Bleeding, Blistering and Observations of the Bowel: 
A Comparative Analysis of Hospital Treatment 
in the Mid-Nineteenth Century 

Amy Ruth Kamphuis BA (Hons)
Originality Declarations

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Abstract

Contributions to the extensive array of research on nineteenth-century medical history must surmount stereotyped images by placing emphasis not so much on the achievements of doctors or the acquisition of knowledge, but on the events and issues important to those experiencing life within the institutions – the patients themselves. Using the experiences of patients recorded in medical case histories, this thesis provides a comparison of care provided to inmates both before and after death at three very different nineteenth-century hospitals – the New Norfolk Hospital, located in rural Van Diemen’s Land, the Royal Naval Hospital, set in the isolated location of Bermuda, and St Bartholomew’s Hospital, situated in the bustling metropolis of London. By examining the traditional perceptions of medical institutions and their staff through the filter of inmates’ own experiences, it explores the evolving role of the patient in an increasingly medicalised society.

Through an examination of the physical environments of each of these institutions, and the methods of diagnosis and treatment utilised within them, this thesis dispels the notion that advancement originated in urban centres of learning and gradually seeped out to colonial peripheries. Indeed, the innovative research and treatment delivered by colonial surgeons in response to the peculiar nature of the convict state demonstrates that patients at New Norfolk Hospital benefited from the practical implementation of developments and advances in medical science which were transforming the wider provision of medical care in the period 1830-1850.
I would like to begin by thanking my primary supervisor, Associate Professor Hamish Maxwell-Stewart. Without his guidance and expertise this thesis may never have taken shape, and I am very grateful for his patient and supportive assistance throughout every stage of my research and writing. My gratitude also goes to my co-supervisors, some of who were only involved in part of my research, but all of whom contributed to its existence – Dr Anthony Page, Dr Tom Dunning, and Professor Pam Sharpe.

I am thankful for the assistance of Katie Ormerod at St Bartholomew’s Hospital Archives – I greatly appreciated her help in navigating the depths of the institution’s records and selecting those which were appropriate for my research. I am also grateful to Dr Susan Piddock, who generously shared details of her research into the New Norfolk Hospital, and to the staff at the Tasmanian Heritage Office for their assistance with the records for this institution. Thanks also go to Eleanor Cave, who kindly and patiently photographed a multitude of records and organised the acquisition of others on my behalf, and to many other postgraduate students whose conversations and e-mails have dissipated stress and reignited motivation.

Finally, my deepest gratitude goes to my family for working with and around me while I researched and wrote this thesis. Without your love and patience none of it would have been possible. Thank you to my parents and grandparents for the hours of childcare and proofreading; thank you to David for giving me enough time and space to read and write; and thank you to Toby and Jasper – Mummy’s book is finally finished!
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Chapter One

Introduction

The contribution of nineteenth-century hospitals to the health of patients and the wider communities they served has been a subject of heated controversy for many decades.\(^1\) Opinions, both contemporary and modern, on the care and treatment within these institutions range from invectives damning the ravages of epidemic infections and unsanitary wards,\(^2\) to more optimistic views expounding on the admirable dedication and fervour of practitioners working with limited resources and incomplete knowledge.\(^3\) A comprehensive analysis of hospital treatment regimes must, however, surmount these stereotyped images by placing emphasis not so much on the

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achievements of doctors or the acquisition of knowledge, but on the events and issues important to those experiencing life within the institutions – the patients themselves.

Using the experiences of these patients as they are recorded in medical case histories, this thesis will provide a comparison of care provided to inmates at three very different nineteenth-century hospitals – the New Norfolk Hospital, located in rural Van Diemen’s Land, the Royal Naval Hospital, set in the isolated location of Bermuda, and St Bartholomew’s Hospital, situated in the chaotic and bustling metropolis of London.4 By examining the stereotypical perceptions of medical institutions and their staff through the filter of inmates’ own experiences, the evolving role of the patient in an increasingly medicalised society can be explored.

The interest in social history over the past three decades has fostered the expansion of hospital and asylum histories based on patient case notes, such as Berkenkotter’s examination of the Royal Edinburgh Hospital, Porter and Williams’ analysis of Aberdeen’s City Hospital, Reaume’s investigation into Toronto Hospital, and Stow and Cockayne’s exploration of a mid-nineteenth-century casebook from a Suffolk hospital.5 As has been argued elsewhere, many medical histories have focused on the personalities and achievements of “healers and benefactors,” thus neglecting the experiences of the patient.6 This thesis will seek instead to contribute to our understanding of the types and outcomes of treatments – both typical and unusual – of the nineteenth-century hospital patient. It will do so through a comparative framework, which will

4 The New Norfolk Hospital is also known as the Royal Derwent Hospital.
6 See, for example, J. Hickie, The Thinkers: A History of the Physicians and the Development of Scientific Medicine at St Vincent’s Hospital, Sydney, 1837–1997 (Playwright Publishing, Caringah, 2000); Risse, ‘Hospital History’ in Porter and Wear (eds.), Problems and Methods, p. 175.
explore hospital practice and patient experience in both metropolitan and colonial hospitals, and amongst institutions which treated patients who were both free and unfree. Comparative work such as this is uncommon; Simpson’s examination of two hospitals in Arbroath, Scotland, and Waterville, United States of America, for example, is one of a very small group of studies that have attempted this kind of comparative perspective. Piddock’s comparison of psychiatric asylums in Tasmania, South Australia, and Britain and Jonathan Reinartz’s investigation of nine British voluntary hospitals also offer valuable insights in comparative frameworks.

One key aspect linking the studies in this small category is their extensive use of hospital records. These sources can provide vast amounts of detail not only regarding patients, but also about the institutions themselves. They contextualise the hospitals’ social, political and economic foundations, and reveal the ideology supporting the practice of medicine, education and professionalism within the institutions and the wider discipline. While these records filter the patient’s experiences through the practitioner’s own perceptions, biases and training, they nonetheless provide insight into “what the sufferers dreaded or demanded” from their treatment. Risse’s examination of the Royal Infirmary of Edinburgh, for example, uses rich sources of data such as case histories, admission registers, ward journals, and outcome of treatment statistics to build a highly detailed picture of the experience of the patient, set against an examination of the institution’s daily administrative functioning (based on annual hospital

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Such a ‘total’ history makes visible the interactions between internal and external factors, and allows a realistic and holistic reconstruction of hospitals activities. These historical accounts are also well-suited to comparative analyses – by examining institutions as a whole, the experiences of the patient are illuminated and thus more easily contrasted with those of the sick in other hospitals.

The potential of case notes has long been recognised by social historians, and they are widely utilised in the rapidly growing genre of social research. Other than Risse’s analysis of the Royal Infirmary of Edinburgh, studies using patient notes to investigate a single institution include Dupree’s examination of the characteristics of fever patients at the Royal Infirmary in Glasgow, Andrews’ exploration of patients’ experiences of insanity and internment at Gartnaval Royal Asylum, also in Glasgow, and Digby’s analysis of patients’ experiences of madness, morality and medicine at the York Retreat. Case notes have also been employed to obtain a new perspective on the analysis of wider movements in hospital systems, such as Rosenberg’s examination of the development of American medical institutions.

As Warner notes, medical records offer valuable new methods of uncovering human experiences, both within the hospital and the wider community. The historian is offered a rare opportunity to reconstruct clinical activities based on clinical events – a chance to examine the actual practice of medicine contextualised by the relationships in action between doctors and

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11 Risse, ‘Hospital History’ in Porter and Wear (eds.), Problems and Methods, pp. 176-200.
12 Risse, ‘Hospital History’ in Porter and Wear (eds.), Problems and Methods, p. 201.
patients.\textsuperscript{16} While contemporary textbooks and journal articles can provide representations of ideal medical treatments, professional performance, or hospital design, records such as case notes reveal events as they occurred, illuminating that crucial link between medical ideology and medical behaviour.\textsuperscript{17}

Thus, hospital patient histories are able to add another level of understanding to the knowledge of historical medicine. These records can also provide unparalleled insight into the understandings of health and sickness held by the working classes, which are otherwise largely inaccessible. For example, patients’ earlier medical histories and attempts at treatments, both at home and under the care of other practitioners, are often revealed. On a primary level, this can supplement knowledge of home-based medical care, but at a secondary level these records can also provide a deeper understanding of the motivation behind hospital admission, and of the tripartite relationship between home remedies, medicines available from apothecaries and general practitioners, and hospital treatment.\textsuperscript{18} Furthermore, in the case of convict patients at the New Norfolk Hospital and the Royal Naval Hospital in Bermuda, the impact of removing the network of alternative sources of healthcare can be explored.\textsuperscript{19}

Studies which examine the development of British healthcare – from religious and charitable foundations to scientific research and teaching centres – provide a valuable context against which to set the analyses undertaken in this thesis.\textsuperscript{20} Abel-Smith, for example, examines the administrative and professional development of voluntary hospitals with a focus on the influence


\textsuperscript{17} Warner, ‘The Uses of Patient Records’, p. 101


\textsuperscript{19} Porter, ‘The Patient’s View’, p. 188.

\textsuperscript{20} Granshaw and Porter (eds.), \textit{The Hospital in History}.
of the Poor Laws and the evolution of public responsibility for the sick poor.\textsuperscript{21} While Abel-Smith largely overlooks specifically patient-related issues (such as treatments), Woodward utilises hospital records to assess the types of conditions for which patients sought hospital care, and uses an analysis of public health strategies to examine the effectiveness of this treatment.\textsuperscript{22} Risse, too, uses the experiences of individual patients as a lens through which to identify the wider social and scientific transformations of the hospital from its Greek and Roman origins to the twenty-first century.\textsuperscript{23}

From the early eighteenth century, hospitals and their treatments were understood within medical historiography to have played a fundamental role in both the maintenance of health and the fostering of medical knowledge.\textsuperscript{24} In the mid-1920s, Griffith and Buer asserted that these roles actively advanced the increase of population during the early period of the Industrial Revolution.\textsuperscript{25} In 1955, however, the ability of medical care in general (and hospital treatment specifically) to reduce mortality in the eighteenth and nineteenth centuries was dismissed by prominent demographic historians such as Habakkuk and Helleiner.\textsuperscript{26} McKeown and Brown, perhaps the most well-known exponents of these disparaging perspectives of health care, even went so far as to state that hospital admittance, far from benefitting the patient, “positively did [them] harm.”\textsuperscript{27} Although it was conceded that a small number of drugs and medical and surgical procedures were effective if used appropriately – including mercury, \textit{Digitalis} and \textit{Cinchona}, inoculation for smallpox, lithotomy, incision of abscesses and cataract operations –

\begin{thebibliography}{99}
\bibitem{21} Abel-Smith, \textit{The Hospitals}.
\bibitem{22} Woodward, \textit{To Do The Sick No Harm}.
\bibitem{23} G. Risse, \textit{New Medical Challenges During the Scottish Enlightenment} (Editions Rodopi, Amsterdam, 2005), especially Chapter 7; Risse, \textit{Mending Bodies, Saving Souls}.
\bibitem{24} F. Smith, \textit{The People’s Health} (Croom Helm, London, 1979), p. 249.
\bibitem{27} McKeown and Brown, ‘Medical Evidence’, p. 125. See also T. McKeown, \textit{The Modern Rise of Population} (Edward Arnold, London, 1976), particularly chapters 3, 5, 6 and 8.
\end{thebibliography}
most were not considered ‘life-saving’, and, as such, unable to significantly impact upon
mortality or population rates.\textsuperscript{28}

Although in more recent decades the analyses introduced by McKeown and his colleagues have
been somewhat superseded by newer interpretations, these early studies paved the way for
further examinations of nineteenth-century medical care and expanded the emerging field of the
social history of medicine.\textsuperscript{29} In recent decades, a shift has occurred towards local histories and
the potential of these studies to contribute to an understanding of the role of medicine at
national and international levels. This transformation has been accompanied by the universal
trend also apparent in wider social history – the movement away from ‘top-down’ history (which,
in the case of medicine, primarily focuses on doctors and their achievements) to history ‘from
below’ (with an emphasis on local communities, individual hospitals, and small groups of
patients).\textsuperscript{30} These analyses make more cautious use of the emphatically scientific and statistical
basis of works such as McKeown’s, mitigating the use of quantitative information with
qualitative evaluations of the role of regional variations, the evolution and progression of disease
types and classification, and contemporaneous observations of the nineteenth-century medical
profession.\textsuperscript{31} For example, historians such as Cherry, Sigsworth, and Woodward use hospital
records to challenge the negative perception of institutional care, and concluded that it is
possible that hospitals did indeed support community health by preventing an increase in
mortality statistics, while others such as Szreter and Harris also contributed to the debate by with

\begin{footnotes}
175.
\item[31] Hardy, ‘Diagnosis, Death and Diet’, p. 401.
\end{footnotes}
a partial defence of McKeown’s theories, with Guha and Woods offering more critical opinions.  

While these works have presented data which throws a more positive light upon the contribution of hospital medicine, most do not go so far as to suggest that hospital treatment actively reduced mortality rates. Rather, these studies emphasise the possibility that while hospitals treated insufficient numbers of patients to diminish national mortality statistics, their influence on communities at the local level should not be underestimated. Indeed, Cherry concludes that these institutions were able to make positive contributions to community health by successfully treating diseases and conditions which were significant causes of suffering and death. 

This historiographical framework has supported the growth of hospital histories. While numerous informative works have been written on the development of particular medical institutions, often by retired staff members or local historians, these studies generally focus exclusively on the facts, dates, and personalities specific to the evolution of a hospital, dispensary or infirmary. Accounts of institutions particularly relevant to this thesis include, among many others, studies of the New Norfolk Hospital by Gowlland, Crabbe and Cullen, analysis of The Royal Hobart Hospital by Rimmer, an examination of the history of the Launceston General Hospital by Craig, an exploration of the establishment of the Parramatta Hospital undertaken by

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33 There are however, exceptions – some authors, such as Hardy, assert that “in terms of curative medicine, medical intervention made a positive contribution to the mortality decline” (Hardy, ‘Diagnosis, Death and Diet’, p. 400).


the Health Department, investigations into the development of medicine in Bermuda by Hollis-Hallett, and examinations of the long history of St. Bartholomew's Hospital by Waddington, Moore, Medvei and Thornton, and Power and Waring. One drawback of this factual approach is that these individual studies generally suffer from a lack of wider contextualisation, and appear somewhat detached from the medical, social and political atmosphere in which the institution developed. As Risse suggests, such context is essential to embed the hospital and the experiences of its patients into a wider analysis of nineteenth-century social composition. Without it, a historical account risks being nothing more than a linear, overly-positivistic narrative of ‘onwards and upwards’ medical progress.

