subject'.[861] Both fathers associated the unequal imposition of compulsory vaccination on the working classes as an assault on their individual liberties, which they explicitly derived from their *English* citizenship. Their sentiments were echoed by a 'Third Father', this time of Ringarooma, who argued that 'we ought to write to get this piece of gross class legislation altered, and give the people a right to say whether they will believe what the doctors tell them or not.'[862]

Two points of interest arise from the collective assertions of these fathers. First, it is, perhaps, surprising to see the phrase 'class legislation' used in this quite modern sense at this time, by these people. The *Oxford English Dictionary*, however, notes the earliest usage of the phrase in Ralph Waldo Emerson's *English Traits* in 1856, thirty years prior.[863] It is defined as legislation 'pertaining to a class, or classes, of society', and often 'pertaining to the upper classes'. Although in the nineteenth century, 'higher and lower orders' were usually referred to, rather than 'upper and lower classes', the word 'class' was sometimes used to refer to ranks or grades of society, and not merely in reference to categories. In this particular instance, it appears that these residents of northern Tasmania viewed compulsory vaccination laws as legislation drafted from the perspective of the upper classes that, when applied to the whole population, resulted in inequalities between classes. That is, the vaccination laws, as they stood, did not bear so heavily on upper class parents, who could afford the potential fine and therefore act according to their own judgement, as on the lower orders, who could not afford to act at their discretion.

Secondly, in asserting his citizenship, 'Another Father' was rejecting the right of experts to direct his, and his family's, bodily concerns. Britain, and the British Empire, did not possess a legal category of 'citizen' in the nineteenth century, but it was during this period that the concept of citizenship was developed:

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[861] *Daily Telegraph*, 10 November, 1886, p. 3, c. e.
[862] *Daily Telegraph*, 16 November, 1886, p. 3, c. f.
[863] 'class, n.', *Oxford English Dictionary* (Second edition, 1989).

> All living within the rule of a given state... are subject to the laws, rule and force of the state; but only some are citizens in the sense of those who are thought to have rights within and relation to the state.[864]

The arguments of the fathers are interesting for their affinity with the arguments of the English working-class anti-vaccinationists, who also used the language of citizenship to support their position. In doing so, working-class agitators sought to differentiate their 'conscientious' objection from 'a lower stratum of uninformed, negligent, or lazy parents' and viewed compulsory vaccination as unfairly targeting them, implying that working-class parents were irresponsible and filthy, and therefore in need of state care and guidance.[865] However, the emphasis placed by colonial anti-vaccinationists upon the Englishness of their citizenship added a racial dimension to this process of identity formation, which will be explored further in Section 6.4.

Towards the close of the nineteenth century, several bills were introduced in Victoria and Tasmania for the abolition of compulsory vaccination. Although objections regarding the efficacy of vaccination, the possible dangers of the operation and the inconsistency between the colonies were still used, they occupied a secondary role compared to arguments concerning individual liberty and the right of each parent to choose for him or herself. If the English experience is any guide, this was an objection that originated with middle-class anti-vaccinationists, interested in addressing inequities in the law, rather than with the working classes who emphasised the bodily threat posed by compulsory vaccination.[866] In fact, arguments based on a parent's right to decide for their child found a more receptive audience, particularly in parliament, than arguments relating to the utility or safety of vaccination.[867] Appeals to liberty were useful as they could be used to alter the stance of those who did believe in the utility of vaccination and, indeed, a proportion of those who argued against compulsory vaccination were not personally opposed to vaccination, but rather anti-compulsion.[868]

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[864] C. Hall, K. McClelland and J. Rendall, *Defining the Victorian Nation: class, race, gender and the British Reform Act of 1867* (Cambridge: Cambridge University Press, 2000), p. 60.
[865] N. Durbach, '"They Might as Well Brand Us": working-class resistance to compulsory vaccination in Victorian England', *Social History of Medicine* 13(1) (2000), p. 46; *idem*, *Bodily Matters: the anti-vaccination movement in England, 1853-1907* (Durham: Duke University Press, 2005), pp. 91-112.
[866] N. Durbach, (2000), *op. cit.*, p. 46; *idem*, *Bodily Matters: the anti-vaccination movement in England, 1853-1907* (Durham: Duke University Press, 2005), pp. 91-112.
[867] 'Vaccination Act', *Mercury* October 22, 1886, p. 3, c. c; 'Non-Compulsory Vaccination Bill', *VPD*, LA, 1898, Vol. 88, p. 1261; 'Non-Compulsory Vaccination Bill', *VPD*, LA, 1900, Vol. 94, p. 864.
[868] 'Vaccination Act', *Mercury* October 22, 1886, p. 3, c. c.

As anti-vaccination sentiment became more common among the middle and upper-classes, there was a shift away from describing the lower classes as apathetic in their attitude towards vaccination, and it became increasingly common to view the poor as being unfairly affected by compulsory legislation. There is some evidence to suggest that accusations were directed at the Tasmanian Police that they only prosecuted poor people in the wake of the scare occasioned by the presence of smallpox in Launceston in 1887, although they denied this.[869] At the very least, there was a growing acceptance – that had previously been absent – that a parent could be both respectable and anti-vaccinationist, even from the pro-vaccinationist perspective:

> Every year respectable fathers and mothers of families are prepared to suffer the penalty of imprisonment and fine rather than allow their offspring to be subjected to an operation that may inoculate them with the virus of diseases quite as destructive in their consequences as the dreaded variola itself. Of course, their motives are to be respected, but science so far has withheld any sympathy with them.[870]

The rise in the respectability of anti-vaccinationist sentiment increased its prominence within parliament. James Hume Cook, who was popular among the small-business men and the working class, repeatedly introduced bills to abolish compulsory vaccination and, although he was unsuccessful, his sustained pressure and the community feeling that it represented combined with the findings of the Imperial Royal Commission to cause Victorian authorities not to prosecute parents more than once.[871]

There is little doubt, then, that the working of the Compulsory Vaccination Acts in Victoria and Tasmania was greatly affected by issues of class, revealing much about the way that the 'educated classes' perceived the poor. The operation of the Acts affected the poor to a greater extent, and was intended to, indicating that they were considered to be a threat to public health, irresponsible parents, lazy and ignorant. Medical practitioners who came into contact with this class reported that apathy increasingly gave way to positive objection to vaccination centred on fears of bodily harm, and as these fears spread amongst the middle-class, greater credence was given to the 'conscientiousness' of the objections of the working-class. Thus it was possible for men such as Edward Braddon to declare that 'He believed himself in vaccination, but there were many who did

[869] AOT: CSD 16/36/768. The actual file is missing, but its content is attested to in both the index and the register.
[870] *Age*, 23 July, 1881, p. 4, c. h-i.
[871] PROV: VPRS 3654/P0000/1-5.

not, and he did not think they should force on these people what they looked upon as a malignant evil, worse than the disease itself.'[872]

Although Braddon's view was not the dominant one at that point in time, it was in its ascendancy, particularly among the middle and upper classes. Compulsory vaccination had been instituted to ensure universal vaccination by negating the effects of ignorance and apathy. By emphasising the responsibility and conscientiousness of the parents objecting, the rationale behind the Act was undermined and marked the beginning of the end for truly compulsory vaccination. With the introduction of a conscientious objection clause in Tasmania in 1898 and Victoria in 1919, the right of responsible parents, regardless of their class, to make conscientious decisions regarding the health of their children that overrode the decisions of the state was instituted in law without the attempts, as seen in England, to deny lower class parents the right to object on the basis of conscience.

[872] 'Vaccination Act', *Mercury* October 22, 1886, p. 3, c. c.

6.3: Issues of gender

Colonial ideas about gender in relation to vaccination are revealed in two main ways: in the operation of vaccination, and in the debate surrounding its implementation. Two contemporary depictions of public vaccination scenes (Figures 10 and 11) portray the roles played by men and women in the operation of vaccination. A male doctor performed the operation, using his specialised expertise to impart the beneficial medical intervention of vaccination to the future citizens. His time with each child was limited to that necessary to mark its arm with his lancet and apply the lymph, and he moved quickly through the assembled crowd, performing the repetitive task in a manner akin to an assembly line. Women, in their role as mothers and caregivers, enabled the operation by bringing the children to the vaccinator, accompanying them through the unpleasant experience and providing post-vaccination care.

Figure 10: Vaccination Day in Port Mackay!, 16 February, 1877.[873]

While the predominantly female crowd was perhaps partly a result of the greater ability of women to take time out of their daily schedule to attend the vaccinator, it is also a reflection of the contemporary conception of women as responsible for the private sphere of home and family.[874] Part of the role of being a mother was to look after the family's health, and vaccination clearly fell

[873] C. Rawson, Vaccination Day in Port Mackay!, Rawson Family Archive. (Diary entry 16 February, 1877) OMR 98, John Oxley Library, State Library of Queensland.

[874] This is not to suggest that mothers did not engage in paid employment, but rather that work outside the home did not absolve mothers from their work within the home. See D. Deacon, *Managing Gender: the state, the new middle class and women workers, 1830-1930* (Melbourne: Oxford University Press, 1989), pp. 144-150; S. Swain, 'The Historical Invisibility of the Working Mother' in P. Grimshaw, J. Murphy, and B. Probert (eds.), *Double Shift: working mothers and social change in Australia* (Beaconsfield: Circa, 2005): 86-102.

within the bounds of their responsibility. However, her responsibility extended only to ensuring that it was carried out; it did not include any decision making regarding its appropriateness or the best way to achieve protection.[875] Whether to vaccinate, when, and how, were questions of medical expertise, and they received considerable attention within the medical press.[876] Their conclusions were communicated to mothers through individual medical practitioners, pamphlets and the press.[877] That vaccination of the child was a mother's responsibility was frequently commented upon by elite medical observers, who generally believed that failure to comply willingly was the result of maternal ignorance, rather than conscientious disapprobation. This was consistent across the colonies, and over the second half of the nineteenth century.

Francis Campbell, the Superintendent of Vaccinations in New South Wales, expressed his vexation at low vaccination rates by blaming women: 'The legitimate cause is ignorance – primordially the ignorance of *mothers*; a truism, by the way, which, as a little reflection will shew, goes far to resolve the problem of compulsory general education.'[878] Education of mothers was the key to widespread acceptance of vaccination, even in a colony with no compulsory vaccination legislation. As the state became increasingly interventionist, with policies that affected the family directly, women's roles were most affected, and where their beliefs differed from policy – recommended by male medical experts and passed by male parliamentarians – the root cause was identified as female ignorance. Hence, Campbell recommended changes in the education of working-class girls:

> Maidens thus trained would find no difficulty, when they become mothers, in comprehending why gloomy prejudices and misconceptions of every name, quality, and degree of power over the affairs of the world, are

[875] This was true in theory. In practice, mothers could make decisions about their children's health using their own discretion. See P. Mein Smith, *Mothers and King Baby: infant survival and welfare in an imperial world, Australia 1880-1950* (London: Macmillan, 1997), p. 244.
[876] See, for example, *AMJ*, 8 (1863), pp. 264-265; 280-283; *AMJ*, 11 (1889), pp. 360-364; 386-387.
[877] Board of Public Health, Victoria, *Vaccination. Facts about small-pox and vaccination*, (Melbourne: Government Printer, 1898); J.S.C. Elkington, *Vaccination and Common Sense*, (Hobart: Government Printer, 1903); R. Greenup, 'Vaccination', *NSWLCJ*, 1865, p. 699-700.
[878] F. Campbell, 'Vaccination', *NSWLCJ*, 1867-8, Part 1, No. 67, p. 833. Original emphasis.