To prevent such a narrow view of the history of medicine, the maintenance of a number of theoretical frameworks ensures that a “healthy pluralism and diversity” is retained. This allows analyses to balance delicately somewhere between a ‘Whiggish’ depiction of linear medical advancement, evident in many earlier institutional accounts, and the modern trend towards a more relativist approach which evaluates each theory and practice of medicine individually. Early medical histories tended towards oversimplification, appearing, as Porter states, as “the

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36 Information regarding the Royal Naval Hospital in Bermuda is scarce, Brief paragraphs exist in a small handful of works; one detailed study of the institution written by Staff Surgeon Christopher Harvey in 1878 is held by the National Archives, but is so fragile that it cannot be examined. Another by J.R. Williams (Care: 100 Years of Hospital Care in Bermuda [Camden Editions, Bermuda, 1994]) focuses on a later period and does not cover the establishment of this hospital. However, insight can be gleaned from the little that is available, particularly including C. Hollis-Hallett, Forty Years of Convict Labour: Bermuda, 1823-1863 (Juniperhill Press, Bermuda, 1999); C. Hollis-Hallett, ‘Bermuda’s Convict Hulks’, Bermuda Journal of Archaeology and Maritime History, 2 (1990), pp. 87-104. Australian references include R. Gowlland, Troubled Asylum: The History of the Royal Derwent Hospital (self-published, New Norfolk, 1981); G. Crabbe, History of Lachlan Park Hospital (Department of Health Services, Hobart, 1966); L. Cullen, Royal Derwent Hospital, Past to Present, 1936-1976 (self-published, New Norfolk, 1978); W. Rimmer, Portrait of a Hospital: The Royal Hobart (Royal Hobart Hospital, Hobart, 1981); C. Craig, Launceston General Hospital: First Hundred Years, 1863-1963 (Board of Management of the Launceston General Hospital, Launceston, 1963); Caring for Convicts and the Community: A History of Parramatta Hospital (Cumberland Area Health Service, Westmead, 1988), while British sources include K. Waddington, Medical Education at St Bartholomew’s Hospital, 1123-1995 (The Boydell Press, Woodbridge, 2003); N. Moore, The History of St Bartholomew’s Hospital (C. Arthur Pearson Limited, London, 1918); K. Waddington, Charity and the London Hospitals, 1850-1898 (The Boydell Press, Woodbridge, 2000); V. Medvei and J. Thornton, Royal Hospital of Saint Bartholomew’s 1123-1973 (St Bartholomew’s Medical College, London, 1974); D. Power and H. Waring, A Short History of St. Bartholomew’s Hospital, 1123-1923 (C. Whittington and Griggs, London, 1923); N. Moore, The History of St Bartholomew’s Hospital (C. Arthur Pearson Limited, London, 1918).

37 Risse, ‘Hospital History’ in Porter and Wear (eds.), Problems and Methods, p. 175.

38 Risse, ‘Hospital History’ in Porter and Wear (eds.), Problems and Methods, p. 175.


unproblematic chronicle of how dreadful diseases had been conquered by great doctors.” This often produced a forced and artificial account, in which links were made between tenuously related events or periods in an attempt to produce a teleological storyline. While some historical accounts still suffer from a sense of unnaturally continuous progress and advancement, the relativist perspective challenged this view. Influenced by Foucaultian theories, it was suggested that each phase of medical development could not be understood or analysed outside its social and historical context, as those contexts were integral parts of the practice and ideology themselves. The rejection of a simplistic acquisition of knowledge, however, does not automatically assume that medical knowledge has not progressed. While each phase of medical history is undoubtedly unique, it is equally true that each of these phases has augmented knowledge to the practice of healthcare – knowledge of the human body, both in its normal (‘natural’) state, and in its countless and endlessly diverse states of sickness.

Debate over the finer points of historical analyses heavily influenced works on broader medical history which offer insight into the stratification of the provision of health care in Britain and, to a lesser extent, the Australian colonies. Comprehensive overviews of medicine and medical care in Britain are to be found in Porter’s numerous works and offer, for example, exploration of the development of hospitals and the role of medical science in this evolution. Bynum and Smith have also written valuable synopses of British healthcare during the 1800s.

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Although there are far fewer histories of early Australian medical care, a small group of valuable investigations of colonial healthcare provide perspective to the comparative research presented within this thesis. Earnshaw’s ‘The Lame, the Blind, the Mad, the Malingerers’, for example, examines the treatment of sick and disabled convicts, with a focus on the use of their labour in establishing the colonies. Penal healthcare is also examined in works such as Maxwell-Stewart’s ‘Crime and Health’, which offers a wider examination of convicts’ medical treatment and its interconnections with the colonial disciplinary system, and Morris’ exploration of the treatment of convict patients at penal stations and hospitals such as Port Arthur and New Norfolk. Additionally, MacFie and Bonet’s study of the relationship between the medical treatment of prisoners at Port Arthur and their diet and labour adds detail to the understanding of the experiences of convict patients. In the 1930s, authors such as Cleland and Crowther also wrote pieces examining various aspects of early Australian healthcare, such as levels of morbidity and mortality at particular penal settlements. Cummins’ overview of the development of healthcare in New South Wales and Cumpston’s examination of the evolution of public health in colonial Australia both offer indispensable factual information by recounting the evolution of the structure of colonial medicine.

Building on the research undertaken by these and many other authors, this thesis examines the provision of care to patients at the New Norfolk Hospital, the Royal Naval Hospital, and St

Bartholomew’s Hospital. These institutions were selected to allow a comparison of care in
hospitals specialising in the treatment of the sick poor (in the case of St Bartholomew’s), convict
patients (at New Norfolk and, to a lesser extent, Bermuda) and of naval and military inmates (at
Bermuda). The records from these three hospitals were all compiled between the years of 1830
and 1848, thus allowing effective comparison of treatment methods. While this was a period of
great change in medicine, with scientific innovations and pathological advances transforming the
theoretical and professional foundations of the discipline, day-to-day practice developed much
more gradually.

Since the 1980s, a burgeoning interest in social history has lent some urgency to the quest for
new ways to examine the daily experiences of the past. Bycombining quantitative and qualitative perspectives, they provide the means to construct a multi-
dimensional analysis of healthcare as it evolved over time, encompassing less studied aspects
such as interaction between doctors and among medical staff and patients, as well as more
standard explorations of treatment and medical advancements. As records of the day-to-day
practicalities of hospital care, they allow a critical perspective on the actions of doctors, and
insight into the relationship between medical staff and patients. Case notes offer a means to
explore disparities between the medical ideal delivered by textbooks and manuals, and the

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practical realities of bedside care, and also provide a unique pathway to access details of the patient’s experience.\textsuperscript{55}

That these experiences changed dramatically throughout the nineteenth century is clear.\textsuperscript{56} Between the 1770s and the 1840s the patient lay at the very centre of the theory and practice of medicine.\textsuperscript{57} The sick person’s own report of their bodily and emotional condition formed the basis of the practitioner’s treatments; here, physical and psychological health were integrated and examined jointly by patient and doctor. From the early to mid-nineteenth century, however, there was a sudden and dramatic shift from the patient as a person to a “collection of synchronized organs,” one or more of which was responsible for causing disease.\textsuperscript{58} The identification of this disease was based not on a consultative process between patient and doctor, but on the explanation and diagnosis of the condition as expressed by the practitioner. The verbal description of illness relayed by the sick person was discredited as ignorant and/or emotional, and was replaced by a comprehensive physical examination, undertaken by a doctor, which aimed to correlate the manifestation of external symptoms with internal lesions.\textsuperscript{59} This dismissal of patients’ self-knowledge and their understanding of the meaning of sickness and of health acted to endorse and sanction practitioners’ accounts of disease and prognosis.\textsuperscript{60} As the patient’s expression of the experience of illness and the practitioner’s understanding of abnormal pathological findings came to be unequally weighted, fundamental concepts of disease were revised. For the first time, diseases could be articulated and embodied outside the person.

\textsuperscript{55} As Warner states, “what textbooks and journal articles said clinicians should do is not a reliable index of what they actually did. By turning to patient records, we have a way of telling” (Warner, ‘The Uses of Patient Records’, pp. 102-103).

\textsuperscript{56} See also E. Ackerknecht, Medicine at the Paris Hospital, 1794-1848 (The Johns Hopkins Press, Maryland, 1967).


\textsuperscript{60} Andrews, ‘Case Notes’, p. 263.
The period from which the case notes utilised in this research are drawn dwells ambiguously on the boundary between these two very different medical cosmologies, and therefore incorporates aspects of both. While reminders of the dominance of heroic regimes of bleeding and blistering lingered on in the still-enthusiastic prescription of physical methods of treatment, patients were simultaneously described with increasing frequency as case studies, their explanations of their suffering belittled as quaint and irrational when examined in the light of scientifically-justified pathology and anatomy.\(^{61}\) In such a situation, where the language and practice of medicine were rapidly changing, extreme caution must be used when transcribing and analysing data to prevent generalisations, and to avoid succumbing to the temptation of forcing nineteenth-century medical terminology and diagnostic nomenclature into twenty-first century categories.\(^{62}\)

To further support the use and meaning of terms as they appears in the records, and to provide clarification and additional information, it is essential to analyse the content of case notes in conjunction with other contemporary records.\(^{63}\) While these documents may convey little about the experiences of the patient, they reveal a great deal about the environment (both physical and social) in which inmates underwent treatment and convalescence.\(^{64}\) As with any historical document, it is also important to maintain an awareness of the interests and motives of the author – whether censorship was intentional or unconscious, what it may have been beneficial to record, and what may have been omitted.\(^{65}\) As Andrews asserts, case notes were not written as a complete account of a patient’s experience in a medical institution; rather, these records were widely used as teaching aids, with the aim of improving the clinical and theoretical practice of scientific medicine.\(^{66}\)

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\(^{61}\) Andrews, ‘Case Notes’, p. 263.
\(^{63}\) Andrews, ‘Case Notes’, p. 264.
The impact of the movement from ‘bedside medicine’ to ‘hospital medicine’, dominated by the advance of science, is evident in the case notes of all three institutions.\(^{67}\) It is perhaps present mostly clearly in the records from St Bartholomew’s Hospital. As a large urban teaching institution, heavy emphasis was placed upon clinical aspects of cases rather than personal characteristics of patients – the pathological and anatomical over the physical, the psychiatric over the emotional, the statistically significant over the individual. At the New Norfolk Hospital, and to a lesser extent the Bermudian institution, patients retained something more of their distinctiveness. The differences between the depictions of these three groups of patients are as much an illustration of the diversities in the records and their authors as they are a rendering of the variations between the institutions themselves.

The records from New Norfolk Hospital were selected primarily because a complete set was available for a six year period.\(^{68}\) A total of four hundred and two cases from this institution were transcribed in their entirety. The majority of the New Norfolk records were written by Dr Frederick George Brock, an Edinburgh-trained surgeon who arrived in Van Diemen’s Land in 1830.\(^{69}\) In 1848 Brock was reappointed to the colonial hospital in Port Arthur, while Dr John Meyer and Dr George Huston assumed the responsibilities of patient care and documentation at New Norfolk.\(^{70}\) These three practitioners, like all colonial surgeons, were required to keep comprehensive records on their patients’ conditions and the treatments used to tend them. These notes were the property of the Government Medical Department, and formed a key component of the systematic documentation which was used to manage prisoners. In 1849, Dr

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67 See Jewson, ‘The Disappearance of the Sick-Man’.
68 The records from New Norfolk Hospital were available at the Tasmanian Archive and Heritage Office on microfilm.
69 Tasmania Archive and Heritage Office, Governor’s Office: F.G. Brock to Earl Grey (GO 33/72), p. 813.
William Dawson, Deputy Inspector of Hospitals, wrote to Lieutenant-Governor William Denison emphasising that it was:

the duty of all Medical Officers to keep a Medical Register in which should be detailed the History and treatment of every case of disease under their care...In these Registers...everything which might elucidate the real nature of the sickness of the Prisoners [should be recorded].  

It appears that most colonial surgeons understood the significant role of these records in the wider functioning of the colony. Practitioners took care to methodically explore the conditions and circumstances of their patients in an effort to provide comprehensive case notes. Some doctors, however, felt the burden of such research and record-keeping, and required a sharp reminder of their duties. While Brock was stationed at Port Arthur, he and his senior medical officer, Dr Lee, were berated by Dawson for records “so negligently kept and so abounding in deficiencies and inconsistencies as to be valueless as public documents from which one could expect any true information.”

Despite this disparagement, Brock’s case notes were generally of a high standard. The records of his New Norfolk patients are, indeed, unusually comprehensive in their length and remarkably comprehensive in their detail. Brock, Meyer and Huston documented each patient’s medical history (both prior to transportation and since their arrival), recording symptoms and performing physical examinations, including relevant facts such as occupations. Accordingly, their notes feature copious details of patient’s lives, and sometimes provide up to two pages of details before discussion of treatment is commenced.

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72 TAHO, CO: Letter from W. Dawson (280-248-576), [transcribed by Port Arthur Historic Site Management Authority]).
73 TAHO, New Norfolk (Royal Derwent) Hospital Patient Records - Case Books (1842-1847), (HSD 246/1/4-6).
In colonial Van Diemen’s Land, case notes were simultaneously medical records and government documents. Alongside their ability to augment medical knowledge, these notes played a very particular role in colonial society. While in British asylums case notes had traditionally been used to monitor mentally unstable patients, in Van Diemen’s Land, where the accurate identification and classification of prisoners was a crucial aspect of their domination by the state, these records intensified the surveillance of convict bodies and prevented malingerers from usurping the authority and the resources of the state.74 A ‘paperwork panopticon’ was constructed around each prisoner, with comprehensive records detailing the height, age and appearance of each prisoner and describing everything from the colour of their eyes to the length of their nose.75 Case notes, however, were able to provide information regarding the mental and emotional state of convicts which went beyond these physical descriptions.76

To match the complexity and depth of records from the New Norfolk Hospital, case notes from other institutions were sought which had a similar level of detail and patient information. However, the rarity of complete or near-complete runs of detailed patient records from the nineteenth century considerably increases the challenge of selecting three institutions with comparable records. As few sets of data were available for study, records had to be selected on the basis of limited information. Inevitably, differences between the three samples became apparent during the course of the study. Yet, while the format and purposes to which the three groups of records were originally put differed, by focusing on the content and subject matter of the notes (both that recorded and that omitted), the disparities became less significant. Details such as diagnoses, medical and physical treatments, and use of patient narrative were present in

76 In cases of absconding or other offenses, a description of the offender would be published to assist in recapture or punishment (see, for example, State Library of Tasmania, David Tilbury’s Description [per Pestonjee Bomanjee], [CON 18/39]).
Records from the Royal Naval Hospital in Bermuda and St Bartholomew’s Hospital in London were identified as covering the same era and, from samples of notes obtained, initially appeared to contain similar levels of patient detail. From the Bermudian institution a total of four hundred and thirteen cases were selected, while at St Bartholomew’s a smaller group of one hundred and eighty-four records were transcribed. All the cases selected were male (of the three institutions, St Bartholomew’s was the only hospital to admit female medical patients).

There are, however, some notable differences in the nature of the three groups of records, many of which only became apparent as research progressed. The records from the New Norfolk Hospital encompass all the medical cases admitted to the institution as in-patients between 1842 and 1848. They are case histories, with copious and detailed notes on symptoms, treatment, and regular updates on the patient’s progress (see Figure 1). These notes also include a brief medical history and, in cases which terminated fatally whilst under treatment, a post-mortem report.

The St Bartholomew’s records are predominantly detailed post-mortem records, although a significant proportion includes brief and sporadic details of diagnosis and treatment (see Figure 2). These records were taken by Dr Edward Latham Ormerod in bustling surgical and medical wards at the large metropolitan hospital between the year 1842 and 1848. Comprehensive though these case notes are, they do not record the details of every patient who entered the

77 Records from the Royal Naval Hospital in Bermuda were obtained from the National Archives (the original records were photographed and digitised), and the same process was used to obtain records from the St Bartholomew’s Museum and Archive.

78 Female cases from St Bartholomew’s Hospital were entered into the database used during this research; however, this was simply to ensure the whole dataset was transcribed – female cases were not used in any analyses in this research. The innate complexity of an examination of gender constructs was beyond the capacity of this thesis, particularly as such a discussion seemed less than relevant given that only one of the three medical institutions admitted female patients.
institution over this period. Rather, they are individual cases selected for their unusual features or their ability to illustrate a particular medical point. Accordingly, these records represent the surgeon’s personal interests rather than an objective snapshot of cases admitted to St Bartholomew’s.

While the records from the Royal Naval Hospital are less subjective, they are also not case notes, but letters which accompanied patients as they were transferred from ships’ sick bays to the shore-based hospital (see Figure 3). Written by surgeons on board naval and convict vessels between 1832 and 1836, these despatches encompass a brief outline of the patient’s complaint, any recent treatments, and the reason for transfer to hospital. Included with these letters are a single post-mortem, and a tiny handful of cases in which a second or third follow-up report accompanies the first.

An attempt at a simple comparison between the three hospitals would, due to these disparities, be rendered unrepresentative and somewhat illusory. The points of similarity, however, allow specific parts of the records to be effectively contrasted, permitting insightful investigations of particular issues. Additionally, the notes also offer glimpses of the diversity of the institutions and the differences between the patient groups treated at each of the three institutions. Due to the remarkable depth of detail of the records from the New Norfolk Hospital, supported by the meticulous paperwork kept on each transported prisoner and now preserved in the Tasmanian Archive and Heritage Office, a great deal of information can be discovered about each Vandemonian patient. The conduct registers of convict patients, for example, reveal a number of unique details about each prisoner, including notes on many pre-existing disabilities and diseases.
Figure 1: Case note from New Norfolk Hospital (Tasmanian Archive and Heritage Office, *Royal Derwent Hospital: David Tilbury* [HSD 246/1/4/46]).
Figure 2: Case note from St Bartholomew’s Hospital (St Bartholomew’s Hospital Archive and Museum, St Bartholomew’s Hospital, Medical and Surgical Case Notes of Edward Latham Ormerod, Diseases of the Central Nervous System, Kidneys, Abdominal and Infectious Skin Diseases: James Craghton [MR 16/6/15]).
Of the four hundred and two cases from this institution, close to eight percent (thirty-one cases) arrived with pre-existing conditions or illnesses (see Table 1). This rate is higher than that found...
by Earnshaw in her examination of ‘Sick and Disabled Convicts in the Colonial Community’; in the 1820s, slightly more than five percent of male convicts transported to New South Wales from England and Ireland arrived with a documented disability or chronic disease, while this rate dropped still further during the 1830s to just under four percent.\(^79\) New Norfolk’s rate is also significantly higher than the rate of impairments reported in male convicts arriving in the probation era, which mirrored the rate of 1830s New South Wales at slightly less four percent.\(^80\)

Significant, however, is that of the thirty-one prisoners who arrived in Van Diemen’s Land with a pre-existing condition or illness, the majority would have remained physically able to perform some type of labour – their condition did not entirely preclude employment. If the prisoner had been utterly incapable of any kind of labour, they would have been discounted as a suitable candidate for transportation and rejected during the medical assessments before embarkation.

<table>
<thead>
<tr>
<th>Pre-Existing Condition or Illness</th>
<th>Number of Cases in Sample</th>
<th>Number per Thousand Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visual Impairment</td>
<td>13</td>
<td>32</td>
</tr>
<tr>
<td>Hand Impairment</td>
<td>7</td>
<td>17</td>
</tr>
<tr>
<td>Impediment of Speech</td>
<td>4</td>
<td>10</td>
</tr>
<tr>
<td>Scrofular</td>
<td>3</td>
<td>7</td>
</tr>
<tr>
<td>Ear or Hearing Impairment</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Heart Condition</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Limb Impairment (Leg)</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td><strong>Total Cases</strong></td>
<td><strong>31</strong></td>
<td><strong>77</strong></td>
</tr>
</tbody>
</table>

Table 1: Proportion of patients at New Norfolk Hospital who arrived in Van Diemen’s Land with pre-existing conditions or illnesses.\(^81\)

\(^79\) Earnshaw, ‘The Lame, the Blind’, p. 26; Maxwell-Stewart, ‘Crime and Health’ in Richards, Valentine and Dunning (eds.), *Effecting a Cure*, p. 40.


\(^81\) TAHO, *Royal Derwent Hospital: Case Notes* (HSD 246/1/1, HSD 246/1/4, HSD 246/1/6); TAHO, *Conduct Registers of Male Prisoners Arriving in the Period of the Probation System* (CON 33/1).
In an era when medicine was unable to cure or even treat many disfiguring and disabling diseases, and when the mechanisation of many trades and the expansion of factories caused high rates of workplace injuries, it was normal for the disabled to work alongside the able-bodied.\textsuperscript{82} Despite complaints by colonial officials that such workers were a drain on the meagre resources of a new colony, amputees and those with other physical impairments were viewed as competent and perceived as able to function as self-supporting members of the community.\textsuperscript{83} Many were able to perform the same jobs as their able-bodied counterparts, perhaps with some modifications, while others took on light work such as cleaning or nursing in colonial hospitals or barracks. As convicts were viewed essentially as a labour force, transporting healthy and physically effective workers was necessarily a high priority.\textsuperscript{84} The almost complete lack of alternative provisions for sick or otherwise incapable convict labourers in the infant Australian colony would also have been an important consideration.

Just as prisoners with severe disabilities and acute medical conditions were rejected for transportation, so too were those who were considered too elderly to be effective labourers. This, however, was not consistently enforced, with many convicts transported in their fifth and sixth decades of life. Accordingly, colonial institutions were forced to accommodate inmates who needed no active medical treatment, but could no longer care for themselves or be supported in the community. As a result, New Norfolk Hospital tended to relatively large numbers of patients over the age of forty years when compared to the other two institutions (see Figure 4). The relatively consistent number of patients aged between forty and seventy-nine received at New Norfolk, and the steady decrease of this age category in both Bermuda and London, reveals the significant role the Vandemonian institute played as an invalid depot in the

\textsuperscript{82} See P. Weindling (ed.), \textit{The Social History of Occupational Health} (Croom Helm, Kent, 1985); R. Cooter and B. Luckin (eds.), \textit{Accidents in History: Injuries, Fatalities and Society Relations} (Editions Rodopi, Amsterdam, 1997), especially Chapter 4, A. McEvoy, ‘An Ecological Approach to Industrial Health and Safety’.

\textsuperscript{83} Earnshaw, ‘The Lame, the Blind’, p. 27, Maxwell-Stewart, ‘Crime and Health’ in Richards, Valentine and Dunning (eds.), p. 39.

colony. In contrast, the lack of elderly patients at Bermuda reflects the rapidity with which infirm patients were returned to England or transferred to other colonial stations. A similar absence at St Bartholomew’s was more likely to be a result of the activity of wider community networks of family, friends, and parish – the availability of other options for the infirm made the hospital a last resort for the aged.

At the other end of the age spectrum, however, St Bartholomew’s admitted the highest number of young patients; although its admission policy generally precluded the treatment of children, the occasional ‘interesting’ case was slipped past the porter. Additionally, urban children were forced into work at a young age, and suffered injuries at a high rate due to the vulnerability of their unsupervised employment in dangerous conditions.\textsuperscript{85} Few children were admitted to either

\textsuperscript{85} One such case was that of William Hatley, who was admitted to St Bartholomew’s in early July 1843. Hatley was ten years old when he was brought to the hospital suffering a horrific wound over his left hand and forearm, where the skin had been stripped from the limb by “the large teeth” of a carding machine. Beneath the mangled flesh, the bones of Hatley’s wrist were broken and the tendons were torn. Surprisingly, despite the magnitude of the wounds, they initially appeared to be healing healthily and “there was no constitutional disturbance such as to cause
colonial hospital, although a number of convicts and sailors were only just in their teens.\footnote{One or two ‘native born’ children were admitted to New Norfolk Hospital (such as Danial Denny – see TAHO, Royal Derwent Hospital: Danial Denny [HSD 246/1/6/195]).}

Predictably, the largest number of cases can be observed in the age bracket twenty to thirty-nine years, the period during which labour productivity would be expected to be the highest, and medical attention accordingly most keenly sought after.

In order to contextualise the types of treatments provided to these patients in these three very different institutions, it is important to look at the development of healthcare in Britain in more detail, a task undertaken in Chapter Two. While this research is primarily focused on the treatment provided in hospital wards, it is also essential to briefly examine the role of unlicensed or ‘quack’ methods of healing which figured so significantly in the lives of many patients during the nineteenth century and earlier. It is important to recognise, however, that sources of healthcare which appear ‘alternative’ to modern eyes may have been fully accepted by the sick amongst the working classes – perhaps even perceived as more legitimate than the treatments provided by doctors in hospitals.\footnote{Porter, ‘The Patient’s View’, p. 194.}

Indeed, in the first half of the nineteenth century the responsibilities of the doctor were often quite limited, with the roles of relatives, friends, and the wider community holding greater importance than the fleeting appearance of a hospital surgeon.\footnote{Porter, ‘The Patient’s View’, p. 188.} Dupree supports this view, commenting that when the sick had access to other sources of healthcare – ranging from family and friends to local apothecaries and unorthodox healers – medical institutions such as hospitals were less utilised.\footnote{Dupree, ‘Family Care’, pp. 195-196.}

| apprehension for the boys [sic] life.” Just days later, however, Hatley was “writhing with pain,” his pale face bathed in perspiration and the skin of his left hand and arm red and swollen. Gradually tetanic contractions seized his body; after suffering agonising opisthotonic spasms Hatley died less than a week after he was admitted to hospital (St Bartholomew’s Hospital Archive and Museum, St Bartholomew’s Hospital, Medical and Surgical Case Notes of Edward Latham Ormerod, Diseases of the Central Nervous System, Kidneys, Abdominal and Infectious Skin Diseases: William Hatley (MR 16/6/133-MR 16/6/135a)).}
Major public hospitals such as St Bartholomew’s were, thus, one among several options for healthcare available to the British working classes during the eighteenth and nineteenth centuries. Other than the hordes of unqualified practitioners, the medical needs of the poor were met – or not – by workhouse and public infirmaries, dispensaries and voluntary hospitals. The aristocracy and members of the upper classes were treated by elite physicians in their own homes, while the middle class was becoming increasingly enamoured with the multi-skilled general practitioner, who was able to contend with issues ranging from surgical procedures to midwifery, as well as offering the usual advice and prescriptions. Alternatives for professional medical care available to lower classes were, however, less appealing. For most, the treatment offered by qualified practitioners in hospitals represented the last port of call, sought only by the desperately ill.

Chapter Three traces the concurrent development of the built environments of the hospital. While almshouses and small hospices proliferated across Britain from the sixteenth century, it was not until well into the following century that purpose-built medical institutions grew in popularity. Fortified by charitable generosity, hospitals increased both in size and in the significance of their role within society, with scientific innovations becoming physically manifest in the architecture and design of their buildings.

From an examination of the hospital buildings in Chapter Three, Chapter Four will explore the vast array of diseases and conditions treated within the walls of the three institutions. The varying rates of these illnesses will be considered, including the roles of different geographic and climatic conditions upon health. This analysis is contextualised by an examination of the process

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91 E. Shorter, ‘Primary Care’ in Porter (ed.), The Cambridge Illustrated History of Medicine, p. 126.
of diagnosis and the growing influence of anatomy and pathology during the nineteenth century, alongside the constantly evolving nomenclature of disease.

Chapters five and six will examine how such changes were gradually implemented in treatments received by patients in these three hospitals. The physical and medicinal treatments provided in medical institutions during the nineteenth century are areas which have been hitherto neglected by historians, although a few works provide valuable insights, such as those by Sturdy, Marland, and Curth.92 The records of all three hospitals provide information (in varying levels of detail) regarding the frequency, uses, and types of treatments employed and the purposes for which they were prescribed. Chapter Five focuses on physical and surgical treatments. This broad category encompasses the spectacular, such as amputations and trephining, and the less dramatic but more common procedures of venesection, blistering, and cupping. Chapter Six explores the wide range of drugs utilised by British practitioners as the expansion of chemistry thrust ancient ingredients aside to make way for innovative metallic and mineral based elements. Despite the survival of a number of nineteenth-century inventories, very few examinations of hospital pharmacopoeias exist.93 Risse’s outstanding study of the Royal Infirmary of Edinburgh’s pharmacopoeia and analysis of patterns of drug use is, however, a notable exception, and will inform the construction of comparisons of medicine and treatments undertaken for this thesis.94

Chapter seven will examine the final stage of hospital treatment experienced by some patients.