Figure 11: Small-pox precautions: vaccination "from the calf", *Australasian Sketcher*, 6 May 1882.[879]

> inimical to social happiness, and the source of inconceivable mischiefs; and by the same light, they would learn the reasons why the salutary and protective effects of vaccination are urged so earnestly and persistently upon them, as embracing one of the most momentous interests of the human family.[880]

[879] Small-pox precautions: vaccination "from the calf", *Australasian Sketcher*, 6 May 1882, SLV: A/S06/05/82/129.
[880] *Ibid.*, pp. 834-835.

Perfect understanding would inevitably lead to pro-vaccinationism, in Campbell's view, because there could be no conscientious objection that was not erroneously founded, and hence invalid. Owen Penfold, a Victorian medical practitioner, echoed Campbell's sentiments twenty years later:

> A little digression may here perhaps be permissible, to speak of the astounding ignorance which prevails in most of the mother's [sic] minds respecting vaccination. It is credited, or debited rather, with providing every possible ailment that can happen to the child during its life, and the unhappy vaccinator is blamed accordingly; while if the operation is ever so well performed… the parents think little or nothing of the success.[881]

As with Campbell, Penfold did not believe the mothers' objections to be well-founded or reasonable, but rather the product of ignorance and superstition. Vaccination was compulsory in Victoria, and its efficient administration meant that there was little opportunity to avoid the operation, yet Penfold's attitude highlights the importance of maternal cooperation to the smooth running of the vaccination programs.

In Tasmania, too, mothers were viewed as the ones most responsible for ensuring their children were vaccinated. Although ostensibly compulsory, poor administration allowed a great deal of practical freedom in this decision, which had significant consequences for the continued operation of public vaccination. Alfred Taylor, a fervent, though non-medical, pro-vaccinationist, identified cycles of panic and apathy as productive of problems with lymph supply:

> Well do I remember how mothers who had previously declared their willingness to go to gaol rather than have their children vaccinated – crowded round the doors of the vaccination depots from morning till evening; and how as a consequence communication was made to head quarters that the supply of lymph was insufficient – and it had to be sought for anywhere.[882]

By emphasising the ease with which the presence of smallpox altered their stance, Taylor sought to undermine their depth of conviction. Further, he alleged that their wilfully uncooperative behaviour resulted in danger for the whole community, as it placed excessive stress on the supplies of lymph and potentially led to the use of less than perfect stocks. It was therefore important that

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[881] O. Penfold, *Calf-Lymph Culture and Vaccination* (Melbourne: Stilwell and Co., 1887), p. 4.
[882] A.J. Taylor, *Some Facts and Figures Relating to Vaccination, illustrating errors of the anti-vaccinationists* (Hobart: Calder, Bowden & Co., 1891), p. 20.

mothers understood the importance of vaccination, so that they would cooperate and thus avoid negative outcomes that would impact upon the whole community.

The task of ensuring that a child was vaccinated, then, fell to the mother. Although it is clear that she bore the moral responsibility, she did not also bear the legal responsibility for her actions. Following the Launceston outbreak in 1887, and chastened by its poor vaccination record, the Tasmanian Government experimented with prosecuting non-compliance. The returns show that, in 1888, 778 of those prosecuted were men, and just 14 were women.[883] Similarly, in 1889, 1002 men were charged with failing to comply, compared with only 23 women. Despite the fact that women were the ones who actually took the infants to be vaccinated, and were generally credited with having control over the decision of whether to comply or not, men were still expected to take responsibility for parental decisions because, under colonial law, men were the legal guardians of their children.[884] This situation reflected, in a muted way, attitudes towards parental responsibility in England as expressed in the administration of the conscientious objection clause. Classed and gendered notions of conscience were contested, eventually resulting in the granting of conscientious objector status to women and workers.[885] Controversy of the extent experienced in England was not achieved in the Australian colonies, but the vaccination debate nevertheless revealed similar attitudes and developments towards gender roles and conscience.

Victoria was the one colony that both passed and implemented compulsory vaccination laws in a manner comparable to that of England, making it the colony most likely to experience tension over gender issues. In accordance with the legislation, Vaccination Registers were printed and distributed to District Registrars, who were required to record all children vaccinated within their district.[886] The Registers specifically asked for the father's Christian and surname, indicating the male parent's role as legal custodian of the child. Between 1863 and 1919, the name of the mother was given infrequently, suggesting that it was only used when the father was dead or the child was illegitimate. This does not mean that fathers took their children to be vaccinated; as has been

[883] *Statistical Returns of Tasmania* (Hobart: Parliament of Tasmania, 1889 and 1890).
[884] B. Hayes, 'Historical Survey of Custody of Children in Victoria' in I. Duncanson and D. Kirkby (eds.), *Law and History in Australia*, Vol. 2 (Bundoora, Vic.: Latrobe University, 1986), p. 2; C. Twomey, *Deserted and Destitute: motherhood, wife desertion and colonial welfare* (Melbourne: Australian Scholarly Publishing, 2002), p. 18.
[885] N. Durbach, 'Class, Gender, and the Conscientious Objector to Vaccination, 1898-1907', *The Journal of British Studies* 41(1) (2002): 58-83.
[886] PROV: VPRS 3654, P0000, 1-5.

shown, this was a maternal duty. It was not difficult for mothers simply to give the name of the father to be recorded in the Register, and so this formality did not present a problem.

However, towards the end of the nineteenth century, anti-vaccinationism became more common in Victoria and prosecutions for non-compliance were served on the legal guardian – that is, the father – regardless of who had actually made the decision. Jack Murray, member for Warrnambool, related an instance of this to the Legislative Assembly in 1899:

> Which is the authority, and which shall decide? Is it the mother, who has quite as important an interest in the child as the father, or the father? We had a case in court where an unfortunate man was fined for not having his child vaccinated. He said he believed in vaccination, but his wife did not, and she would not have her child vaccinated. The woman had her way, but the unfortunate man had to pay the fine. We are told that differences of opinion will occur in households upon political questions in the event of women's suffrage being adopted. I will venture to say that where there is one difference in the family over a political question, there will be twenty differences over this question of vaccination. If the lady wishes to have the child vaccinated, I suppose she will have her way. But as there are likely to be such differences, I think we should settle the question in this Bill.[887]

By linking this issue to women's suffrage, Murray was playing on existing fears of disagreement between the sexes within the family home leading to political instability. Equally, the association of women's role in vaccination with concurrent legislation was indicative of wider social developments. When Francis Campbell linked the role of the mother in vaccination to compulsory education in 1868, he was emphasising the need for gender specific education that would enable girls to become responsible mothers, properly equipped by the state to make the best decisions for their children and consequently for the community. By the time Murray was sharing the above story, it was becoming possible for the legislators to imagine a public and political role for women, and, by recognising the reality of female decision-making within the home, the injustice of legal action being taken on her husband became increasingly apparent. In fact, Murray continued:

> According to the law, up to a certain age the mother has the legal control of her child, if she properly behaves herself; and instead of depositing this power in the hands of the male parent, I should say that it is the lady who should decide.[888]

[887] 'Non-Compulsory Vaccination Bill', *VPD*, LA, 1899, Vol. 92, p. 1528.
[888] *Ibid.*

By using the phrase 'male parent', he emphasised the *maleness* of a father, rather than his title or position, and saw the mother, as a female, as more inherently suited to decisions of this nature. Furthermore, Murray exaggerated the custodial rights of mothers. According to common law, the father was the head of the family and the natural guardian of children. Under the Marriage Acts of 1883 and 1890, the court could grant custody to the mother if the child was less than sixteen years of age, but only on the grounds of cruelty or drunkenness on the part of the father.[889] Yet the courts exercised considerably greater discretion than the legislation would imply, frequently citing English precedent. One of the aims of female suffrage was equality of guardianship rights, similar to those in effect in England under the Guardianship of Infants Act 1886 and Custody of Children Act 1891.[890] It is probable that these were the laws that Murray referred to, rather than any Victorian legislation.

Despite the development of acceptance of public roles for women, female activists were not common among public displays of anti-vaccinationism. On September 8, 1881, Miss Helen Hart, from England, gave a public lecture on smallpox at the Novelty Theatre in Melbourne in which she stressed that 'there was no reason why ladies should not take possession of a public platform to ventilate a scientific subject, as well as either to sing or act.'[891] Hart was anti-vaccination and pro-sanitation, and provided an example to the colonial population of how women in England were actively participating in public anti-vaccination agitation. However, fewer than twenty people attended her lecture and, apart from a very small article in the *Age*, her efforts were largely ignored by the colonists, and definitely not emulated by them on any significant scale. Even less public displays of female involvement in the vaccination debate were uncommon. Those few that occurred emphasised their role as mothers and guardians of their children's well-being. For example, 'A Mother' of Ringarooma in Tasmania expressed her opposition to compulsory vaccination in a letter to the editor of the *Daily Telegraph* by asking, 'Why should those who do not believe in vaccination be compelled to risk the lives or health of their children?'[892] She argued that this decision rightly belonged to parents, not doctors, as it was 'against some of their interests' and so medical men could not be trusted to be objective. In doing so, she was accentuating the

[889] Hayes, *op. cit.*, pp. 9-12.
[890] *Ibid.*, p. 18.
[891] *Age*, 9 September 1881, p. 2, c. h.
[892] *Daily Telegraph*, 15 November 1886, p. 3, c. h.

conscientiousness of her decision and attempting to undermine any claims that her decision not to have her child vaccinated was a consequence of her own ignorance.

Male anti-vaccinationists also campaigned as parents, laying stress upon their identity as fathers.[893] Anti-vaccinationists – male and female, in England and the colonies – emphasised their roles as good parents: men as fathers, protectors of the family and able to effect change in the public and political realm; and women as mothers, carers of the family and moved by emotion, especially love.[894] Although these parents were working largely within accepted gendered spheres of influence, Durbach argued that their approach transcended a simplistic separate spheres understanding of gender roles, as they visibly and unambiguously demonstrated that parents had political roles to play within the public sphere.[895] A political act that was within the capabilities of most people was the attempt to claim objection to vaccination on secular conscientious grounds.