The records of St Bartholomew’s and New Norfolk Hospitals both include detailed post-


94 Risse, ‘Hospital History’ in Porter and Wear (eds.), Problems and Methods, pp. 192-194; Risse, Hospital Life.
mortem reports, allowing a glimpse at the treatment of the dead in two very different nineteenth-century medical institutions. From the Vandemonian hospital, mortality rates can also be analysed; this data can then be compared with statistics published by contemporary British institutions and with rates at other colonial hospitals. To die in hospital was often equated to dying alone, unprotected by family or friends and vulnerable to the insidious advances of the anatomist. The laws and regulations surrounding the use of corpses gleaned from hospital dead rooms are explored in this chapter, alongside the perceptions of dissection and anatomy expressed by both the working classes and the medical profession.

The overall aim of the thesis will be to open up a window into the daily life of medical institutions in the first half of the nineteenth century by exploring what it meant to be a hospital patient. This will involve an examination of the physical surroundings in which inmates spent their days, as well as the types of diseases and conditions from which they suffered, and the medicines and therapy with which they were treated. It will also entail an investigation of the practices applied to the corpses of those who died in institutions. In addition to this, evidence will be sought of the practical implementation of developments and advances in medical science which were transforming the wider provision of medical care in the period 1830-1850. This study thus provides an opportunity to trace the impact that these developments made on both treatment and patient experience in metropolitan and colonial hospitals. By contrasting these experiences in geographically isolated penal colony and naval hospital with one of the largest teaching hospitals in Britain, this thesis offers an opportunity to make a detailed examination of the everyday events which together comprised the wider patterns of changes and continuities in the practice and discourse of medicine in an era associated with dramatic change.
Prior to the 1850s, medicine had not yet attained the scientific dominance of later centuries. The role of the hospital was limited, with doctors perceived as possessing scarcely more practical ability to cure disease than the sufferer themselves.\(^95\) Healthcare was widely undertaken in the home, with family and community networks providing support through sickness, assisted (as need and affluence permitted) by a diverse assortment of professional and lay practitioners. How, then, did the hospital come to dominate the provision of healthcare by the mid-nineteenth century? Were smaller colonial institutions, such as those in Bermuda and New Norfolk, as heavily influenced by the advance of medical and scientific knowledge as major urban hospitals such as St Bartholomew’s in London? This chapter will seek answers to these questions by examining the development of healthcare available to the working classes, that “large body of persons” from which each of the three hospitals in this analysis predominantly drew their patients.\(^96\) While each hospital targeted a specific element of the population — the New Norfolk

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Hospital was primarily run for the treatment of serving convicts, Bermuda Naval Hospital was established for ill or wounded sailors (although it also tended to prisoners), and St Bartholomew’s was founded to care for the sick poor – all these groups were predominantly drawn from the British working classes.

Disease fostered a state of dependency, but those who sought hospital treatment – whether in Britain or its colonies – generally had no community networks to support them through their illness. When compounded by sickness, the interconnected influences of disintegrating family structures, unemployment, and economic instability necessitated the need for outside support – as Fissell contends, “illness alone did not make a hospital patient.”

The existing framework of British medical care informed that which was established in colonies such as Bermuda and Van Diemen’s Land; thus, it is important to begin with an understanding of the origins and development of this system. Until the nineteenth century, strong local networks of working-class family and friends supported each other during times of sickness in both urban and rural communities. While apothecaries, drug-vendors, and other unorthodox practitioners were plentiful, hawking dubious medicines from their shopfronts and on the streets, the demanding tasks of nursing the ill were undertaken in the home.

As the influence of Christianity spread throughout the Middle Ages, so too did charitable virtues such as hospitality, service, and love. Accordingly, most early hospitals were established within

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religious orders such as monasteries and convents, although a small number were launched independently.98 These institutions identified the sick poor as particularly deserving of charitable assistance, but also offered assistance to other vulnerable groups such as the homeless, the aged, and travellers – people on the edge of society, the dispossessed who found themselves with nowhere else to turn.99 Accordingly, the term ‘hospital’ encompassed four basic types of institutions – leprosaria, almshouses, houses established to tend for travellers and pilgrims, and those founded for the sick poor.100

Within these mediaeval institutions (particularly the last category, which most closely aligns with nineteenth-century perceptions of a ‘hospital’), medical attention was unlikely to be provided by a ‘qualified’ medical practitioner.101 Rather, volunteers and members of the associated religious order would tend to the needs of their inmates, with medical care being administered alongside food, clothing, and spiritual guidance.102 This medical attention would have consisted of the provision of a warm bed, a hot bath, and a substantial meal – medicines were rarely administered in medieval institutions.103

The vulnerable and sick were recognised as a group which was dependant on the assistance of the community as a whole.104 This tallied neatly with the Biblical emphasis on the rich coming to the assistance of the poor, where those with plenty gave generously to those who had little.

Successful long-term practical application of these pleasant sentiments, however, was

101 Carlin, Medieval English Hospitals’ in Granshaw and Porter (eds.), *Hospitals in History*, p. 31.
102 Granshaw and Porter (eds.), *Hospitals in History*, p. 4.
103 Carlin, Medieval English Hospitals’ in Granshaw and Porter (eds.), *Hospitals in History*, p. 31; M. Rubin, ‘Development and Change in English Hospitals, 1100-1500’ in Granshaw and Porter (eds.), *Hospitals in History*, p. 51.
104 Park, ‘Healing the Poor’ in Barry and Jones (eds.), *Medicine and Charity*, p. 27.
uncommon. The vast majority of medieval hospitals established in the wave of economic, social and demographic expansion during the twelfth and thirteenth centuries disappeared as the fourteenth, fifteen, and sixteenth centuries wore on, forced to close their doors due to the effects of the Reformation combined with poor management, insufficient funds, and the impact of famines and epidemic disease.\textsuperscript{105}

As the economic situations of mediaeval institutions fluctuated, and their capacity to provide care for the sick varied accordingly, concepts of charity and hospitality demanded constant reassessment. As the availability of financial support decreased, poverty and the poor came to be seen as socially threatening. Consequently, the capacity of religious orders and their hospitals to provide care for the sick poor was constrained, and forced to manifest itself in alternative forms which were financially and socially more sustainable.\textsuperscript{106} Those institutions which managed to survive often did so through conversion to more profitable enterprises, with many being transformed into almshouses or educational institutions, where those who could afford to pay fees were admitted in preference to the poor.\textsuperscript{107} Markus describes hospitals and these almshouses as essentially “a different kind of institution for the same kind of inmate” – the sick and vulnerable were admitted to both facilities, but the use of space was altered, allowing patrons of the almshouses greater independence than hospital patients.\textsuperscript{108}

Amidst these social and economic upheavals, a small group of royal hospitals, including St Bartholomew’s, were able to survive as their land and income were protected by law.\textsuperscript{109} However, as these institutions occupied large swathes of property in the centre of London (from

\begin{itemize}
\item \textsuperscript{105} Rubin, ‘Development and Change’ in Granshaw and Porter (eds.), \textit{Hospitals in History}, p. 43, p. 52.
\item \textsuperscript{106} Rubin, ‘Development and Change’ in Granshaw and Porter (eds.), \textit{Hospitals in History}, p. 55.
\item \textsuperscript{107} Carlin, ‘Medieval English Hospitals’ in Granshaw and Porter (eds.), \textit{Hospitals in History}, p. 34; Rubin, ‘Development and Change’ in Granshaw and Porter (eds.), \textit{Hospitals in History}, p. 53.
\item \textsuperscript{109} See Chapter three for further detail on these royal hospitals.
\end{itemize}
which much of their income was derived) and were overseen by influential local authorities, they were peculiarly vulnerable to political turmoil.\textsuperscript{110} As St Bartholomew’s governors were staunchly devoted to the Crown, it was perhaps the least affected of the royal hospitals by such political disturbance, although it nonetheless experienced numerous changes in power. This was particularly evident during the late seventeenth century when many hospital governors were dismissed from positions of power (including those who had only recently been instated in an attempt to displace Whigs from any position of public influence).\textsuperscript{111}

By 1800, London had a population of over one million people. Seven hospitals, providing a combined total of just two thousand beds, served the sick poor of the city, while a similar number of institutions offered care to the remainder of England and Wales.\textsuperscript{112} Compounding this staggering shortage was the displacement of family and social structures, particularly in rural areas, triggered by the industrial revolution.\textsuperscript{113} This effectively meant that the labourers flooding urban centres lacked any form of traditional community support in the event of illness. As increasing urban populations placed ever more pressure on these limited hospital facilities, public authorities were forced to confront the severe need for easily accessible health care for the lower classes.\textsuperscript{114} Although periodic attempts at reform had been made in the past, usually under the menace of uncontrolled epidemics, as soon as any immediate threat had passed the health boards and hospital committees were disbanded.\textsuperscript{115}

Where no public institutions served the need, private individuals sought to capitalise on the desperation of the sick poor. By the end of the eighteenth century, irregular practitioners outnumbered orthodox medical men at a ratio of nine to one. These ‘quacks’ are often presented in modern accounts of nineteenth-century medicine as charlatans, selling ineffective – and sometime dangerous – medicines to ignorant and gullible consumers for exorbitant prices. This generalisation is in some cases accurate, but these unorthodox practitioners did also provide a significant portion of the population with accessible, commonsense health care.

Those who could afford it would visit the ‘sixpenny doctor’ at the local dispensary for care, where for a small fee they would receive care and medicine. Unfettered by the restrictive admission criteria of the hospitals, general practitioners were able to provide affordable care to large numbers of people suffering a wide variety of illnesses using the dispensary as their shopfront. Some incorporated small in-patient facilities, but most primarily aimed to deliver medical, surgical, and obstetric treatment to out-patients, either on site at the dispensary or in the sufferers’ homes. By 1834 London had thirty-five dispensaries, founded by donations and subscriptions to alleviate the poverty-inducing illnesses suffered by the ‘deserving poor’, the “worthy working man and his family.”


From the 1720s, however, the influence of a new type of hospital had gradually been increasing across Britain. Reminiscent of much earlier Christian influences, voluntary hospitals were established as a means for the wealthy to support the underprivileged, thus merging medicine and the relief of the poor. While the upper classes patronised private physicians, and the pauperised were theoretically provided for by the Poor Law system, voluntary general hospitals were founded to fill a void in the provision of medical care in Britain. The working classes and the ‘deserving poor’ were worst afflicted by the intertwining of disease and poverty, but had the least access to other forms of medical care. Voluntary hospitals sought to provide:

relief and comfort of Multitudes who are unable to be at the expence [sic] of Advice or Physick, but are not distinguished by the name of The Poor, because they do not come under the care of a Parish or Workhouse, and yet…They are in present want; and are of the diligent and industrious, that is of the useful and valuable part of all Society.

Affluent donors of all (upper) classes and denominations devoted themselves to the care of the sick poor. In return for their sponsorship and administrative services, these donors were awarded the title of governor and the material and social privilege of nominating cases for admission; the larger the donation, the more patients each governor could recommend for hospital care.

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123 These institutions were founded on the contributions of wealthy patrons whose voluntary donations gave the hospitals their name (MacDonald, ‘The Infirmary of the Glasgow Town’s Hospital’, p. 65).
To secure admission to hospital, a sufferer was required to obtain a governor’s recommendation (commonly known as ‘lines’ or ‘tickets’). Accidents and emergency cases were rare exceptions which were accepted without tickets; indeed, general hospitals were perhaps better suited to the treatment of acute injuries. All other potential patients, however, were required to petition a hospital governor, demonstrating their need for hospital admission and their inability to pay for alternative forms of care. To obtain a ticket, social networks were often more crucial than was medical necessity – a well-connected friend or benevolent employer was more likely to supply lines to an acquaintance than a stranger. Once they had secured their recommendation, there remained still more hurdles to cross before they could hope to find themselves in a hospital bed.

Voluntary hospitals typically admitted inpatients on just one day per week, a narrow timeframe which precluded many acutely ill from accessing treatment. Admission criteria were restrictive, stipulating that:

No woman big with child, nor child under six years of age…no persons in consumption, disordered in their sense, or subject to epileptic fits, suspected to have the smallpox, venereal disease, itch, or any other infectious distemper, no persons having habitual ulcers on their legs, cancers not admitting operations or dropsies in their last stages, or apprehended to be in a dying condition, or incurable, be admitted in-patients.

130 Dupree, ‘Family Care and Hospital Care’, p. 196, pp. 207-208; Sigsworth, ‘Gateways to Death?’ in Mathias (ed.), *Science and Society*, p. 99.
132 In mediaeval times, however, hospitals established alongside religious orders often tended to young unwed mothers, with some institutions even established solely for their care. St Bartholomew’s had a ward to accommodate pregnant women, and was known for “keeping women in childbirth until their purification and sometimes feeding their infants until weaned.” The hospitals also sought to care for infants from Newgate prison, which was located close by (Carlin, ‘Medieval English Hospitals’ in Granshaw and Porter (eds.), *Hospitals in History*, p. 33; Sigsworth, ‘Gateways to Death?’ in Mathias (ed.), *Science and Society*, p. 100; quote from S. Cherry, ‘The Role of a Provincial Hospital: The Norfolk and Norwich Hospital, 1771-1880’, *Population Studies*, 26 (1972), p. 295).
Furthermore, any person able to afford private medical care was also excluded, as were paupers; their place was the workhouse. These restrictive regulations were not always followed rigidly, to some extent because contemporary knowledge of the progression of various diseases was limited (meaning, for example, that cases of infectious diseases may be inadvertently admitted at a stage when the condition did not appear to be contagious). The very existence of such narrow admission criteria was, however, an impediment to those in desperate need of medical attention.

Almoners and porters, the gatekeepers of the hospital, then selected patients for admission. If there were no available beds, even those proffering tickets were turned away. Those rejected by the porters could present themselves at an outpatient’s department for assistance. It was an unappealing and humiliating option – deliberately made to be so to discourage the attendance of those wealthy enough to afford to pay for their medical care. Patients faced a long wait on hard wooden benches crowded with other sufferers, the coughs of consumptives and the smell of foetid dressings and unwashed children mingling with the nauseating sights of congealed blood and weeping ulcers. Those courageous or desperate enough to persevere made their way through the queues until they had their few moments with a physician’s or surgeon’s junior assistant, who was constantly on the lookout for ‘interesting’ cases. Any patient exhibiting atypical or uncommon symptoms was admitted without the need for a ticket, and tended by the hospital’s senior practitioners. The vast majority of outpatients, however, were treated with generic cathartics or emetics and sent home, with more complicated prescriptions being filled by the local apothecary.

139 See Chapter Six for more detail on medicinal treatments (Smith, The People’s Health, p. 257).
With a distinct lack of first-hand evidence of working-class patients’ views of the experience it is difficult to conclude whether or not these brusque encounters satisfied the needs of the sick poor.¹⁴⁰ It is irrefutable, however, that these patients were fortunate to have any form of access to a professionally trained practitioner. Governors, too, appreciated this chaotic, collective form of medical treatment. The crowds which presented at outpatient departments provided evidence of a busy and well-used hospital – crucial evidence with which to persuade donors (potential and continuing) to be generous towards the charitable institution.¹⁴¹

Patients who made it past the hospital’s gates and were admitted by the porter were entitled, on presentation of their tickets, to a defined period of hospital care provided by the sponsorship accorded by the governor’s donation. While a sponsored patient was usually admitted for forty days, in some cases this was extended up to eight weeks, after which patients would be summarily discharged if they were unable to renew their sponsorship.¹⁴² There were frequent disputes over the benefits and disadvantages of the subscription system, with hospital governors and medical staff generally ranged on opposite sides of the debate.¹⁴³ The conflict between the two groups was essentially a matter of control, a question of whose influence and authority was greater.

The governors wholeheartedly endorsed the subscription scheme. It provided them with the opportunity to sate their philanthropic inclinations via a means which offered the potential for ample public recognition and scope for influencing the management of a major social institution, but simultaneously allowed them to remain at a comfortably physical and social distance from

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¹⁴⁰ Illiteracy would present the main barrier to the passing on of tales of working-class patients’ encounters with medical practitioners. Interestingly, it appears that the convicts transported to Australia were marginally better educated than the general working-class population in Britain; Richards suggests that this may be a result of selecting convicts with higher skill levels for transportation (E. Richards, ‘An Australian Map of British and Irish Literacy in 1841’, Population Studies, 53 (1999), p. 355; Smith, The People’s Health, pp. 257-258, p. 264.


¹⁴³ MacDonald, ‘The Infirmary of the Glasgow Town’s Hospital, p. 97.
their charges. Governors demanded value for their donations, and usually succeeded in having their patients remain in hospital until they were cured, relieved, or died.

Surgeons and physicians, however, were less enamoured of the subscription system, as it restricted the growth of voluntary hospitals by curbing the number of beds each institution could support. The focus for practitioners was obviously the ‘medicalisation’ of the hospital – the more patients the hospital could admit and treat, the more material available for teaching and the advancement of knowledge. The emphasis was accordingly on a rapid patient turnover, which would enable acutely ill patients who may actively benefit from care to make use of hospital beds. Accordingly, surgeons sought to strictly enforce the length of time each individual was permitted to remain in the hospital, and often tried to use their influence to have a patient discharged. If a patient’s stay became protracted, medical staff tended to lose interest in the patient and seek to have them dismissed from the hospital, usually by asserting that their disease was incurable or chronic in nature, and would not be relieved or cured by further hospital treatment.

Those chronic or incurable patients who remained in hospital may have paradoxically suffered a worse fate than those discharged. Francis Cartwright, a “kind and gentle” seventeen year-old apprentice, was admitted to St Bartholomew’s Hospital in 1846 with mania brought on by an attack of rheumatism. He lay delirious in his bed for two or three days “until the cause was discovered in an abscess over the right hip, which soon after [its detection] relieved itself by

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145 MacDonald, ‘The Infirmary of the Glasgow Town’s Hospital’, p. 98.
146 This is a difficult subject on which to generalise, particularly with the lack of first-hand accounts which has already been noted above. In hospital, patients were close to medical attention should it be urgently required. At home, the sick would be close to family and friends in a more relaxed and comfortable environment. However, the presence of a sick person in the home, possible requiring significant levels of care and attention, would prevent other members of the household working, and drain funds and resources away from those who were also in need of them.
147 St Bartholomew’s Hospital Archives and Museum, St Bartholomew’s Hospital, Medical and Surgical Case Notes of Edward Latham Ormerod, Diseases of the Central Nervous System, Kidneys, Abdominal and Infectious Skin Diseases: Francis Cartwright (MR 16/6/201).
bursting.” Cartwright’s delirium eased, and he was able to speak sensibly, although slowly and without interest. The surgeon attending his case held hopes of his recovery, but over the following days Cartwright gradually became increasingly emaciated. Within a fortnight the skin on his back was sloughing away and he had become so thin that his pelvic bone had become visible through the wound on his hip.

As Cartwright’s chances of recovery declined, so too did any interest in his case. His notes record that for the final few days of his life the teenager “lay just alive and no more.” The surgeons and nurses recognised that Cartwright’s condition was terminal; his case could not warrant any further care, which would be better offered to patients who presented more favourably. Francis Cartwright was left alone, lying “almost unnoticed” in the gloomy ward until he passed away almost three lonely months after his admission.

Intriguingly, this neglect of patients is not apparent at the colonial institutions. A patient at St Bartholomew’s was all but anonymous, just one of the mass of working-class people which thronged London’s streets. A convict patient, however, was one of a much smaller group, where each inmate was painstakingly named, numbered, and described, and where their labour was crucial to the establishment of vulnerable colonies. Accordingly, detailed notes were kept on colonial patients, with their symptoms and treatments meticulously recorded. Dying inmates were accorded particular care, often tended by the surgeon several times a day; Henry Bavin, a twenty-five-year-old sawyer, was attended four times by his surgeon at the New Norfolk Hospital the day prior to his death. Remarkably, it appears that in some cases the surgeon even sat by the patient’s bed in his final hours. At large public hospitals such as St Bartholomew’s, such scenes of tender care were few and far between. The sheer size of the

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148 SBHAM, SBH, Medical and Surgical Case Notes: Francis Cartwright (MR 16/6/202).
149 SBHAM, SBH, Medical and Surgical Case Notes: Francis Cartwright (MR 16/6/202).
150 SBHAM, SBH, Medical and Surgical Case Notes: Francis Cartwright (MR 16/6/202).
151 Tasmanian Archive and Heritage Office, Royal Derwent Hospital: Henry Bavin (HSD 246/1/1/219).
London hospital – both in patient and staff numbers – would render such personal care almost impossible.

Some patients succumbed to infections contracted whilst under treatment for other complaints (for example, a labourer admitted with a compound fracture of the arm would have been at an extremely high risk of dying from infection of the wound, rather than from the injury itself), while others fell victim to assorted fearsome ‘hospital diseases.’ These epidemic infections, such as erysipelas, gangrene, pyaemia, septicaemia and various forms of fever, existed to some extent wherever people were accommodated in overcrowded and unhygienic conditions.

Their prevalence meant that hospitals were more closely associated in the public mind with poverty and death than restoration to health, a perception which was fostered by publications such as John Howard’s 1789 *Account of the Principal Lazarettos in Europe.* The sick exhausted all other options before seeking admission, so their situations were often desperate by the time they saw a hospital surgeon. This instigated a cruel cycle, with sufferers waiting until they were acutely ill before seeking treatment, by which time many were considered incurable and denied hospital treatment.

Those turned away from hospitals found themselves in a desperate situation. Many were without a family or community support network – if they were able to access such assistance, they would have been less likely to seek admission to a hospital. Denied treatment at a hospital, entrance to another charitable institution – the workhouse – may have been their only alternative. Workhouses had traditionally admitted the sick poor, with those suffering chronic

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(and/or untreatable) conditions and venereal or infectious diseases making up the bulk of admissions.\(^{156}\) The primary difference between workhouse inmates and hospitals patients was, as Markus points out, that the latter were not forced to work, while labour was an integral and unquestioned part of workhouse life.\(^{157}\) Despite this monotonous and thankless employment, by the early nineteenth-century workhouse dormitories had become severely congested.

Overflowing with those who had been refused hospital care because they were infectious, incurable, or simply uninteresting, the beds were crowded with paupers suffering conditions ranging from painful and irritated eyes or shameful venereal diseases to chronic asthma, paralysis or crippling rheumatism.

The 1834 Poor Law Amendment Act was an attempt to ease the pressure placed on the social and health support systems by reducing both claimants and costs.\(^{158}\) It made no provision, however, for the almost seventy-five percent of paupers who sought assistance due to illness or infirmity.\(^{159}\) The principle of ‘less eligibility’ dictated that those receiving assistance were to be kept in conditions inferior to those experienced by the poorest independent labourer.\(^{160}\) Where the needy had previously been eligible to receive ‘outdoor relief’ in the form of pensions, the new Prohibitory Order decreed that all able-bodied paupers were now to be routinely admitted to the workhouse.\(^{161}\) The sick, however, were permitted to continue receiving outdoor relief for as long as they could care for themselves in their own homes.\(^{162}\) As Abel-Smith comments, “a system which offered relief at home to the sick and punishment in an institution to the able-

\(^{156}\) Richardson, *English Hospitals*, p. 54.


\(^{158}\) Clark-Kennedy, *The London*, pp. 5-6.


\(^{160}\) Abel-Smith, *The Hospitals*, pp. 46-47.


\(^{162}\) Picard, *Victorian London*, p. 221.
bodied” acted as a recipe for malingering. It was also impractical for the overworked Poor Law Medical Officers, with limited time and resources, to ponder over individual diagnoses; a person’s status had to be decided with as little deliberation as possible.

The reforms had been founded on a calculated public fear and repellence of the workhouse, the assumption that houses of industry represented the depths of desperation and destitution. As inmates were automatically ‘pauperised’, admission to a workhouse represented the very lowest and most miserable rung on the ladder of society. Accordingly, authorities assumed that by making the workhouse the only option for support, the poor would be encouraged to make provision in case of illness – membership of insurance schemes or friendly societies, for example. Although these assumptions were fundamentally correct, the vast majority of the poorer working classes could simply not afford the 1d to 2½d weekly payment required to register in these schemes. The sheer number of those in need of medical care, and the extent of the support required by the sick poor, had also been drastically underestimated.

Eighteenth century houses of industry often incorporated sick wards or ‘pesthouses’ to protect the main institution from diseases carried by unhealthy inmates. Workhouses established in the 1830s and 1840s, however, were influenced by the lack of provision for the sick and disabled in the Poor Law Amendment Act, and generally accommodated all the inmates together – the able-bodied worked, slept and ate alongside the infirm, the mentally unstable, and the physically ill. As a result, these institutions were teeming with “a motley collection of aged and infirm, destitute chronic sick, orphans, foundlings, mentally defectives, and able-bodied paupers [as well as] a floating population of vagrants and temporarily sick” who had been ignored by the Poor.

163 Abel-Smith, *The Hospitals*, p. 47.
166 Richardson (ed.), *English Hospitals*, p. 55.
Law reforms.\textsuperscript{168} It was not until the mid-nineteenth century that some workhouses began to erect dedicated infirmaries alongside the main institutions to treat their sick inmates, while other districts designated one workhouse as a pauper hospital, where all local cases requiring medical care were received.\textsuperscript{169} The provision of medical and surgical treatment within workhouse infirmaries was finally ratified in the General Consolidated Order of 1847.

Prior to the 1850s, admission to the workhouse infirmary or a voluntary hospital signalled a failure of community networks to care for their own. This stigma of a charitable institution compounded the dismal reputation of hospitals as places of desperation and despair, rather than health and recovery.\textsuperscript{170} For the sick, the hospital represented not the only option, but perhaps the last option. From the mid-nineteenth century, however, a multifaceted transformation of the hospital gradually revolutionised public perception of institutional medical care. Hospitals became epicentres of advancements in medical science; from earlier anatomical and pathological discoveries to later anaesthetic and surgical breakthroughs, all converged within hospitals. Over a period of two or three generations, mortality rates dropped until it was safer to be treated as an in-patient than at home. For the first time, hospital patients had wider treatment options and improved prospects of recovery compared to those who could afford medical attention in their homes. Advances in knowledge and improved diagnostic practices were only available in hospitals; the poor had access to better medical care than that which was available to the wealthy with their elite physicians and their house calls.\textsuperscript{171} To rectify this startling social imbalance, admission policies were broadened and the stigma of hospitals as charitable institutions began gradually to wane. While essentially only curable or ‘interesting’ adult cases had been admitted

\textsuperscript{168} Clarke-Kennedy, \textit{The London}, p. 6.
earlier in the century, by the 1850s children and those suffering infectious diseases were readily received at general hospitals and specialist institutions.  

Although the story of British hospital development throughout the nineteenth century could be in no way considered a tale of ‘onwards and upwards’ progress, from amidst the chaos of political upheaval and bureaucratic wrangling significant advances emerged. Medical innovations, coupled with the improvements in hospital design and a new emphasis on hygiene and sanitation, aided the gradual disintegration of the negative reputation of hospitals. The number of hospitals multiplied dramatically: by the mid-nineteenth-century London was served by around two hundred and fifty voluntary institutions. Fortified with medical innovations and equipped with improved facilities, these hospitals had the potential to make positive contributions to the health of the working classes. While their ability to combat epidemic diseases remained restricted, medical institutions were nonetheless able to provide curative therapy for increasing numbers of patients. Diseases and conditions that would have been distressing, disabling or even deadly could be treated, whether the outcome was alleviating, reducing or completely eradicating the complaint

*Healthcare aboard Ship: Medicine on Convict Voyages*

Between their departure from British gaols, and their arrival on the shores of Australia or Bermuda, a systematic welfare programme was employed to tend the needs of convicts. A significant component of this programme was medical care intended to maintain the health of the unfree patients, and to treat those who succumbed to illness during the voyage.

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The introduction of the surgeon-superintendent in 1815 is perhaps the best known improvement in the medical care of convicts aboard ship. Their appointment marks the culmination of a gradual series of small advancements begun as early as 1797, when surgeons began to receive instructions governing their treatment of convict patients.\(^{175}\) While these guidelines did produce benefits for prisoners aboard ship, they were ambiguous, inconsistently enforced, and did not extend surgeons’ scope of authority much beyond the treatment of disease. As such, they remained but token gestures of reform.\(^{176}\) As the Napoleonic Wars drew to a close in 1815, Assistant Colonial Surgeon William Redfern was fighting his own battle to reform the state of medical supervision on board convict vessels. He wrote a detailed report outlining the failings of the system, and suggesting, among numerous other proposals, that qualified surgeons should be selected from the Royal Navy and appointed on every convict vessel in the capacity of a government supervisor.\(^{177}\)

The extension of the surgeon’s authority into improving conditions aboard ship was a significant step forward for convict patients. As surgeon-superintendent, he was able to influence the general welfare of the prisoners, encompassing the distribution of rations, the regular cleaning of clothing, bedding, and quarters, adequate ventilation, regular exercise on deck, and the supervision of punishment.\(^{178}\) The improvement of these aspects had the potential to significantly improve the health of the convicts. A number of patients’ case histories from both the Bermudian and Vandemonian hospitals record the negative impact of poor conditions upon health while under sail. Robert Simcoe, a twenty-five-year-old convict transported to Van Diemen’s Land, suffered from chronic rheumatism brought about by exposure to cold while


\(^{177}\) McNeil, ‘Medical Care’, p. 129.

aboard ship. John Brooks, Thomas Clarke and Jonathon Wilson were all transferred to the Royal Naval Hospital in Bermuda from their respective ships’ sick bays due to lack of space.