The opportunity to object conscientiously to vaccination was not introduced in Victoria until 1919. From this point onwards, mothers' names were given, in the column provided for the father's name, with increasing frequency.[896] Rather than having any deeper meaning, this trend is probably a result of the fact that conscientious objection was registered by the completion of a statutory declaration of belief that vaccination would be prejudicial to the health of the child. Thus, it needed to be signed by the person whose name would be registered and it was therefore inevitable that many of these would be completed by the mother, whereas under the previous system, a mother could simply give the name of her husband for the register to be filled out. Having learnt from the experience of England, the conscientious objection clause was administered in Victoria in an unambiguous manner, and the declaration of either parent was sufficient. Thus, the controversy over whether a mother was able to be considered legally a 'parent' was effectively avoided.

Gender issues constituted only a very small part of the vaccination debate in the Australian colonies. This is attributable to two main factors: vaccination was compulsory to varying degrees – only Victoria could be considered comparable to England – and there was far less anti-vaccination

[893] *Daily Telegraph*, 2 November 1886, p. 3, c. a; 4 November 1886, p. 3, c. c; 10 November 1886, p. 3, c. e; 15 November 1886, p. 3, c. h; 16 November 1886, p. 3, c. f; 24 November 1886, p. 3, c. f-g.
[894] N. Durbach, *Bodily Matters: the anti-vaccination movement in England, 1853-1907* (Durham: Duke University Press, 2005), pp. 55-68.
[895] *Ibid.*, p. 57.
[896] PROV: VPRS 3654/P0000/1-5.

agitation in the colonies overall. Both of these factors meant that there was significantly less opportunity for gender issues to become salient. Nevertheless, there were several points of similarity between the English and Australian colonial experience. The vast majority of public expressions of anti-vaccinationism, including pamphlets, letters to the editors of periodicals, and public meetings, were made by men. Female anti-vaccinationism was more likely to have been expressed on a more private level, and most frequently through non-compliance. Indeed, from this perspective, it seems that the colonists maintained stricter separation of gender roles than their English counterparts. Women were morally and practically responsible for ensuring that their children were vaccinated, as part of their duty to ensure the health and welfare of the family. The legal responsibility resided with the father, as this responsibility was located within the public sphere. However, this changed over time, so that in the early twentieth century, mothers too could claim conscientious objection successfully. This development was achieved with less fuss than, and partly as a result of, the English controversy.

The vaccination debate largely conformed to dominant contemporary conceptions of gender roles and the family in the Australasian colonies in the second half of the nineteenth century. It is clear that women were predominantly responsible for the care and welfare of infants, including ensuring their vaccination against smallpox. When it came to public or political dimensions of the debate, male participation far exceeded that of women. Largely consistent with separate spheres ideology, the Australian experience did not more closely mirror that of England because it lacked the same intensity of feeling over the issue, and when conscientious objection was introduced, it was done in a way that avoided the conflict caused by the ambiguity of the English clause. The wording of the clauses was not substantially different from the English prototype, but they were implemented consistently and without gender discrimination; it was not difficult to obtain exemption through conscientious objection in either Tasmania or Victoria and so the catalyst for more serious conflict was absent. The intersection of gender with the vaccination debate therefore reflected contemporary developments in gender identities and their association with citizenship, while avoiding the flashpoints of the English experience.

6.4: Issues of race

News of Jenner's discovery travelled rapidly, and the technology of vaccination spread out from England across the globe, frequently following lines of European colonial expansion. In doing so, western biomedicine was introduced to non-western populations, creating the possibility for issues of race to become involved with the use of vaccination. The issues associated with such a transmission have been examined by historians in a variety of international contexts, and many have identified its use, in some sense, as a 'tool of empire'.[897] Medicine in general was used to assist colonisation by minimising the mortality of Europeans, particularly in tropical areas, by contributing to economic efficiency, and by establishing norms.[898] As a specific intervention, vaccination was a technology that was used to demonstrate the superiority of western scientific medicine over indigenous superstition, and the benevolence of the occupiers.[899]

Although largely altruistically motivated, the transmission of vaccination to indigenous populations often also had important economic benefits for the colonisers, exemplified by the Spanish in South America, who attempted to protect economically viable colonies from smallpox, and the Hudson's Bay Company in Canada, who passed information and vaccine material along established trading lines from London to major depots, then to secondary posts, then to outposts and finally to the Indians themselves, so that they could vaccinate those who did not travel to Company posts.[900] From the traders' perspective, preventing smallpox from ravaging the Aboriginal population was good for business, and vaccination supported their benevolent image, strengthened organisational

[897] The phrase originates with D.R. Headrick's *Tools of Empire: technology and European imperialism in the nineteenth century* (Oxford: Oxford University Press, 1981).
[898] B. Pati and M. Harrison, 'Introduction' in B. Pati and M. Harrison (eds.), *Health, Medicine and Empire: perspectives on colonial India* (Hyderabad: Orient Longman, 2001): 1-36, pp. 11-18.
[899] M.M. Smith, 'The *Real Expedicion Maritima de la Vacuna* in New Spain and Guatemala', *Transactions of the American Philosophical Society* 64(1) (1979): 1-74; N. Brimnes, 'Variolation, Vaccination and Popular Resistance in Early Colonial South India', *Medical History* 48 (2004): 199-228; S. Bhattacharya, M. Harrison, and M. Worboys, *Fractured States: smallpox, public health and vaccination policy in British India, 1800-1947* (London: Sangam Books, 2005), pp. 52-75; W. Anderson, 'Immunization and Hygiene in the Colonial Philippines', *Journal of the History of Medicine and Allied Sciences* 62(1) (2007): 1-20; P. Hackett, 'Averting Disaster: the Hudson's Bay Company and smallpox in western Canada during the late eighteenth and early nineteenth centuries', *Bulletin of the History of Medicine* 78 (2004): 575-609; J.D. Pearson, 'Medical Diplomacy and the American Indian: Thomas Jefferson, the Lewis and Clark expedition, and the subsequent effects on American Indian health and public policy', *Wicazo Sa Review* 19(1) (2004): 105-130; J.D. Pearson, 'Lewis Cass and the Politics of Disease', *Wicazo Sa Review* 18(2) (2003): 9-35; M.J. Bennett, 'Passage through India: global vaccination and British India, 1800-05', *Journal of Imperial and Commonwealth History* 35(2) (2007): 201-220.
[900] Hackett, *op. cit.*, pp. 603-5.

structures and lines of communication with the Indians, and continued the Company's long association with England's scientific community.

Indigenous resistance to vaccination across a range of international contexts was frequently characterised – like that of mothers and working-class objectors – as ignorant or superstitious.[901] Indian resistance was, on occasion, a result of their distrust of the authorities' motives, which was illustrated in a significant anti-vaccination protest in 1804, prompted by concerns that the practice of recording the details of the vaccinated would lead to either capitation tax or transportation.[902] This fear was reflective of the ability of vaccination to be used by colonial authorities to reach and assess indigenous populations, under the cover of benevolence.[903]

To what extent, then, was this global tendency to use vaccination as a tool of colonial rule present in the Australian colonies? Its perceived utility was affected by contemporary understandings of the origin of smallpox, its impact on the Aboriginal population, and their beliefs regarding the nature of race and racial differences. Several authors have drawn comparisons between the Native Americans and Aboriginal Australians in terms of the devastating impact upon the populations, although Campbell noted three important differences: the smaller populations in Australia, less frequent introductions of smallpox and fewer epidemics.[904] Three major epidemics occurred among the Australian Aborigines: in 1789 and 1829-32 in eastern Australia, and across the continent for much of the 1860s.[905] The latter epidemic consisted of two identifiable parts; from the north to the south coast between 1861 and 1866, and across the north-west coast between 1865 and 1869.[906]

Aboriginal reactions to smallpox are difficult to reconstruct, although fear of the disease seems to have been common, and a natural response given the severity of its impact on the indigenous

[901] Smith, *op. cit.*; Brimnes, *op. cit.*, p. 203.
[902] Brimnes, *op. cit.*, p. 228; Bhattacharya, Harrison, and Worboys, *op. cit.*, pp. 52-75; Bennett, *op. cit.*, p. 213.
[903] Anderson, *op. cit.*, p. 1; Pearson, (2004), *op. cit.*, p. 105.
[904] H.M. Carey and D. Roberts, 'Smallpox and the Baiame Waganna of Wellington Valley, New South Wales, 1829-1840: the earliest nativist movement in Aboriginal Australia', *Ethnohistory* 49(4) (2002), p. 829; J. Campbell, *Invisible Invaders: smallpox and other diseases in Aboriginal Australia, 1780-1880* (Melbourne: Melbourne University Press, 2002), p. 46, 50, 161.
[905] G.L. Mullins, 'A Brief History of Smallpox and Vaccination in New South Wales, from the foundation of the colony to the present day', *AMG* Dec. 21, 1896:501-3; Feb. 20, 1897: 74-7; Aug. 20, 1897: 376-8; Oct. 20, 1897: 492-6; Apr. 20, 1898: 147-9; Campbell, *op. cit.*, pp. 11-13.
[906] F. Fenner, 'Smallpox, "the most dreadful scourge of the human species": its global spread and recent eradication', *MJA* 141 (1984) pp. 731-732.

people. Carey and Roberts have focused on evidence of religious responses, and argued that the Baiame Waganna revealed hostility among the Aborigines of New South Wales to the presence of the European settlers and the diseases they brought, specifically smallpox.[907] This was a religious dance, accompanied by singing, directed to Baiame, a spirit being, and involving reference to his adversary, Tharrawiirgal, the spirit associated with smallpox.

The smallpox outbreaks among the Aboriginal people impacted very little upon the European population. Dr Robert Gething, following his journey to investigate the outbreaks of smallpox in South Australia in 1866-7 among the Aboriginal communities, suggested 'that the Europeans have suffered so little I imagine may be from the slight communication they have with the blacks, their very scattered population and nearly all adults having been previously vaccinated'.[908] Further, the extreme mortality suffered by Aboriginal groups affected by smallpox contributed to the popular colonial impression of Aborigines as a 'dying race'.[909]

Unlike the United States, no special legislation was ever enacted in the Australian colonies to deal specifically with smallpox within Aboriginal communities. However, colonists who came into contact with affected groups often offered varying degrees of assistance. Vaccination was not available during the first occurrence in 1789, but medical care was given to a few sufferers.[910] During the 1829-32 epidemic, the Governor ordered the colonial surgeons to provide gratuitous vaccination to all who applied, in an effort to prevent the spread of the disease and to allay the fears of the European community. Further, 'the settlers were requested to induce the blacks to submit to the operation.'[911] Aborigines were also offered vaccination in 1839 in Adelaide, by various medical men or concerned settlers throughout New South Wales between 1830 and 1831, and in Victoria in 1876.[912]

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[907] Carey and Roberts, *op. cit.*, pp. 822-3.
[908] R. Gething cited in Campbell, *op. cit.*, p. 186.
[909] Campbell, *op. cit.*, p. xii; R. McGregor, *Imagined Destinies: Aboriginal Australians and the doomed race theory, 1880-1939* (Melbourne: Melbourne University Press, 1997), pp. 17-18.
[910] Mullins, *op. cit.*, pp. 501-2.
[911] R.J. Flanagan, *The History of New South Wales: with an account of Van Diemen's Land, New Zealand, Port Phillip, Moreton Bay, and other Australasian settlements: comprising a complete view of the progress and prospects of gold mining in Australia* (London: Samson Low and Son, 1862).
[912] Campbell, *op. cit.*, pp. 129, 138-9, 141-2, 146-7, 162.

Responses from the Aborigines seem to have been positive, with Dr John Mair, a regimental surgeon sent to enquire into the outbreak late in 1831, recording that, 'while its frightful symptoms and dire effects were still in their memories, they were willing to submit to a simple operation'.[913] The willingness of Indigenous Australians to be vaccinated was more reserved than that of the Maori population in New Zealand, who enthusiastically embraced the technology when offered it by health authorities.[914] Nevertheless, Mair was keen to make vaccination among the Aborigines more general, because 'a friendly intercourse might be established between the Colony and the more distant tribes, leading to highly beneficial results'.[915] Campbell has suggested that the Aboriginal people blamed the British for introducing smallpox, so offering a preventive might have gone some way towards healing this rift of distrust.[916] In fact, this desire to demonstrate the benevolence of the settlers through the provision of western medicine mirrored that of European colonists elsewhere.

However, vaccination of Aborigines seems to have occurred infrequently, only in response to the presence of smallpox, and as a result of the enthusiasm of individual men, albeit with the approval of the government. No effort was made to impose compulsory vaccination upon the indigenous population. The smallpox epidemic of the 1860s was described as devastating to the Aboriginal people of Victoria, making it exceedingly unlikely that any significant proportion of them were vaccinated. Frank Madden, for example, remarked in 1899 that:

> …those who remember the black-fellows of 30 years ago…know that more than half of them were pock-pitted. That fact shows that if the disease gets rampant in this colony, where there are not so many people to the square mile, where there is but a scattered population, the ravages of small-pox are very great and very serious. In those days the population of Victoria was very small compared with what it is to-day, and yet a great number of the black-fellows got small-pox.[917]

Madden was, perhaps, exaggerating his case to make his point, but the level of impact he described would be largely consistent with a population almost entirely unprotected. Mortality from smallpox when it appeared among Aboriginal populations was exacerbated by the lack of health

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[913] J. Mair cited in Campbell, *op. cit.*, p. 146.
[914] F.S. Maclean, *Challenge for Health: a history of public health in New Zealand* (Wellington: Government Printer, 1995), pp. 223-245; R. Lange, *May the People Live: a history of Maori health development, 1900-1920* (Auckland: Auckland University Press, 1999), p. 74.
[915] Campbell, *op. cit.*
[916] *Ibid.*
[917] 'Non-Compulsory Vaccination Bill', *VPD*, LA, 1899, Vol. 92, p. 1532.

care and facilities for sufferers. Peter Beveridge, a squatter and author, who wrote about the Aborigines of the Murray, Murrumbidgee and Darling areas, described the impact of smallpox upon these susceptible populations:

> During the earlier stages of its ravages, the natives gave proper sepulture to its victims. At last, however, the death-rate assumed such immense proportions, and the panic grew so great, that burying the bodies was no longer attempted; the survivors who were strong enough merely moved their camps daily, leaving the sick behind to die unattended, and the dead to fester in the sun, or as food for the wild dogs and carrion birds, which battened to their hearts' content thereon.[918]

The only Aboriginal people likely to have any protection against smallpox at that time were those who had either had smallpox in the epidemic circa 1830, or who had been vaccinated at that time, although its protective effect after so long is doubtful.

Vaccination offered an opportunity to reach and assess the Aboriginal people, within a largely unobjectionable, benevolent bureaucratic structure; why, then, did this not happen, as it did elsewhere? The differences between the Australian colonies and European colonies elsewhere in the world made it impractical and unjustifiable. The sheer size of the Australian continent, combined with the thinness of population and small number of colonists, rendered comprehensive Aboriginal vaccination a mammoth and expensive prospect, with little real return. The Aborigines were not part of trade networks in the same way as the Native Americans were for the British fur-traders, so economic gain was not a potential motivation. Smallpox only infrequently appeared among the Australian Aborigines, and the colonists did not believe that it originated with them, and so they were not regarded as a major source of infection, or health threat to the white population. Further, many colonists were vaccinated or had had smallpox, especially in the first half of the nineteenth century. These factors were compounded by a prevailing view that the Aborigines occupied an inferior position on the racial hierarchy and were a 'dying race', not posing any threat or worth much attention.[919] This perspective contrasted sharply with the way that the Chinese in Australia were viewed by the white Australians.

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[918] *AMJ*, Vol. 22, 1877, p. 20; J.A. Hone, 'Beveridge, Peter (1829-1885)', *ADB*, Vol. 3 (Melbourne: Melbourne University Press, 1969): 161-162.
[919] Cronin, *op. cit.*, pp. 69-70.

Chinese immigrants to the Australian colonies constituted the largest non-European population, and their experiences have been analysed in detail by a number of historians, frequently with direct comparison to the Californian experience.[920] There were a small number of Chinese workers in the colonies prior to the gold rushes, who were engaged in pastoral work to meet some of the demand created by the end of the convict system. The discovery of gold in New South Wales and Victoria, however, saw a massive increase in the Chinese population of these colonies during the 1850s. Although their presence was initially accepted, anti-Chinese feeling grew among the Europeans, and restrictive immigration legislation was passed in 1855 in Victoria and 1858 in New South Wales. The situation was different in Tasmania, where there were very few Chinese, and so no legislative action was taken, despite talk of the general undesirability of Chinese immigration.

The European settlers' concerns, during this early period, frequently arose from practical issues on the goldfields and differences between methods of working and living. From these complaints developed concerns about the overall difference of the Chinese from the Europeans, including colour, religion, customs, hygiene and morality, contributing to a desire for racial homogeneity and characterisation of the Chinese as an inferior race. As the momentum of the rush petered out and Chinese numbers declined, opposition to their presence weakened, and so economic and humanitarian arguments against discriminatory legislation gathered strength. The colonies repealed the restrictive acts by the late 1860s, although Victoria retained some lesser discriminatory laws.

During the late nineteenth century, concerns about the Chinese resurfaced as increasing numbers of Chinese moved from the rural to the urban areas of New South Wales and Victoria, and changed from mining to other occupations, which made their presence more visible and increasing the focus on competition for employment. The growth of tin mining in Tasmania increased in the Chinese

[920] A. Curthoys, *Race and Ethnicity: a study of the response of British colonists to Aborigines, Chinese, and non-British Europeans in New South Wales, 1856-1881* (Ph.D. thesis: Macquarie University, 1973); C.A. Price, *The Great White Walls are Built: restrictive immigration to North America and Australasia, 1836-1888* (Canberra: Australian National University Press, 1974); A. Markus, *Fear and Hatred: purifying Australia and California, 1850-1901* (Sydney: Hale and Ironmonger, 1979); K. Cronin, *Colonial Casualties: Chinese in early Victoria* (Melbourne: Melbourne University Press, 1982); P.H. Curson, *Times of Crisis: epidemics in Sydney, 1788-1900* (Sydney: Sydney University Press, 1985), pp. 112-114; H. Chan, A. Curthoys, and N. Chiang (eds.), *The Overseas Chinese in Australasia: history, settlement and interactions, Proceedings* (Taipei : Interdisciplinary Group for Australasian Studies (IGAS) and Centre for the Study of the Chinese Southern Diaspora, 2001); J. Matthaus, '"Fur alle Zeiten Weiss": einwanderungspolitik und nationals selbstverstandnis Australiens im 19. und fruhen 20. jahrhundert', *Zeitschrift fur Geschictswissenschaft* 50(4) (2002): 294-315.

population in that colony, but most remained in regional areas, employed in mining. Although there was a view that the Chinese might prove useful in tropical areas, where it was believed that white races were unsuited to labour, anti-Chinese agitation eventually led to restrictive legislation being reintroduced in 1881 in the mainland colonies. Throughout this period, the Chinese were depicted as carriers of diseases, especially leprosy and smallpox, as engaged in all forms of vice, and as being completely unsuitable for integration into Australian colonial society, and opinions were greatly influenced by comparable experiences in California. However, Price noted that there existed a significant degree of opposition to these views in the colonies, 'both political and liberal-humanitarian,' that argued that 'the long-term trend in numbers was down…, that as many Chinese worked at European wages they were not undercutting white labourers, that the Chinese were not the only carriers of smallpox, and that there were white areas of Sydney just as vice-ridden and squalid as the Chinese areas.'[921] Nevertheless, there can be little doubt that disease and, more specifically, smallpox, were closely associated with Chinese immigrants.

This attitude was evident even as early as the 1857 smallpox outbreak in Melbourne. Although its origin was traced to a sailor from the *Commodore Perry*, which had sailed from Liverpool, and there was no suggestion at all of any connection to Chinese, the Chinese in Victoria were singled out as a potential threat to the public health. The issue was raised in Parliament, and it was pointed out that 'All Europeans who came here were vaccinated, and… all Chinese ought to be compelled to undergo the operation.'[922] Consequently, negotiations were conducted with the Chinese protectors 'with the view of inducing them voluntarily to submit to be vaccinated.'[923] Caught up in the panic of the epidemic, the *Age* expressed outrage at the 'flippant manner' in which the Government approached the issue, sarcastically reminding its readers that 'It is a pleasant reflection for the people that, even should the present visitation of the disease be neutralised, the *virus* may at any moment re-appear among our fifty thousand Celestial invaders!'[924] The language here made clear the status of the Chinese population as outsiders of a menacing nature, who presented a threat to white society. Given this reaction, it is unsurprising that the Government increased the level of its response, and indicated that Chinese vaccination would be made compulsory.[925] Compulsory

[921] Price, *op. cit.*, p. 173.
[922] 'Chinese Vaccination', *Age*, 23 October, 1857, p. 5, c. e.
[923] *Ibid.*
[924] *Age*, 30 October, 1857, p. 4, c. d. Emphasis in original.
[925] *Age*, 2 November, 1857, p. 5, c. b.

vaccination of Chinese immigrants was not, however, included in Chinese immigration legislation in Victoria or New South Wales, and the extent to which it was actually carried out is unclear.