For some patients, it was the ship’s rations which were unsuitable; Bermudian convict James Toole, for example, was unable to “make use of the diet allowed on board,” and so was sent to the shore-based hospital to take advantage of the wider range of foods available.

Though reforms had extended the scope of the surgeon-superintendents’ remit, the primary focus of the role remained the maintenance of health on board ship. The types of treatment adopted to combat disease essentially mirrored that administered in land-based institutions; whether patients were confined to a hammock aboard a Bermudian hulk or kept to a narrow hospital bed on a vessel bound for in Van Diemen’s Land, the common aim was the protection of the health of the convict workforce.

Patients under medical treatment would often be confined to the small hospital on board ship. Here, the surgeon-superintendent would visit the sick at least twice a day, with more frequent checks kept on those “in a precarious state.” The sick bay also provided an area suitable for isolating patients in the event of an outbreak of infectious disease. A prisoner exhibiting symptoms of dysentery, fever, or any other type of contagious condition would have his head shaved, and be thoroughly washed with warm water and soap before being admitted to the small sick bay. His bedding and clothing would be fumigated or, if considered completely infested,
thrown overboard. Robert Riddell, a New Norfolk patient who was stricken with cholera in 1832, may have been subject to these stipulations.

Instructions such as these, issued in response to Redfern’s revealing report, proved to be a turning point in the provision of medical care aboard convict ships. Prisoners who fell ill on board ship prior to 1815 were likely to receive treatment at the hand of a freshly qualified young surgeon, or from poorly trained practitioners who could not support themselves through private practice. The introduction of the surgeon-superintendent, however, provided convict patients with a well-qualified and equipped medical practitioner, operating within an orderly system specifically designed to maintain their health.

The impact of the surgeon-superintendent proved to be so great that the period of convict voyages is now generally divided into two distinct phases, as described by McDonald and Shlomowitz. The first period, 1788-1814, was typified by a high mortality rate resulting from poor hygiene and inadequate pre-voyage screening. The second stage, 1815-1868, began with the introduction of the surgeon-superintendent. Mortality rates in this phase had diminished under the influence of improved screening, better sanitary measures, and improved healthcare on board ship. This increasing emphasis on maintaining and supporting the health of convicts can be observed throughout the narratives of many convict patients. Their experiences mirror the wider medicalisation of colonial society.

184 McNeil, ‘Medical Care’, p. 134; Brand and Staniforth, ‘Care and Control’, p. 33.
185 TAHO, RDH: Robert Riddell (HSD 246/1/32).
187 McDonald and Shlomowitz, ‘Mortality on Convict Voyages’, p. 300.
Colonial Australia presented an opportunity for the British government to establish a completely new structure for the provision of health care.\textsuperscript{189} While the configuration of existing British systems of health and social support systems exerted a strong influence over the moulding of this framework, settlers and authorities alike were keen to avoid the dehumanising disadvantages of workhouses and voluntary hospitals.\textsuperscript{190} Until the late 1830s, when medical boards were established to investigate the validity of practitioners’ qualifications and formally define the boundaries between orthodox and irregular health providers, these groups of practitioners operated alongside one another in an uneasy and unregulated market of government hospitals, charitable dispensaries, voluntary agencies, and private practitioners.\textsuperscript{191}

The provision of government healthcare in the Australian colonies was overseen by a principal surgeon, supported by assistant and district surgeons.\textsuperscript{192} Together, these practitioners were responsible for the medical care of convicts, officials, emancipists, free settlers, and in some circumstances military personnel.\textsuperscript{193} However, the extent of their duty of care towards all but

\textsuperscript{188} It is necessary to examine the history of the provision of healthcare in New South Wales as the Medical Service in Van Diemen’s Land was part of New South Wale’s for the early period of its history.


\textsuperscript{191} Medical qualifications were regulated in Australia through the 1837 establishment of the Board of Medical Examiners and the formalisation of the 1838 Bill to Regulate the Practice of Medicine; this process did not occur in Britain until the General Medical Council was formed in 1858 (Lloyd, ‘A History of Medical Professionalisation’, p. 15, p. 21; Martyr, ‘No Paradise for Quacks?’, p. 141; K. Russell, ‘Medicine in Melbourne: The First Fifty Years’, The Medical Journal of Australia, 2 (1977), p. 17).

\textsuperscript{192} While the principal surgeon was responsible for the day-to-day management of medical services, major decisions such as the distribution of appointments, promotions, and dismissals were overseen by the Governor (Cummins, A History of Medical Administration in NSW, p. 14).

\textsuperscript{193} See Glossary for definition of terms (C. Craig, Launceston General Hospital: First Hundred Years, 1863-1963 (Board of Management of the Launceston General Hospital, Launceston, 1963), p. 1).
prisoners under sentence was the subject of ongoing debate.\textsuperscript{194} Outside their medical obligations, colonial surgeons were also expected to supervise penal discipline and involve themselves in community affairs, such as the mediation of judicial matters, the establishment of community institutions and participation on inquiry, medical, and lunatic boards.\textsuperscript{195}

A hospital was among the first buildings erected upon the arrival of the First Fleet.\textsuperscript{196} These facilities, however, were barely functional, consisting of a small village of tents under the authority of Surgeon-General (Principal Surgeon) John White.\textsuperscript{197} Demonstrating the urgency of providing improved accommodation for the sick, who lay sweltering under the February heat, and the importance of tending to the health of the convict workforce, just a few weeks later these tents were replaced by a wooden building with a shingled roof and dirt floors.\textsuperscript{198} By 1790 a prefabricated hospital had arrived from England; although it was designed to be erected in a matter of hours, the six hundred and two pieces took two weeks to assemble.\textsuperscript{199} Vulnerable to the harsh Australian conditions, this hospital soon succumbed to white ants and fell into a state of disrepair, but the ramshackle structure remained Sydney’s primary medical institution until the completion of the infamous ‘Rum Hospital’ in 1816.\textsuperscript{200} While this hospital had been pieced together after six years of negotiation (both within the government and between the government

\textsuperscript{194} Upon the amalgamation of civil and military medical services in 1836, military personnel posted at outstations were attended by colonial surgeons, while in urban centres the larger numbers of military personnel could support the dedicated assignment of a naval surgeon (Cummins, \textit{A History of Medical Administration in NSW}, p. 17, p. 20).


\textsuperscript{199} Kerr, \textit{Design for Convicts}, p. 4; Cummins, \textit{A History of Medical Administration in NSW}, p. 24.

and its workforce), and various delays surrounding labour and construction, Parramatta could boast a solid brick hospital as early as 1796.\textsuperscript{201}

Sydney’s new hospital was comprised of a two-storey building, located in an airy situation free from any damp and well-fenced with high walls.\textsuperscript{202} Each of its eight wards could accommodate twenty-two patients. Commissioner John Thomas Bigge, conducting interviews and inspections as part of his inquiry on behalf of the British government, noted with disapproval that a number of these rooms had been appropriated for other purposes, such as use as a court of law and an artist’s studio.\textsuperscript{203} Kitchens, privies, washing, and bathing rooms were placed behind the main building, at either end of which were located the staff quarters.

As penal and immigrant settlements expanded through New South Wales, more convict hospitals were established in districts such as Windsor, Liverpool, Newcastle, Bathurst, Goulburn, Port Macquarie, and Norfolk Island.\textsuperscript{204} In 1823, Bigge noted that a principle surgeon, six assistant surgeons, a hospital assistant, and a superintendent of lunatics oversaw the provision of healthcare in these institutions, while Van Diemen’s Land’s hospitals had been equipped with four surgeons.\textsuperscript{205}

As in New South Wales, convict hospitals in Van Diemen’s Land followed the extension of settlement. Hobart Town’s sick were distributed between rented houses and gaols from 1804 until the mid-1820s; this accommodation was evidently “ill situated, low, and possessed no

\begin{thebibliography}{999}
\bibitem{Bigge1} Bigge, \textit{Report of the Commissioner of Inquiry}, p. 106.
\bibitem{Bigge2} Bigge, \textit{Report of the Commissioner of Inquiry}, p. 106.
\end{thebibliography}
domestic accommodation." By 1825 Hobart could finally boast a permanent medical institution; housed in a long brick building and “standing upon an eminence in a very healthy airy situation.” Six years later, when the total nonindigenous population of Van Diemen’s Land was close to twenty-one thousand people (of which approximately seven thousand one hundred were prisoners), Launceston, Port Arthur, and New Norfolk each operated a district hospital, while temporary wards were established in George Town, Campbell Town, Bothwell, Jericho, Richmond, Norfolk Plains, Waterloo Point, Macquarie Harbour, and Maria Island. These hospitals were staffed by ten surgeons, a clerk, and a dispenser. Some institutions were also able to offer outpatients’ clinics, and all served as bases from which district surgeons travelled to tend convicts assigned in outlying areas.

Until 1831, public works’ convicts were treated in government hospitals at no charge. Masters were required to provide rations for their assigned servants while they underwent hospital treatment, but only for their first fourteen days, and only if they wished to have their servants returned to them upon their recovery. Upon receiving Bigge’s recommendation, the new Secretary of State, Sir George Murray, was aghast at the level to which the state subsidised the costs of penal medical care, and instructed Governor Darling to implement reform. From June 1831, masters were required to pay a fee of one shilling per day towards their servants’ hospital expenses for a period of thirty days if they wished to be reunited with their charges after

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208 By 1847, the colony’s population had expanded to over seventy thousand (twenty-four thousand five hundred of whom were convicts (Brown, *Poverty is Not a Crime*, p. 17; J. Bischoff, *Sketch of the History of Van Diemen’s Land* (John Richardson, London, 1832), pp. 48-49).


210 In New South Wales, the Sydney General Hospital established an outpatient’s clinic (Ford, ‘Medical Practice in Early Sydney’, p. 48).


212 Nicholas, ‘The Care and Feeding’, p. 192
their treatment had concluded.213 To prevent hospitals from becoming “improperly burdened with men who do not require [active medical] treatment,” masters were also expected to collect their assigned servants promptly; any master who delayed was at risk of having his servant reassigned.214 However, these regulations not only discouraged masters from leaving their convicts in hospital for extended periods of time, they also served to dissuade them from seeking professional care for their workers at all.215

The free population felt the impact of fees associated with hospital treatment more than those associated with the care of penal patients. Settlers were admitted for 3/- per day, while paupers who “could not bear the expense of their own cure” were funded 2/- per day by the Colonial Government to receive inpatient care.216 This extension of care by authorities was, however, not entirely benevolent – it was hoped that by demonstrating an ability to support the health of citizens through times of crisis, more immigrants would be encouraged to increase the population of the infant Australian colonies.217

These colonies could be lonely and isolating places for the ill. The vast majority of inhabitants were far removed from their families and, like rural British labourers venturing to London seeking employment, they could not rely on traditional community networks for support in times of ill health. As in Britain, those who could afford it were able to select from the wide variety of unorthodox practitioners offering treatments ranging from homeopathy and Turkish baths to patent medicines and powders.218 The pauperised, however, had fewer options. While those in Britain could turn, however reluctantly, to the workhouse infirmary in times of desperation, the

213 In 1843 these regulations were made more severe; masters were liable for one shilling for every day of treatment, regardless of length, if they wanted their convict returned (Nichols, “Malingering”, p. 26).
216 Brown, Poverty is Not a Crime, p. 4, p. 18; Cummins, A History of Medical Administration in NSW, p. 30.
217 Brown, Poverty is Not a Crime, p. 2.
determination of early settlers to avoid replicating the degrading ‘old Poor Law’ system in Australia meant that the destitute sick had no such system to rely upon.\textsuperscript{219} As the Launceston Advertiser lamented, many sick were “without friends or relatives to succour them in affliction, the casualties of disease and want.”\textsuperscript{220}

Indoor relief in hospitals and invalid depots was essentially the only form of welfare provided to the poor in Van Diemen’s Land. Occasionally rations were issued from the store to the destitute as a form of outdoor relief, but this was considered a short term measure until hospital accommodation could be secured. In 1839, Governor John Franklin declared that to prevent abuses of this free provision of rations, no single person would be eligible to receive support direct from the stores – all were to be admitted to an invalid depot such as New Norfolk. A very small number of destitute families were maintained on government stores until 1844, when Lieutenant-Governor John Eardley-Wilmot announced that all charity rations were to cease.\textsuperscript{221} These families were almost certainly forced to separate when their source of provisions was discontinued – young children would have been sent to orphanages, while older children and adults were compelled to find work or, in cases of illness or infirmity, to seek shelter and care at invalid depots or hospitals.\textsuperscript{222} For many – such as those forced into poverty through disease or disability – hospital may have been an appropriate solution. For others, outdoor relief would have permitted them the means and the dignity to maintain themselves and their families outside government institutions. Some voluntary agencies endeavoured to continue in the government’s stead by providing outdoor relief to families, and while the impact upon the families they were able to assist was positive, their limited resources meant that only very few could be helped.\textsuperscript{223}

\textsuperscript{219} Cummins, \textit{A History of Medical Administration in NSW}, p. 8, p. 53.
\textsuperscript{220} Launceston Advertiser, 4 June 1846.
\textsuperscript{221} Cummins, \textit{A History of Medical Administration in NSW}, p. 8, p. 53.
\textsuperscript{222} Brown, \textit{Poverty is Not a Crime}, p. 20, p. 51, pp. 54-55.
\textsuperscript{223} Brown, \textit{Poverty is Not a Crime}, p. 12.
In New South Wales, acknowledging the obvious need for alternative medical support systems, wealthier settlers indulged their philanthropic urges to promote the establishment of charitable institutions. In early April, 1826, the *Sydney Gazette* carried an appeal for funds to establish a public dispensary, eloquently reminding its readers that:

> many of the Free Class of Poor Inhabitants of the City of Sydney, when suffering from Disease, are unable to pay for Medical Advice, and not having any claims on the Government Medical Establishments, are frequently doomed to hunger on the bed of sickness, and perhaps fall victim to its painful effects; it becomes necessary to appeal to the Benevolence of the richer Inhabitants, to endeavour, by their assistance, to avert the Evils to which their poorer neighbours are subject.\(^{224}\)

With a similarly charitable sentiment, the Benevolent and Friendly Society established its first Australian branch in New South Wales in 1818. The Society was supported by the Colonial Government, who recognised it as an economical means of extending indoor and outdoor support “for the relief of the poor, aged, [and] infirm.”\(^{225}\)

The urban poor of Sydney also had recourse to a sixty-bed asylum, opened in 1821, and its attached infirmary which was equipped to provide medical care for forty patients. Severe overcrowding, demonstrating the dearth of poor relief in the colony, caused admission to frequently be restricted to the totally infirm, while the able-bodied and those suspected of having “blatantly immoral habits” were rejected or summarily discharged.\(^{226}\) In 1845 the Sydney Dispensary – the first voluntary hospital in Australia – was established with the aim of providing free or cheap medical care to the poor through the charity of private practitioners. However, with their restrictive admission criteria reminiscent of British voluntary hospitals, only emergency and accident cases and those deemed to be afflicted with acute conditions which would respond

\(^{224}\) *Sydney Gazette* (12 April 1826) cited in Cummins, *A History of Medical Administration in NSW*, p. 56.