Vaccination of other races, especially those considered to be inferior to Europeans, was not without its potential complications. Dr Mingay Syder alerted the public to what he believed to be a 'fearful danger':

> Fifty thousand morbid constitutions are to be forthwith vaccinated,… I would not for any purpose create alarm, but I feel more anxiety than I can well express; the bare idea of the chance of any European child or adult being vaccinated from one of those creatures makes me shudder! … Is it not the universal opinion, nay an established fact beyond reasonable question, that transmission of 'hereditary taints' result from indiscriminate vaccination? Gracious goodness, imagine, if you can, the almost certain addition of Chinese hereditaries to those well known to exist in the European race![926]

Syder assumed that specifically Chinese diseases would be transferred to European children, causing racial degeneration through the unsanitary practice of vaccination. His words implied that syphilis, and worse, would be spread as a result of carelessness, accident or design. Although his perspective was not the dominant one, fifteen years later a similar fear was exhibited by European mothers in New Zealand, whose children had been vaccinated with lymph from the arms of Maori children:

> The white mothers believed that with the lymph their children would acquire some of the Maori qualities, and perhaps develope [sic] a taste for cold missionary or lay-reader barbecued. So high did the indignation run, that the doctors stood in danger of being driven from society, because they refused to bow to the prejudices of the white population, from whom the bulk of the fees were received.[927]

The medical practitioner relating this story mocked the concerns of the white mothers, which he claimed demonstrated the 'general ignorance which prevails, and of the curious belief that the ways of diseases are peculiarly mysterious, affecting not only the body, but altering the very constitution of the mind itself.'[928]

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[926] *Age*, 11 November, 1857, p. 4, c. f.
[927] 'Small-Pox and Vaccination', *AMJ*, Vol. 22, 1877, pp. 116-117.
[928] *Ibid.*

Such concerns, however, were in the minority when compared with those who rated the threat posed by unvaccinated Chinese higher than that presented by vaccinated Chinese. The timing of the outbreak meant that there were many Chinese in Victoria and sufficient time had elapsed since the beginning of the gold rush for antipathy towards their presence to become substantial. There was a feeling, intensified by the appearance of smallpox in Bendigo, that 'should the pestilence break out amongst them, the consequences will be truly appalling'.[929] The repeated insistence upon the threat posed by the Chinese reflected wider concerns about their perceived unsanitary conditions and general 'otherness'. Although smallpox was endemic to Britain and much of Europe, Asian countries were characterised as sources of disease, a threat that was probably magnified in the Australasian colonies as a result of their relative proximity.

The Chinese were not the only racial group identified in this way; for example, the 1887 outbreak in Launceston was speculated to have been imported either by Indian hawkers vending the property of smallpox patients, or by Chinese recently arrived on board the *Port Victor*.[930] However, there was pressure from Britain to consider the effect of restrictive or discriminatory legislation upon Imperial treaties, standards of relations within the Empire, and British ideals of humane behaviour, even though British parliamentarians understood the position of the colonists.[931] The numbers of Indians in the colonies were never comparable to those of the Chinese, and so the pressure to legislate against them in a similar manner was not present.

As the century progressed, the issue of Chinese Immigration gathered strength in the colonies and, although it was not the main focus of the debate, health and disease were important factors. During discussion of the Influx of Chinese Restriction Bill, Henry Parkes argued in the New South Wales Legislative Assembly that 'the most deadly diseases known to the world come from the East', which he attributed to the overcrowded and impoverished state of China.[932] This, he argued, was sufficient reason to quarantine all ships bearing Chinese passengers, whether disease was present on board or not. Although this was not approved in New South Wales, it was in Victoria, where in 1881 the Government ordered all intercolonial vessels from New South Wales, as well as all

[929] 'Small-Pox in Victoria', *Age*, November 14, 1857, p. 5, c. d.
[930] 'Alarming Outbreak of Small-Pox', *Daily Telegraph*, 26 September, 1887, p. 3, c. a
[931] Price, *op. cit.*, pp. 35, 158, 272-3.
[932] 'Influx of Chinese Restriction Bill', *NSWPD*, LA, 1881, Vol. 1, p. 266.

vessels from China, to be stopped for inspection at the quarantine ground.[933] The first reported case of the 1881 Sydney epidemic occurred at the house of a Chinese man, the significance of which J.H.L. Cumpston debated:

> From the fact that a Chinese house was the first attacked, one might be tempted to deduce an Asiatic origin for the disease. Such a deduction, however, would not however be justified, and in spite of the fact that this case created a great deal of anxiety and apprehension in Sydney, and therefore, presumably, evoked searching inquiry, there is absolutely no evidence of the origin of the disease in this first case.[934]

Cumpston's detachment was not so easily achieved by the colonists during the panic of the 1880s. During debate on smallpox precautions in the Victorian Assembly, David Bowman argued that:

> The old buildings there should be pulled down, and the Chinese removed to some other quarter. It is the opinion of medical authorities that many of the diseases that fly about arise from the filth of such places. It has been said that small-pox has been brought from China in tea, and from India in the clothing which the Indian servants have brought with them, and, whether that is the case or not, I think it would be a good think [sic] if these wretched miserable Indians were kept out of the colony, together with the Chinese. The filthy habits of the Chinese must tend to promote disease; in fact, in most parts of China small-pox is always prevalent.[935]

Much attention was given by the press and the parliament to instances of smallpox occurring in Chinese passengers onboard ships bound for the Australasian colonies.[936] However, it would be fair to note that smallpox was very prevalent in Britain and other European countries. Bowman, who was a union official before he became a politician, remained closely affiliated with the emergent Labor party, and his views on this topic were consistent with this movement's concerns about competition from non-European labourers and its use of arguments 'from non-European economic competition to sexual attacks on European women, the threat to 'Australian civilization' and the dissemination of leprosy and other loathsome diseases.'[937]

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[933] 'Small Pox', *VPD*, LA, 1880-81, Vol. 36, p. 2924.
[934] J.H.L. Cumpston, *The History of Small-pox in Australia, 1788-1908* (Melbourne: Government Printer, 1914), p. 11.
[935] 'Small Pox', *VPD*, LA, 1884, Vol. 46, pp. 735-736.
[936] For example, the case of the *Menmuir*, in 1883, in which two Chinese passengers were diagnosed with smallpox resulting in their quarantine in Little Bay. The handling of this episode was debated at length in the Legislative Assembly. 'Smallpox, &c.', *NSWPD*, LA, 1883, First Series, Vol. 8, pp. 345-360. See also, 'Quarantine of Mail-Steamer "Rome"', *NSWPP*, LC, 1883-4, Vol. 36, Part 1, pp. 1279-1286 for a similar case.
[937] Markus, *op. cit.*, pp. 176-179, 205-222, quotation from 216-217.

The small Chinese population in Tasmania meant that, for a long time, the impetus necessary for the successful passage of restrictive legislation was absent. Indeed, the number of 'full-blood' Chinese was never recorded as reaching 1000 persons, between 1881 and 1921.[938] However, Tasmania came into line with the other colonies in 1887, and Price argued that 'talk of smallpox on the mainland carried the Assembly and pleas for uniformity with the other colonies just carried the Council.'[939] Tasmania's position echoed that of the mainland colonies, but lacked the urgency provided by the physical presence of large numbers of Chinese. Thus, in 1888, when Victorian authorities declared that all Chinese were to be quarantined, regardless of the origin of their ship, because of the existence of outbreaks of infectious diseases in some Asian ports, the Tasmanian Central Board of Health denounced the move as unnecessary and unjustified, 'even in the case of Chinese', because they did not believe that 'any other considerations than those of public health should instigate the putting in force of the provisions of the Quarantine Act'.[940] Nevertheless, the Tasmanian Chinese Immigration Act 1887 was a discriminatory act, and it required that all Chinese entering the colony be compulsorily vaccinated, and this was carried out by the Superintendent of Vaccinations, C.E. Barnard.[941]

The Act passed at the end of 1887 must have been informed to some degree by the outbreak of smallpox in Launceston in the middle of that year. The first identified case was a European woman living near the wharf, but it was suggested that its appearance was attributable to importation by Chinese passengers on board the *Port Victor*, through fomites in clothing.[942] Mault, however, noted that they were all traced and quarantined, and that no case of smallpox appeared amongst them. The source of the contagion was not discovered in this instance, and the suspicion that the Chinese were to blame lingered.

The medical profession often supported the view that Chinese immigrants presented a greater risk to colonial society than other immigrants. For example, a meeting of the Launceston General Hospital medical staff in 1881 recommended, among other things, that Chinese immigrants be

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[938] 'The Chinese in Australia', Official Year Book of the Commonwealth of Australia, 1925 (ABS cat. no. 1301.0).
[939] Price, *op. cit.*, p. 185.
[940] A. Mault, 'Central Board of Health: interim report', *TPP*, 1888, No. 118, p. 17.
[941] AOT: CSD 16/29/458; J. Lee, 'Anti-Chinese Legislation in Australasia', *The Quarterly Journal of Economics*, 3(2) (Jan., 1889): 218-224.
[942] Cumpston (1914), *op. cit.*, p. 55; P.B. Walker (ed.), *Prelude to Federation (1884-1898): extracts from the journal of James Backhouse Walker, F.R.G.S., legal practitioner, historian, author* (Hobart: O.B.M., 1976), p. 60.

quarantined for six or nine days as medical inspection was insufficient to avoid the possibility of disease being introduced.[943] Although the rationale behind this was probably premised on communication difficulties, the staff also explicitly asserted that the Chinese would introduce smallpox, and therefore needed to be kept out of the colony as much as possible, and that the quarantine recommendation was therefore simultaneously intended as a deterrent.

Regarding vaccination, the Chinese in the Australasian colonies were a special case, singled out for compulsory vaccination on the grounds that their 'Chineseness' presented a greater threat in terms of smallpox than any other racial group. Arguments referred to their sanitary and hygiene habits, their living conditions, racial predisposition towards certain diseases, and the prevalence of smallpox in China. However, it is clear that health concerns reflected wider issues to do with relations between European settlers and Chinese immigrants. Concerns about the 'influx' of Chinese into the colonies heightened during the 1880s, partly as a result of perceived connections between Chinese and the Sydney smallpox epidemic. The result of this was that Chinese vaccination policies tightened contemporaneously to the increase in anti-compulsory vaccination sentiment among the European population. That is, as public attention focused on the problems of compulsory vaccination, including its contravention of the liberty of the individual to make decisions regarding the body, the ability to debate these issues was taken away from the Chinese population, defining them as outside the society that was in the process of being formed during this period and denying them the rights of the citizen.

Baldwin's geo-epidemiological theory of prophylactic policies highlighted the importance of proximity to founts of disease in influencing the imposition of quarantine.[944] Bashford, for example, argued that the close proximity of the Australian colonies to Asia, and hence the Oriental disease founts, made a significant contribution to the formation of their relatively strict quarantine laws.[945] However, Maglen has demonstrated that the 'perception of nearness to disease founts in Asia was not operating in the earlier part of the nineteenth century when quarantine policies, practices, and infrastructures were created' in the Australian colonies.[946] The focus in the earlier

[943] AOT: CSD 13/36/479.
[944] P. Baldwin, *Contagion and the State in Europe, 1830-1930* (Cambridge: Cambridge University Press, 1999), p. 211.
[945] A. Bashford, 'Quarantine and the imagining of the Australian nation', *Health* 2(4) (1998): 387-402, p. 393.
[946] K. Maglen, 'A World Apart: geography, Australian quarantine, and the mother country', *Journal of the History of Medicine and Allied Sciences* 60(2) (2005): 196-217, pp. 207-208.

period was upon England and English ships, as smallpox was considered to be endemic there, but the turning-point occurred in 1881, when the blame for the smallpox outbreak in Sydney was placed upon the Chinese. Watters argued that this epidemic probably had a European source, but that Parkes's government encouraged and exploited the pre-existing propensity to attribute the introduction of disease to support his efforts to introduce legislation to restrict Chinese immigration.[947] Such actions had significant negative consequences for Chinese already resident in the colonies, who experienced discrimination and violence, and for those arriving during this period, who were unjustly quarantined.

Durbach argued that, within the English vaccination debate, the right of control over one's own and one's children's bodies was not claimed to be a universal human right, but a privilege derived from English citizenship.[948] Although the use of the language of citizenship in English vaccination arguments was part of the process of redefining the classed and gendered nature of citizenship and conscience, its relevance to debates about race in the Australian colonies becomes clear when Chinese vaccination policies are compared to the other Chinese policies implemented at this time. Apart from entry restrictions, at various times there existed laws prohibiting naturalisation, banning mining without authority from the Minister for Mines, and excluding Chinese from voting at Mining Board, local government and parliamentary elections, and proposed laws establishing restraints on residence, movement and occupations, and prohibiting Chinese from holding real property. As Price summarised it, 'it seemed so apparent that the Chinese were unassimilable aliens, who could never understand European systems of values and government, that it was pointless to give them citizenship or the vote'.[949] In this context, then, the forcible vaccination of Chinese can be seen as an expression of the settlers' denial of citizenship to the Chinese immigrants. By virtue of being incapable of assimilation, they simultaneously forfeited the 'British', and thus colonial, liberty which granted the ability to question compulsory legislation.

Colonial attitudes towards Aborigines and Chinese differed markedly, and this was reflected in vaccination policy. Curthoys noted that colonial attitudes towards non-British groups were informed by ethnocentrism, racism, liberalism and the desire to maintain the British character of

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[947] G. Watters, 'The S.S. *Ocean*: dealing with boat people in the 1880s', *Australian Historical Studies* 34(120) (2002): 331-343.
[948] Durbach (2002), *op. cit.*, p. 60.
[949] Price, *op. cit.*, pp. 274-275.

the community, but she further argued that the ways in which these beliefs were expressed in behaviours towards non-British people were affected by contact and experience, and expressed in terms of a racial hierarchy.[950] Aborigines were considered racially inferior, largely ignored and, although some efforts were made to assist them from the 1870s, a distinction was made between 'full bloods' and 'half castes'.[951] The Chinese were also believed to be naturally inferior, but they posed a challenge to British dominance through 'their potential numbers and their economic behaviour, and because they were immigrant rather than defeated indigenous people'.[952] The other main group were non-British Europeans, and they were largely assimilated or their cultural differences tolerated. Curthoys argued that the 'explanation for these differing responses lies in the difference between the three major non-British groups in terms of physical appearance, social conformity to British norms, numbers (and increase or decrease in numbers), and economic role.'[953]

As Curthoys suggested differences were, to some extent, attributable to presence. While the Chinese were very visible, and became increasingly so over the course of the century, Aborigines became less visible. As Markus noted, 'Aborigines were not present in significant numbers in the cities and thus did not present a threat to the urban dweller, and his cultural chauvinism did not inspire him with an interest in the race.'[954] The perception of the Aboriginal race as dying contributed to the progress of Social Darwinism among the colonists. This theory, Cronin suggested, 'conferred on the colonists a ready, simple defence of the status quo of conquest, a rationale of white expansionism. The extermination or exclusion of Aborigines or Chinese was "simply a fight of races" from which the fitter white race emerged victorious.'[955]

Social Darwinism was not the first racial theory to be used to justify colonial actions.[956] Monogenists held that all races originated from the same source, and were essentially equal, but that time and good conditions were necessary for races such as the Chinese and Aborigines, who lagged behind the advanced white races, to attain the same level of achievement, justifying existing

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[950] A. Curthoys, *Race and Ethnicity: A Study of the Response of the British Colonists to Aborigines, Chinese and Non-British Europeans in New South Wales, 1856–1881* (Ph.D. thesis: Macquarie University, 1973), p. 651.
[951] *Ibid.*, pp. 108, 175-177.
[952] *Ibid.*, p. 250.
[953] *Ibid.*, p. 666.
[954] Markus, *op. cit.*, p. 257.
[955] Cronin, *op. cit.*, p. 70.
[956] *Ibid.*, pp. 66-70; McGregor, *op. cit.*, pp. 19-21.

inequality. Polygenists, on the other hand, argued that each race had a separate creation, and that each possessed unchanging mental, moral and physical characteristics, creating a racial hierarchy topped by Europeans and degraded by miscegenation. A corollary of this view was the belief that 'certain races had aptitudes or immunities to particular diseases and that Chinese would infect Europeans with the 'darker maladies' of cholera, typhoid, small-pox and leprosy.'[957] Thus, extra measures to prevent the spread of these diseases were called for, and legitimised. Compulsorily vaccinating Chinese immigrants as they arrived was easier than enforcing universal vaccination, and it appealed to a large proportion of the community as addressing their concerns. The liberty of the Chinese individuals was less of an issue than the liberty of the European parent. A choice still existed for the Chinese – they would not be vaccinated if they did not come to Australia – but this choice aligned with the desire to limit their entry.

Vaccination policy regarding race was, then, a reflection of the European colonists' perception of a racial hierarchy in which they were destined to triumph. Chinese and Aboriginal Australians could not attain the same level of civilisation as European Australians and could not therefore acquire the rights of the citizen that were central to the development of vaccination policy regarding white Australians. However, it was also influenced by perceptions of risk. Smallpox was considered to be an exotic disease, and colonists feared its importation from the outside world. The Aborigines, although occasionally affected by smallpox, were not seen as a source of contagion in the way that the Chinese were, and the heavy mortality they experienced was viewed as further evidence of their passing. The exoticness and 'otherness' of the Chinese was evidence of the contagion they carried and, for practical as well as ideological reasons, required the action not considered necessary for the indigenous population.

[957] Cronin, *op. cit.*, p. 69.

6.5: Conclusion

Both the implementation of the technology of smallpox vaccination and the debate surrounding it affected people in different ways, and these differences were functions of facets of their identities. In discussing the role of medicine in the colonisation of Australia, Anderson concluded that:

> By the end of the nineteenth century, it was the social terrain, organized primarily by race and then by class and gender, that really mattered, not the physical topography and climate. Once a means to describe, or reinvent, "home", to resettle a race after the trauma of migration, medicine became more often a way to calculate modern kinship and civic responsibility, to articulate and negotiate biological qualifications for citizenship.[958]

Vaccination both reflected and contributed to this process of developing and defining citizenship. Significantly, definitions were not static, but changed over time. Working-class parents were targeted by vaccination programs, and their objections were initially derided as the result of ignorance or superstition. Towards the end of the century, however, attitudes changed to allow for the possibility of conscientious objection, extending responsibility and respectability to parents of all classes. This extension was a consequence of explicit claiming of citizenship by working-class parents and gradual recognition of their claims.

Similar developments occurred in the intersection between gender and vaccination. While the roles ascribed to men and women within the implementation of vaccination largely adhered to separate spheres ideology, the activity of parents within the debate surrounding vaccination went beyond this rigid definition of roles. By campaigning as parents, objectors established a political and public role for parents, preparing the way for legal recognition of this role in the conscientious objection clause. It also contributed to, and reflected, the development of recognition of the citizenship of women, which culminated in female suffrage.[959]

By framing their claims to responsible and conscientious objection in terms of their rights and liberties as English citizens, the working-class and parental objectors highlighted the overriding

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[958] W. Anderson, *The Cultivation of Whiteness: science, health, and racial destiny in Australia* (New York: Basic Books, 2003), p. 256.

[959] Female suffrage was achieved in the newly federated Australia in 1902, although South Australia and Western Australia possessed it prior to Federation.

racial nature of conceptions of citizenship. The vaccination debate affected the colonised race and the immigrant race in different ways, but both situations demonstrated the European colonists' perception of a fixed racial hierarchy in which neither the Chinese nor the Aboriginal Australians were believed capable of attaining a level of civilisation equal to that of the European Australians. This was justification for denying them citizenship and its attendant rights, and this view intensified in the closing decades of the nineteenth century.

Craddock argued that 'disease and responses to it are always necessarily political' both because of medicine's ability to shape social norms, and because of the capacity of disease 'to illuminate fissures in class, gender, and race relations.'[960] An examination of the implementation of vaccination in colonial Australia, and the debate surrounding it, supports her contention. Furthermore, it highlights the contribution of medicine and medical technologies to the construction of identity and conceptions of colonial citizenship.

[960] S. Craddock, 'Engendered/Endangered: women, tuberculosis, and the project of citizenship', *Journal of Historical Geography* 27(3) (2001): 338-354, p. 339.

CHAPTER SEVEN:
Conclusion

The introduction of conscientious objection clauses in Tasmania and Victoria effectively made vaccination optional in all three colonies. It did not, however, mark the end of debates concerning the safety and utility of vaccination, the appropriateness of compulsion or the limits of state intervention. With the beginning of the new century came a series of events that presented further challenges to the ideals espoused and developed over the course of the vaccination debate, and presented new opportunities for negotiating the relationships between the state, the medical profession and the public.

At the turn of the century, the colonies were preoccupied with other events. Experiences with disease and disease prevention had contributed to the formation of modern bureaucratic structures, the beginnings of a national identity, and the movement towards Federation. The civic nationalism of the federation period was proud of Australia's British heritage and its place within the British Empire. In their enthusiasm to defend the Empire, the majority of the young men who hurried to South Africa to participate in the Boer War were vaccinated against smallpox during the sea voyage.[961] There seems to have been little serious opposition to this, despite its unpleasantness in the short term, as it formed part of a raft of sensible and somewhat exciting preparations for war. Although most of them had not been vaccinated previously, they were willing to undergo the operation at that time as they were expecting to be sent to parts of the world where there was a significant smallpox threat. Many soldiers also took quinine to prevent malaria, and some received vaccinations against typhoid. Developed by Almroth Wright in England and Richard Pfeiffer and Wilhelm Kolle in Germany in 1896, typhoid vaccination was offered to Imperial troops before leaving for South Africa but had only chequered success in proving its worth, for statistical, immunological and logistical reasons.[962]

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[961] C. Wilcox, *Australia's Boer War: the war in South Africa, 1899-1902* (South Melbourne, Vic.: Oxford University Press in association with the Australian War Memorial, 2002), p. 176.
[962] A. Hardy, '"Straight Back to Barbarism": antityphoid inoculation and the Great War, 1914', *Bulletin of the History of Medicine* 74 (2000): 265-290; D.S. Linton, 'Was Typhoid Inoculation Safe and Effective During World War I? Debates within German military medicine', *Journal of the History of Medicine* 55 (2000): 101-133.