\(^{226}\) Cummins, *A History of Medical Administration in NSW*, p. 52.
favourably to treatment were eligible for care, meaning that chronic and incurable cases were turned away.\textsuperscript{227}

In Van Diemen’s Land, Lieutenant-Governor William Sorell envisaged a similar union between the government and charitable movements supporting the health of the poor.\textsuperscript{228} Just after Christmas in 1832, Dr William Crowther and Mr Pearson Rowe, with the backing of one hundred and fifty subscribers and two hundred members, founded the Public Dispensary in Hobart Town.\textsuperscript{229} Each member was required to contribute 3s per month, one month in advance, to “receive Advice, Attention and Medicine…for himself and his family.”\textsuperscript{230} Under its subscription scheme, for an annual payment of one guinea, each member was able to recommend three poor ‘objects of charity.’\textsuperscript{231} Despite promising levels of initial support – in the first six months, “upwards of 200 fit objects of charity have been successfully relieved of disease” – the Dispensary began to suffer from a deficit of willing sponsors with sufficient spare money, and closed its doors after only five years.\textsuperscript{232} The lack of success of voluntary agencies was influenced by the sense of “passive indifference” pervading the colony – donors seemed to prefer supplying the needy with reactive, emergency handouts rather than supporting programmes which proactively assisted the sufferers to improve their lives.\textsuperscript{233} In New South Wales, however, a spirit of self-help led voluntary groups to assist the poor to support themselves, rather than rely on passive charity.\textsuperscript{234}

\textsuperscript{227} Cummins, \textit{A History of Medical Administration in NSW}, p. 52, p. 55.
\textsuperscript{228} Brown, \textit{Poverty is Not a Crime}, p. 2.
\textsuperscript{229} Crowther, ‘Some Aspects of Medical Practice’, 516.
\textsuperscript{230} Crowther, ‘Some Aspects of Medical Practice’, p. 516.
\textsuperscript{231} Crowther, ‘Some Aspects of Medical Practice’, p. 516.
\textsuperscript{233} Brown, \textit{Poverty is Not a Crime}, p. 11.
\textsuperscript{234} B. Earnshaw, “The Lame, the Blind, the Mad, the Maligners: Sick and Disabled Convicts within the Colonial Community”, \textit{Journal of the Royal Australian Historical Society}, 81 (1995), p. 36.
In 1845, the same year in which the Sydney Dispensary was opened, Eardley-Wilmot suggested establishing a workhouse in Van Diemen’s Land to compensate for his discontinuance of the limited outdoor relief, but nothing became of the proposal. Workhouses – and, indeed, voluntary hospitals and asylums – were tainted with unpleasant reputations. The care provided in these institutions was characterised by a lack of privacy and stringent moral and behavioural regulations, with foul and raucous language pervading every overcrowded ward. Those who were admitted faced treatment in dangerously unhygienic conditions, with filthy bedding and floors “swarming with vermin.” As Earnshaw recognised, in moving from the penal to the charity system, these invalids merely substituted one form of confinement for another.

Within the small communities of Van Diemen’s Land and New South Wales, the poor were more individual and more visible than in large urban metropolises such as London – these were real individuals, their lives and hardships made public. In Van Diemen’s Land, industrious settlers and emancipists who had proved themselves diligent and hard-working were perceived as worthy of community support when the unpredictable economic and employment markets left them impoverished. This group of ‘deserving poor’ were distinguished from idle and worthless paupers, many of whom were sent from Britain under schemes of pauper immigration and arrived already dependent on the strained resources of their new communities. Economic and demographic changes driven by the industrial revolution had fostered the growth of new social values and organisation in both Britain and its colonies. The physical workings of industry gave rise to an emphasis on an ordered society with clear divisions between those who were

235 Cummins, A History of Medical Administration in NSW, p. 8, p. 53.
236 Gibson case cited in Cummins, A History of Medical Administration in NSW, p. 57.
237 Earnshaw, ‘The Lame, the Blind, the Mad, the Maligners’, p. 37.
239 Brown, Poverty is Not a Crime, p. 10.
willing and able to participate and those who were not, between “honest industry” and “idle
profligacy.”

Free settlers and emancipists in the most desperate circumstances could petition the government
for admittance to a convict hospital. In a system hauntingly reminiscent of the British ‘ticket’
scheme, if a destitute sufferer could secure recommendations from a medical practitioner and a
clergyman or magistrate, they would be eligible to receive free medicine and accommodation in a
colonial institution. Each case was scrupulously investigated to ensure the applicant was totally
without means before permission was granted to enter the institution. Even once admitted, free
paupers occupied a vulnerable position in the government hospital. The authorities’ duty to
place the health of convict patients as a first priority rendered the needs of the free poor a distant
second. Paupers were frequently dismissed to make room for ill or infirm convict patients. At
the New Norfolk Hospital in 1848, severely overcrowded conditions compelled almost one
hundred male invalids to be transferred to the Impression Bay Invalid Depot. Most acquiesced
to the move, accepting that, as they “had thrown themselves on the charity of the Government,
[they] must be content with the conditions annexed to the grant[ing] of such charitable
assistance.” An obdurate group of twenty-six inmates, however, were less compliant, stating
defiantly that they were content at New Norfolk and would not be shipped off under duress to a
penal institution such as Impression Bay. After a terse exchange with Lieutenant-Governor
William Thomas Denison, half of the fractious invalids backed down and agreed to the move.
The remaining thirteen were intractable, but so too was Denison. He summarily ordered their
ejection from New Norfolk Hospital, “with as little violence as possible.”

242 Bowden records a New Norfolk patient who successfully petitioned the governor for admittance as an invalid,
unable to care for himself (C. Bowden, The Blind, the Paralytic, the Aged and the Destitute: The New Norfolk Colonial
Hospital in Van Diemen’s Land (unpublished Bachelor of Arts (Honours) Thesis, Department of History, University
of Tasmania, Hobart, 2007), pp. 28-29).
243 TAHO, Colonial Secretary’s Office: General Correspondence (24/47/1615).
244 Brown, Poverty is Not a Crime, p. 53.
245 TAHO, CSO: General Correspondence (24/47/1615).
As the transportation system gradually wound down during the late 1830s, and finally ceased altogether in 1841, demand on colonial surgeons and convict hospitals lessened in New South Wales. By 1847 Imperial authorities began dismantling the Medical Service, closing hospitals or placing them under private management. The remaining surgeons and convicts were transferred to Van Diemen’s Land. While Rimmer states that during the final years of transportation, convicts continued to experience “a secure and comprehensive system of health care,” the impact of this sudden increase of patients upon the already overstretched resources of the southern colony was sadly predictable. Rather than establishing additional institutions to accommodate the new patients, admission criteria were tightened, with many free inmates discharged or turned away from hospital care to allow convict patients to be accommodated. Until the Colonial Government took over the management of medical care in 1855, no new accommodation was provided for Van Diemen’s Land’s sick or infirm. Fifteen thousand convicts remained under the auspices of the medical department during these last years, with around four thousand cases being seen by colonial surgeons each year. Existing buildings and services were forced through necessity and desperation to cope with amounts of patients dramatically exceeding their intended numbers.

The overstretched government hospitals simply could not cater for the number of sick and infirm in need of treatment. The extremes of the population group – the wealthy and the destitute – found it increasingly difficult to obtain care from government hospitals, due to the burgeoning demands upon their facilities from convicts still under sentence. Voluntary hospitals, dispensaries, and infirmaries were established to cater for more prosperous free settlers who were disinclined to sully themselves by utilising the same medical institutions as convicts.

Civil authorities were eligible to obtain free medical care at the convict hospitals, but, reflecting British tradition and reinforcing social divides, they preferred to patronise private practitioners.\textsuperscript{251} The working classes were also encouraged to avail themselves of treatment from these establishments through participation in insurance schemes similar to those in Britain, where for a small weekly fee the poor could access care if they fell ill.\textsuperscript{252} The brevity, however, of many of these plans suggests that insurance schemes were no more popular in the Australian colonies than they were in Britain.\textsuperscript{253} While the fee structures were similar in both locations, they were predictably more expensive in Van Diemen’s Land; for example, St John’s Hospital in Launceston (opened in September 1845) required subscribers to pay between 3d (single person) and 6d (family) per week.\textsuperscript{254}

For those with sufficient financial resources, private practitioners were also available in Van Diemen’s Land. James Bischoff, a visitor to the colony, was pleasantly surprised at the number of physicians available in Van Diemen’s Land, commenting that there were “many very excellent private practitioners in Hobart Town and Launceston, as well as a few in the other parts of the country; so that there is no want of medical attendance, although, in such a climate, it is not much required.”\textsuperscript{255}

Private hospitals offered cleaner treatment facilities than their government counterparts, although this was more to encourage patients to patronise their establishment than to discourage the spread of disease.\textsuperscript{256} Despite the manifest need for their services, most private institutions

\textsuperscript{251} Cummins, \textit{A History of Medical Administration in NSW}, p. 30.
\textsuperscript{252} Craig, \textit{Launceston General Hospital}, p. 2.
\textsuperscript{254} Craig, \textit{Launceston General Hospital}, p. 2.
\textsuperscript{255} Bischoff, \textit{Sketch of the History of Van Diemen’s Land}, p. 64.
\textsuperscript{256} Colonial Times (25 May 1841). The concept of germs spreading disease was not yet accepted, but a cleaner treatment facility remained more appealing than a dirty or run-down hospital.
remained in business for less than two decades; forced to charge high fees to cover their expenses, they often failed to generate sufficient income to survive. For example, St Mary’s Hospital in Hobart operated from 1840 to 1860; St John’s Hospital in Launceston from 1845 to 1851; St Paul’s Hospital in Stanley from 1846 to 1860; and The Hobart Town General Dispensary and Human Society provided out-patient treatment to the poor from 1847 to around 1852. 257

By the mid-nineteenth century, the population of the Australia colonies had expanded sufficiently to permit community and family networks to stabilise and provide support to the needy. This acted to alleviate part of the pressure on overstretched healthcare resources, particularly in the government sector. Reluctance to expand medical facilities to meet growing need, however, rendered the ill and infirm inhabitants of New South Wales and Van Diemen’s Land vulnerable. Ironically, it was the free settlers and the emancipists who were most disadvantaged by this lack of medical provision. Throughout the history of the provision of healthcare in New South Wales and Van Diemen’s Land the government’s obligation to provide care to the convicts meant that they were guaranteed access to medical treatment. Despite the consistent inadequacy of facilities and shortfalls in accommodation – problems which also plagued British hospitals – colonial prisoners benefited from access to medical practitioners which far surpassed that of the remainder of the colony’s population, and also that available to their working-class counterparts in Britain.

257 Brown, Poverty is Not a Crime, pp. 45-47.
Bermuda: Convict Hulks and Naval Medicine

Bermuda had long been considered a highly salubrious climate for British constitutions. Settled early in the seventeenth century as the Somers Isles, Bermuda’s sunny and temperate shores lay in the sub-tropical zone and for several months in the middle of the year its climate was considered by many to be “one of the finest in the world.”258 Despite being exposed to the occasional violent hurricane, the group of islands was generally spared the most virulent and destructive illnesses which plagued hotter regions. Its strategic location was recognised upon its settlement, when Bermuda was lauded for its position “in the eye of all trade to the West Indies.”259 Maps from this period often picture the islands in an exaggerated size to emphasise the significance of their role as a “mediating space;” accordingly, Bermuda was acclaimed for possessing the “best intelligence of anywhere in America.” 260

Bermuda was one of many outposts in which the Royal Navy established a medical institution.261 The navy’s rapid expansion during the conflict-ridden eighteenth century demanded an efficient medical system to meet its increasing needs. Until this period, naval healthcare had been makeshift, essentially utilising local public institutions for assistance as and when required. During the Middle Ages, for example, ill seamen had been tended at charitable institutions such as almshouses and religious foundations.262 These benevolent hospitals, however, were eliminated by Henry VIII during the same reforms which shook all hospitals throughout Britain but secured St Bartholomew’s royal protection. Due to the lack of medical treatment available to sailors, the Crown ordered that this London hospital (along with several others in the city) be

kept accessible to seamen. As no sailors were permanently employed by the navy at this time, there was little reason to establish a permanent hospital to tend to ill seamen, or those injured in the course of their duties.

Until the mid-eighteenth century, the Admiralty hired accommodation and care at private houses for its sick and injured men in a practice known as the contract system. As the size of the navy expanded, however, this practice of purchasing medical attention as necessary became wholly inadequate. To supplement the contract system, buildings were constructed specifically for the accommodation of naval pensioners, beginning with the Royal Hospital at Greenwich. Initially, this ‘hospital’ was essentially an invalid depot, with little provision for medical care; its charter was instead “for the relief and support of seamen serving on board the ships and vessels belonging to our Navy Royal, who by reason of age, wounds or other disabilities shall be incapable of further service at sea and be unable to maintain themselves.”

The first large naval hospitals to be purpose-built were founded during the 1760s at Haslar Point and Plymouth. Around two thousand patients could be accommodated at Haslar, which was renowned as the largest brick building in Europe. Following continual conflict between the medical and naval authorities, both hospitals were placed under the control of a naval governor. Though the governor was advised by a board of physicians and surgeons, relations between the two groups were fraught with tension. In 1865 control was returned to the medical staff.