Between the South African War and the start of the Great War, however, vaccination against typhoid achieved relatively widespread acceptance through improvements, particularly from a medical perspective, and doctors were eager to encourage its application. With the onset of World War I, prominent British medical experts urged their government to compulsorily vaccinate troops against smallpox and typhoid, reigniting old debates about the extent of state intervention, the rights of individual citizens – and citizen-soldiers – and the role of expertise. As Hardy noted,

> Developed in the centenary year of… Jenner's discovery of vaccination against smallpox, the typhoid vaccine inherited Jenner's double legacy to immunology: the promise of disease eradication, on the one hand, and the vociferous opposition of principled antivaccinationists on the other.[963]

The debate over typhoid vaccination, as an extension of the smallpox vaccination debate, demonstrated the limits of the political power of medicine as well as the ideological centrality of the individual citizen's right to sovereignty over his or her own body in the modern state. Interestingly, this debate ran concurrently with another, also concerned with an individual's rights and responsibilities with regard to the state: military conscription. Nineteenth-century opposition to compulsory vaccination provided, as Durbach noted, 'an obvious but contentious legal precedent for conscientious objection to the Military Services Act of 1916.'[964] The vaccination debate's legacy was a precedent of conscientious objection upon moral and political, as well as religious, grounds. Further, in Britain conscientious objection to compulsory military service was awarded through a biased and inconsistent tribunal system, similar to the early methods of evaluating conscientious objection to compulsory vaccination.

The recently federated Australian states, however, twice rejected military conscription during the Great War using, *inter alia*, reasoning that echoed the ideals crystallised during the vaccination debate.[965] Most clearly derivative was the anti-conscriptionist argument that 'every man should be

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[963] Hardy, *op. cit.*, p. 268.
[964] N. Durbach, 'Class, Gender and the Conscientious Objector to Vaccination, 1898-1907', *Journal of British Studies* 41(1) (2002): 58-83, p. 82.
[965] However, it is interesting to note that in the 1916 plebiscite, Victoria and Tasmania recorded majorities in favour of conscription, while the majority against it in New South Wales proved decisive overall. By the second plebiscite in December 1917, the 'no' majority in New South Wales had increased, Victoria swung to a narrow 'no' majority and Tasmania was evenly balanced. The trend demonstrated here reflected that shown in the vaccination debate in the previous century, lending further credence to Baldwin's argument that 'traditions are learned' and that experience contributes to the formation of political traditions. See F.B. Smith, *The Conscription Plebiscites in Australia, 1916-17*

the master of his own body'.[966] The Australian experience with compulsory vaccination had contributed to a popular reluctance to concede power to governments. Furthermore, the use – and misuse – of statistics that had become an integral part of government over the nineteenth century was critical to the failure of conscription in Australia.[967] Australia had a strong tradition of volunteerism with regard to military service and, from 1903, generally worked to provide increasing protection for conscientious objectors.[968] Smith argued that this 'no doubt reflects values and traditions in society at large such as faith in the volunteer, a certain suspicion of governments and a degree of respect for individual rights.'[969] All of these values can easily be discerned in the developing characters of the three colonies throughout the vaccination debate, demonstrating a degree of continuity between attitudes towards very different types of compulsion. However, the state did not necessarily learn a great deal from this earlier experience, as many of the same problems were repeated: the difficulties surrounding definition and assessment remained, suspicions abounded that at least some of those who claimed conscientious objector status were actually motivated by less honourable motives, and precisely who was able to claim conscientiousness continued to be controversial.

In reference to conscription, Levi and DeTray argued that although conscientious objection appeared to be primarily a moral decision, it was motivated by a combination of social values and calculations of cost and benefit.[970] The existence of legalised conscientious objection demonstrated the responsibilities of the citizen to the state, in this case military service, and the state to the citizen, to only ask what is just and to implement laws in an equitable manner. In relation to the vaccination debate, this approach highlights the centrality of the consent of the governed to successful liberal governance. In a time when expertise was becoming increasingly entrenched within government bureaucracy, public health constituted, as Bashford argued, 'a significant domain for the working out of different understandings of the responsibilities and rights

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(Melbourne: Victorian Historical Association, 1974), pp. 18-19, 30-31; P. Baldwin, *Contagion and the State in Europe, 1830-1930* (Cambridge: Cambridge University Press, 2005), pp. 556-563.

[966] Cited in Smith, *op. cit.*, p. 30.

[967] *Ibid.*, pp. 19-20, 26, 28-29, 33.

[968] H. Smith, 'Conscience, Law and the State: Australia's approach to conscientious objection since 1901', *Australian Journal of Politics and History* 35(1) (1989): 13-28.

[969] *Ibid.*, p. 26.

[970] M. Levi and S. DeTray, 'A Weapon Against War: conscientious objection in the United States, Australia, and France', *Politics and Society* 21(4) (1993): 425-464, pp. 425-426.

of government, of subjects and citizens, and indeed (perhaps especially) of non-subjects and non-citizens.'[971]

In this way, the colonial Australian experience with smallpox and vaccination demonstrated similarities with those of nations across the globe while, at the same time, revealing the significance of local conditions and historical specificity. Smallpox was never a major disease in the colonies, compared with the European states, yet administrative and popular fears concerning its introduction and potential impact were reasonable, particularly as it appeared to be entirely preventable. The geographical advantages presented by the island continent and its distance from founts of disease seemed to recommend quarantine-based preventive strategies, but they were counteracted by the apparent shrinking of the world through technological advancement and the promise offered by smallpox specific vaccination, as demonstrated by international experience.

The medical profession played a critical role in the introduction and promotion of vaccination in the Australian colonies. It was a technology closely associated with orthodox medicine and its success or failure was a reflection of the social and political influence of the medical profession. Medical actions in relation to vaccination and its implementation were therefore largely determined by aspects of professionalism, both in order to advance their professional aims and as a result of them. By aligning the needs of the public so closely with medical expertise, orthodox medicine constructed professional advancement and its goals – in this instance, the implementation of universal vaccination – as simultaneously altruistic and self-serving. The significance of these associations was that the vaccination debate contributed to the development of medicine's cultural authority, its expansion into new markets and the standardisation of medical intervention throughout the human life-cycle.

In attempting to reach every member of colonial society, medical practitioners quickly found that voluntary participation in vaccination was heavily dependent on the perceived threat presented by smallpox. They could see no reason for genuine objection, blaming instead public ignorance or apathy, particularly among the lower classes. To combat these public failings, the medical profession placed sustained pressure upon the colonial governments to implement state vaccination

[971] A. Bashford, *Imperial Hygiene: a critical history of colonialism, nationalism and public health* (Houndmills, Basingstoke: Palgrave Macmillan, 2004), p. 51.

initiatives, preferably compulsion. The varying directions taken by New South Wales, Victoria and Tasmania to promote order through public health demonstrated that medical pressure alone is insufficient explanation for the history of vaccination in the colonies and, furthermore, neither is any other single factor. English precedent provided an influential example in the developing colonies, to the almost complete exclusion of other international influences, yet remains an inadequate justification of colonial policies and actions. Similarly, political tradition, as espoused in the Ackerknechtian thesis, cannot account for the prophylactic choices made by the colonies. Facing a similar threat and possessing many cultural, economic and political parallels, each colony pursued a substantially different path in response to a range of practical and ideological stimuli, with little regard for overarching theories.

The effect of these different paths was expressed in the varying vaccination rates between colonies and across time. The principal feature presented by vaccination figures in the second half of the nineteenth century was the dominance of cycles of panic and apathy, as individuals within the population chose to engage in vaccination depending on the perceived level of threat presented by smallpox at the time. This was a complex decision, involving a range of influential factors, and the predictability of public responses was made more difficult by the subjective nature of risk assessment. A comparative examination of the vaccination figures, however, demonstrated that effectively administered compulsory vaccination laws were capable of negating this basic pattern. Victoria's high levels of infant vaccination, relative to its neighbouring colonies, were the result of consistent efforts to competently administer its legislation, creating increasingly mature and efficient organisational structures.

The significance of smallpox vaccination for the state was most clearly apparent in the effect that it had upon the development of public health as a state responsibility, the negotiation of the extent of that responsibility and the apparatuses that were established to exercise it. The presence of smallpox was frequently the stimulus for significant changes to the scope and administration of the public health functions of government. Central to the extension of public health was the increasingly pivotal role of expertise within nineteenth-century administration, solidifying the relationship between the state and the medical profession, which privileged orthodox medicine above alternative forms of healthcare. Less obviously, but equally significant, was the contribution of the experience with smallpox and prophylactic strategies to the development of a shared

Australian national identity that gradually superseded competing Imperial and individual colonial identities.

At the population level, the patterns of behaviour described by the vaccination returns suggested to contemporary medical experts that community responses to smallpox and its prevention were predominantly characterised by apathy and ignorance. Alternatively, recent historiography has taken widespread non-vaccination as evidence of extensive, albeit shallow, anti-vaccinationism. An examination of the responses of the public to smallpox vaccination in New South Wales, Victoria and Tasmania, however, indicated that the decision of whether to vaccinate or not was made on individual case bases, and essentially constituted an assessment of relative risks at a given point in time. There was an important distinction between what was rational for the individual and what was rational for the population as a whole that administrators failed to recognise. Public responses were not necessarily fickle or uninformed, but rather can be explained in terms of rational decisions that accounted for changing circumstances across a range of variables.

Public perceptions of the value of vaccination were particularly influenced by the perceived value of competing disease management strategies, of which quarantine was the leading example. Flagging vaccination rates caused governments to invest more in quarantine measures to prevent the introduction of smallpox, yet the successes of quarantine in achieving this aim contributed to further decline in vaccination participation. In a self-reinforcing manner, the existence and efficacy of complementary prophylactic strategies undermined the popular value of universal vaccination. Public reliance on a single form of prevention frustrated administrators, who preferred preventive models utilising several lines of defence.

The dissonance created by assessment and governance by authorities at the population level against the reality of decision making at the individual level found expression in the anti-vaccinationist cry of 'Lymph or Liberty' which, in a pleasingly alliterative way, constructed compulsory vaccination as incompatible with liberal values.[972] This interpretation created tension with the acknowledged aim of nineteenth-century states to protect, as far as possible, the public health. Although state responsibility for public health was largely accepted by the public, and the role of medical

[972] *The Vaccination Question: Lymph or Liberty? An attempt to educate a minister of education*, (Hobart: Calder, Bowden & Co., 1888).

expertise in informing policy recognised, public opinion was critical to the process of negotiating and regulating the extent of state intervention and expert influence. Government initiatives were most effective when they attracted the consent, if not the support, of the governed. This therefore led, as Bashford suggested, to increasingly governmental strategies in which the state and the medical profession attempted to inculcate in the public a desire for (medically defined) health to promote acquiescence with public health policies.[973]

The groups occupying different locations on the spectrum of public opinion on vaccination reflected the varying ideas about the limits of legitimate intervention. Many of the arguments, both for and against compulsory vaccination, utilised the language and concepts of citizenship and thus contributed to the process of defining the rights, responsibilities and composition of citizens and non-citizens. Aspects of identity that contributed to definitions of citizenship, including class, gender and race, intersected with the vaccination debate in ways that revealed the necessarily political nature of this process. Responses to disease and its prevention contributed to the construction of identity and conceptions of colonial citizenship.

A major theme of this thesis has been the recognition of the continual negotiation of the relationships between the state, the medical profession and the public in determining the best methods of preserving the public health. The vaccination debate explored the limits of acceptable state interventionism and, through the operation of vaccination programs, 'exemplified the growth of a bureaucratic within the liberal democratic state.'[974] In doing so, the vaccination debate encapsulated contemporary tensions between community welfare and individual liberty, and the resolution of these tensions in the public sphere. While the state incorporated medical expertise as justification for interventionist policies, sections of the population expressed their distrust of both expertise and interventionist government.

Necessarily associated with these negotiations was the use of persuasive techniques aimed at influencing the behaviour and attitudes of others. Contemporary concepts of 'proof' were clarified in attempts to regulate the behaviour of other groups. Most significantly, the use of numerical arguments increased in prominence and significance over this period. Statistics were used by pro-

[973] Bashford, *op. cit.*, pp. 57-58.
[974] D. Porter, *Health, Civilization and the State: a history of public health from ancient to modern times* (London: Routledge, 1999), p. 112.

and anti-vaccinationists to lend weight to their arguments, by the medical profession to emphasise the scientific aspect of their work, and by the state as part of wider shifts in governmental methods towards bureaucratisation.

This thesis has described and analysed the responses of the medical profession, the state and the public in the eastern Australian colonies to smallpox vaccination over the second half of the nineteenth century. It has demonstrated that the course of the vaccination debate was determined by complex interactions between each group and that, in the process of debating the use and implementation of vaccination, the roles of and relationships between each group were developed and defined. Attitudes towards disease and its prevention were affected by technological, social and political developments, meaning that they can only be understood in their geographical and temporal contexts.

This thesis has not, however, provided an exhaustive study of the many interesting aspects and implications of the vaccination debate in Australia. Certain elements of the present study deserve more focused attention. The composition and extent of anti-vaccinationism, for instance, could be further elaborated through a detailed examination of court records of prosecutions for non-compliance with compulsory vaccination legislation. Further, the individual experience of vaccination could usefully be elucidated through more extensive use of personal papers, such as diaries and memoirs. Both of these potential avenues would benefit from a more restricted time-frame or location choice. For thoroughness, further research is particularly necessary on the course and consequences of vaccination in the remaining Australasian colonies, including New Zealand, in order more firmly to establish the significance of compulsion, intervention, rights and responsibilities in the pre-Federation era.

In federating, the Australian states – no longer colonies – negotiated the creation and definition of Commonwealth powers. In the domain of health, the first power to be awarded to this new level of government was quarantine, symbolising the emergence of a single geographical and immunological body that was the product of the new nation.[975] Despite, or perhaps because of, its limited mandate, the need for a federal health department became increasingly apparent as the

[975] J.H.L. Cumpston, *Health and Disease in Australia: a history*, edited and introduced by M.J. Lewis (Canberra: Australian Government Publishing Service, 1989), pp. 7-9; M. Roe, 'The Establishment of the Australian Department of Health: its background and significance', *Historical Studies* 17(67) (1976): 176-192.

experiences of war and the Spanish influenza pandemic emphasised the need for a strong central body to coordinate responses. The establishment of a Federal Department of Health in 1921, only two years after Victoria finally introduced its conscientious objection clause, fundamentally altered the administration of public health in Australia, bringing this period to a close. In spite of its relative epidemiological insignificance, smallpox had a significant effect on the development of the Australian nation both directly, through its immediate impact, and indirectly, through the expression and resolution of the many issues involved in the vaccination debate.

APPENDIX A

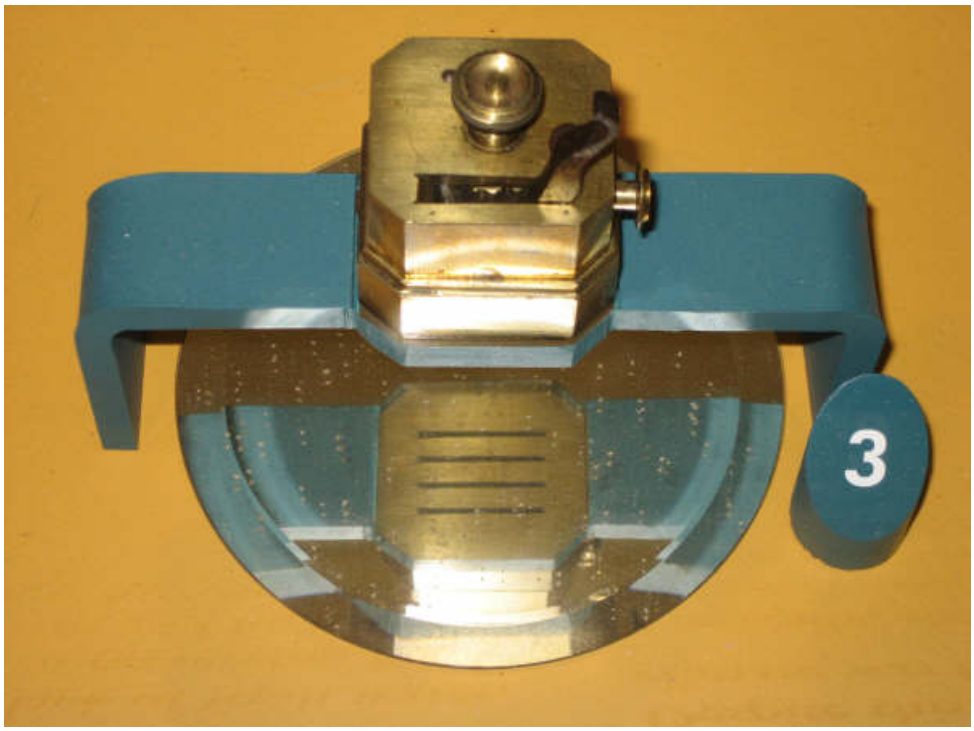

Figure 4: Vaccination machine, Fremantle Museum, Western Australia. The mirror underneath reflects the four slots through which spring loaded blades would scratch the skin and apply the vaccine lymph when the lever on top was activated.[976]

The museum dates the machine to c. 1820, and confusingly describes it as a smallpox inoculator used for vaccination. The presence of not one but four blades, as well as its age, indicate that it was used for vaccination, and not inoculation. The blue part is a display stand, and not part of the machine. None of the instructions to vaccinators or discussions of vaccination technique in medical journals mentions the use of such a machine, probably because it was fairly ineffective. Its flat base would have made it difficult to regulate the depth of the incisions, resulting in many failed vaccinations. The existence of this machine indicates a desire to improve and expedite the procedure, but not necessarily the achievement of that goal.

[976] Photo: J. Anderson, with permission of the Fremantle Museum, WA.

APPENDIX B

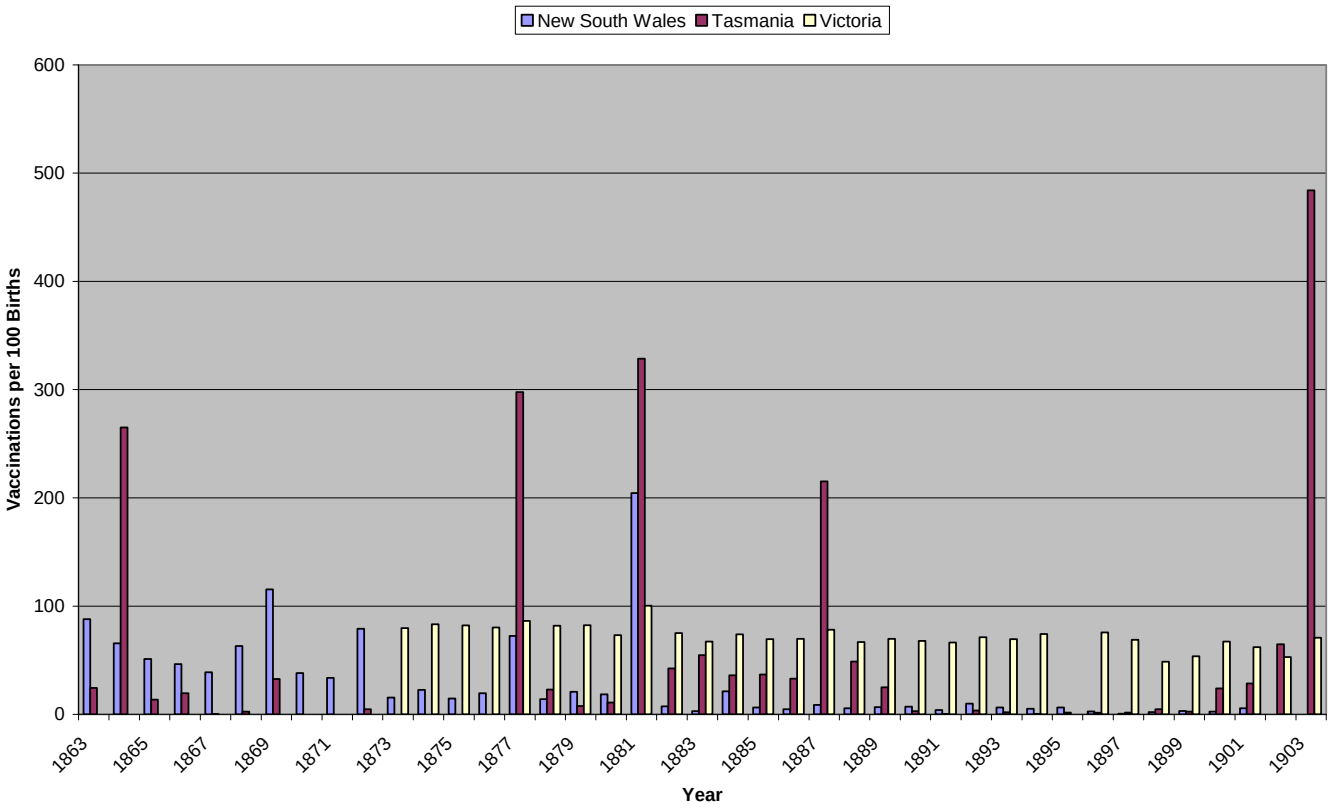

Figure 5: Vaccinations per hundred births in Victoria, New South Wales, and Tasmania between 1861 and 1903.

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7/21/1121	13/91/2127	16/35/720
7/51/90	13/52/825	16/36/768
13/55/147	13/52/926	16/26/348
13/38/525	13/38/536	16/25/306
13/41/578	13/39/566	16/27/385
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  - 69/4127-69/4387, VPRS3991/P0000/401, file 4387.
  - 77/605-77/899, VPRS3991/P0000/926, file 692.
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