As these large institutions were founded in Britain, smaller outposts were being constructed in various British colonies, including Bermuda. Until the arrival of the first convict transport in

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268 Lloyd, ‘Naval Hospitals’ in Poynter (ed.), The Evolution of Hospitals, pp. 149-150.
Bermuda in 1824, the only medical needs on these islands which received the attention of the British government were those of the military and navy. Descendants of earlier settlers and travellers tended to each other in supportive systems of community and kinship; despite Bermuda’s status as a British colony, authorities evidently did not yet feel obligated to provide a public hospital.²⁶⁹ The armed forces, however, were far distant from their family support networks in Britain. Instead, rickety temporary establishments on shore, supplemented by hospital hulks and sick bays aboard ships, served to accommodate ill and injured military personnel.

Until the early nineteenth century, Bermuda’s main medical institution was a small shore-based hospital contrived in part of a naval building on Spanish Point, close to Clarence Hill. As the War of 1812 between the United States of America and Britain became more brutal, however, these facilities were expanded to cater for the growing number of maimed soldiers who could not be treated aboard ship.²⁷⁰ By late 1814, as the war began to weaken into a weary stalemate, the lease expired on this hospital and its doors were parsimoniously closed.²⁷¹ The dilapidated temporary buildings, closed when the naval facilities were extended, were reopened as hospital wards; any naval or military patients who could not be accommodated here were retained in the overcrowded sick bays of naval vessels.

Bermuda’s first permanent hospital, established to tend the needs of naval and military personnel, was established in 1818 in the Dockyards. During the hospital’s first six years, its eighty beds had been exclusively reserved for the use of soldiers, sailors, and other officials.

When the first convict transport arrived in 1824 the two-storey building was also opened up to

prisoners. Although any convicts admitted to the institution were under the direct authority of the Royal Navy, many naval authorities resented the presence of prisoners, who were sometimes received in such great numbers as to preclude the admission of military and naval officers. That prisoners were treated in the same institution as the armed forces grated on the finer sensibilities of many, with accusations that care in such a hospital lacked the “proper feeling of degradation” that should accompany every aspect of the transported felon’s life.

This overlapping of the healthcare of convicts and military personnel characterised the provision of medical treatment among the small British population in Bermuda. Although convicts were managed under the auspices of the Royal Navy until 1848, when the responsibility was shifted to the Colonial Office, tensions between these authorities ran high throughout this period. Despite this conflict, convict patients accounted for fifteen percent of the hospital’s admissions. In total, the institution tended to some twenty-five thousand patients between 1818 and 1886, comprised of the following groups:

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<th>Number of Cases</th>
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<td>Convicts⁷⁷⁵</td>
<td>3839</td>
<td>15%</td>
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<tr>
<td>Marines</td>
<td>2575</td>
<td>10%</td>
</tr>
<tr>
<td>Seamen</td>
<td>5941</td>
<td>24%</td>
</tr>
<tr>
<td>Soldiers</td>
<td>12902</td>
<td>51%</td>
</tr>
<tr>
<td>Total</td>
<td>25257</td>
<td>100%</td>
</tr>
</tbody>
</table>

Table 2: Admissions to Royal Naval Hospital Bermuda, 1818-1886⁷⁷⁶

²⁷² Hollis-Hallett, Forty Years of Convict Labour, p. 58.
²⁷³ Hollis-Hallett, Forty Years of Convict Labour, pp. 53-54.
²⁷⁴ Hollis-Hallett, Forty Years of Convict Labour, p. 58.
²⁷⁵ Convicts were only transported to Bermuda between 1824 and 1863.
²⁷⁶ Figures from Lloyd and Coulter, Medicine and the Navy, p. 255.
The expense of treating convicts in an institution belonging to a separate department was colossal; great enough, in fact, to warrant the building of a hospital exclusively for the use of prisoners.\textsuperscript{277} Plans were drawn up for an institution to be built on Watford Island; however, the sketches were deemed “very far superior to the requirements of the service” and promptly rejected.\textsuperscript{278} Although a second less pretentious set of plans were drafted, the prudent British government, aware of the finite lifespan of the convict establishment, rejected the expense and labour inherent in the construction of a Bermudian colonial hospital.

Instead, in 1848 the \textit{Tenedos} was commissioned to be refitted as a hospital hulk for convict patients. To the great relief of the military and naval personnel, this allowed the transferral of prisoners from the Royal Naval Hospital and the removal of sick bays from most of the main hulks.\textsuperscript{279} The \textit{Dromedary} hulk retained its sick bay, allowing accident and emergency cases to be treated close to the convicts’ quarters before being transferred to the \textit{Tenedos}. Non-urgent cases were immediately transferred to the \textit{Tenedos} or the hospital, instead of first being admitted to the sick bays aboard hulks. The hospital ship provided convalescing prisoners with relative calm and quiet to regain their health (peace not being readily available on board the main convict hulks, with each vessel being home to several hundred men) and freed much needed space in the shore-based hospital for the acutely ill. The \textit{Tenedos} also provided a restricted area for infectious patients during epidemics in the relative tranquillity of the waters off Boaz Island.

After improvements to ventilation, the \textit{Tenedos} was able to accommodate two hundred and fifty-three patients, each of whom each enjoyed a mere two hundred and fifty cubic feet of space.\textsuperscript{280} Authorities wrote glowing reports about the resourceful management and economic efficiency

\textsuperscript{277} Hollis-Hallett, \textit{Forty Years of Convict Labour}, p. 58.
\textsuperscript{278} Hollis-Hallett, \textit{Forty Years of Convict Labour}, p 60.
\textsuperscript{279} Hollis-Hallett, \textit{Forty Years of Convict Labour}, p. 58.
with which the *Tenedos* was run, and commended the kindly attention bestowed upon patients by its staff.\(^{281}\) John Mitchel, author of *Jail Journal* and a patient aboard the *Tenedos*, corroborated these sentiments. Although it must be said that Mitchel’s account of his time in Bermuda can hardly be taken as typical of the convict experiences, his report of the *Tenedos* was favourable, from his description of its moorings “in a most beautiful bay, or basin, formed by well-wooded islands, and far out of sight of the prison hulks” to his portrayal of the “kind and attentive” Dr Hall, who “seems determined to give [Mitchel] as much health” as possible during his admission.\(^{282}\)

Just five years after it was commissioned, however, the *Tenedos* became dilapidated; the “deterioration of her wooden walls, as well as accumulation of debris in her lower holds” had polluted the atmosphere and cultivated disease.\(^{283}\) Just as hulks moored along the Thames had been criticised as being “insanitary, damp, ill-ventilated and full of vermin,” so too the *Tenedos* became rapidly unfit for habitation, particularly by the sick.\(^{284}\) Instead of nursing convict patients back to health, it was charged with prolonging their illness. Despite having four surgeons “solely employed to attend their bodily welfare,” the mortality rates of penal patients had risen alarmingly during these years.\(^{285}\) Mortality between 1848 and 1856 was roughly equal to that recorded during the other thirty years of the convict establishment combined (it should, however, also be noted that these were years particularly heavily afflicted by yellow fever).\(^{286}\) The rising number of fatalities was largely due to the use of the hospital ship in an epidemic of fever in 1853. The *Tenedos* acted to incubate the disease, spreading it to patients and staff via “an

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\(^{281}\) Hollis-Hallett, *Forty Years of Convict Labour*, p. 59.


\(^{283}\) Smart, ‘On the Yellow Fever Epidemics in Bermuda’, p. 56.


infected atmosphere, produced by emanations from the excreta of so many sick crowded together amidst the most unsanitary conditions.”

By the mid-1820s, when Bermuda was first opened to receive transported felons, hulks had already acquired a dismal reputation. Initially introduced to the Thames in the late 1770s when the War of Independence closed American colonies to British prisoners, these floating prisons had been considered to be merely temporary accommodation, a stopgap measure in a desperate situation. For little more than the cost of fitting up the vessels, these hulks were able to provide accommodation and employment in dockyards such as Woolwich, Portsmouth, Chatham, Sheerness, and Plymouth for the felons overflowing from Britain’s overcrowded gaols. More importantly, they also eliminated convicts from society’s midst and, it was hoped, made available a space in which punishment and reformation could be undertaken.

These hulks operated under the control of contractors until 1802, when responsibility was transferred to the government. As contractors continued to supply food and clothing, provisions remained of poor quality. Immediate increases in rations and improvements in conditions aboard ship, however, did result directly from the change to government authority.

Space for a chapel was found on each hulk, prisoners were separated according to age, and each convict was allocated his own hammock. Despite these improvements, the hulks remained overcrowded sources of discontent. As author and former convict John Boyle O’Reilly wrote, “Only those who have stood within the bars, and heard the din of devils and the appalling

sounds of despair, blended in a diapason that made every hatch-mouth a vent of hell, can imagine the horrors of the hold of a convict ship.”

Seven hulks were moored at various locations around Bermuda between 1824 and 1863 – *Antelope* (arrived in 1824), *Dromedary* (1826), *Coromandel* (1827), *Weymouth* (1829), *Thames* (1844), *Tenedos* (1848), and *Medway* (1848). Each vessel accommodated a daily average of one thousand men, although this number could rise as high as one thousand four hundred. By this period of the nineteenth century, when any hopeful humanitarian notions regarding the potential positive effects of housing so many men in such miserable conditions had long ago faded away, authorities were acutely aware of mounting criticism of the floating prisons. Indeed, as early as 1798 a Parliamentary Finance Committee found that there was “little hope” that the men who served their sentences aboard hulks, “exposed to the contagion of such immoral example…will ever again become useful members of society, but on the contrary it is to be feared that when they shall be again discharged they will come more expert in fraud and more hardened to guilt.” In 1860, the Colonial Under Secretary, the Earl of Carnarvon, condemned the prison ships for releasing men back into society “infinitely more depraved than before.”

Among the most serious of the objections to the prison hulks were the difficulties of supervising and disciplining the prisoners after they were secured beneath the decks at night. As felons (albeit ailing), under the responsibility of the British government, patients aboard the hospital-ship were required to be kept under watch and often in chains, in case their idleness prompted them to escape. In such a cramped and restrictive environment, however, the hulks could

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ignite with frightening speed into a mutinous “hot-bed of riot and insubordination.” Here, neither reformation nor restraint could be achieved. As Lieutenant Colonel Jebb, Surveyor General of Prisons in England, lamented,

Each succeeding years’ experience of the hulks, as places of confinement for convicts under a probationary system of moral and industrial training, only serves to strengthen the conviction as to their unfitness for properly carrying out these objects. Whatever may be done to enforce discipline outwardly, and to promote good order and regularity by fear of punishment and hopes of reward, there is an under current of depravity beyond the reach of human power to control, resulting from the crowded association of criminals of every degree of guilt in places and numbers which render sufficiently close supervision simply a matter of impossibility. A reduction of one half the number of prisoners in each hulk would not afford the same facility of supervision as exists in an associated room in any of the Government prisons on shore, and though a diminution of numbers among the prisoners to this extent would, to a certain degree, remove some of the objections to the hulks as places of confinement, their limited accommodation would then render them most expensive prisons, and ineffective on that ground for the object of carrying on public works.  

This “unfavourable contrast [between] a ship, with its contracted space, and numerous inconveniences, [and] a light and commodious prison on terra firma” was repeatedly emphasised both by those accommodated aboard the hulks and those who visited or observed their deplorable conditions. The aging and often dilapidated state of many convict hulks compromised the health and security of the prisoners, and, as Jebb noted, foiled any attempt to improve the moral and vocational capacities of its inhabitants. Hulks were prone to rapid

disintegration, and once rot had set in it was difficult and costly to repair.\textsuperscript{301} Many also leaked, adding foetid and stagnant water to the stench of unwashed prisoners sleeping and eating together in a gloomy and overcrowded hold.

The basic need for fresh, “open air to create a healthy tone of body and mind” went noticeably neglected aboard the hulks, with particularly detrimental effects upon “the condition of invalids, always on ship board, considered unfit for labour, peevish and rusting with the unvarying monotony of their life.”\textsuperscript{302} In such an atmosphere, it was hardly surprising that many surgeons and chaplains commented upon the “universal depression of spirits” which plagued convicts accommodated aboard hulks.\textsuperscript{303} The ‘pining away’ and death of a number of these prisoners was attributed to this pervasive lethargy of mind and body, which afflicted those aboard floating prisons at a much greater rate than those imprisoned on shore.\textsuperscript{304}

The colonial government was particularly sensitive to criticism of the convict hulks regarding their negative influence on the physical health of prisoners. Even Bermuda’s Governor, Charles Elliott, sympathised with the “distressing” plight of the convicts, “shut up in the wards of a hulk during the calm nights of the long and intensely [sic] hot summers of this climate.”\textsuperscript{305} Below decks in the cramped sleeping quarters, lack of ventilation and communal living bred and spread disease among the men. One medical officer commented that cases of phthisis worsened rapidly aboard hulks, along with outbreaks of catarrh and bronchitis.\textsuperscript{306} Fevers were rampant, and were understood to be caused by the unwholesome miasma rising from the stagnant water and muddy moorings in which the hulks languished.

\begin{flushleft}
\textsuperscript{302} Walpole, ‘Report of the Chaplain’ in \textit{Reports from Commissioners}, p. 286
\textsuperscript{303} Coats, ‘From “Floating Tombs”’ in Tracy and Robson (eds.), \textit{The Age of Sail}, p. 30.
\textsuperscript{304} Coats, ‘From “Floating Tombs”’ in Tracy and Robson (eds.), \textit{The Age of Sail}, p. 30.
\textsuperscript{305} C. Elliott, cited in Hollis-Hallett, ‘Bermuda’s Convict Hulks’, p. 89.
\end{flushleft}
Forty years after the introduction of the prison hulks, these “intermediate establishments” formed the mainstay of penal accommodation in Bermuda. The standard arrangement of convict barracks and prisons could not be deployed in Bermuda; due to its unique landscape peppered with tiny islands, the plans and guidelines which regulated other colonies were not appropriate here. Despite their notorious reputations, these floating prisons represented one of the very few economical and practical options available to authorities seeking to accommodate hundreds of men in such an inhospitable and unfamiliar environment. Each hulk was equipped with a sick bay supervised by a Royal Navy medical officer, who in turn acted under the direction of a medical superintendent and his assistant. The organisation of the healthcare of all Bermudian convicts was dependant on the knowledge and performance of this small group of men. Bermuda’s isolation meant that, like the Australian colonies, self-sufficiency and self-regulation was necessary, at least between despatches from the colonial office. This geographically-enforced independence, however, fostered accusations that Bermuda was accorded unwarranted privileges, from unmerited promotions and excessive perquisites for Royal Naval officers to overly-generous requisition orders.

Surgeons were aware, however, that amidst the inherently unwholesome environment on board the convict hulks, some conditions were difficult to nurse successfully. If treatment aboard the hulks was impossible, impractical, or promised to be of lengthy duration, the prisoner would be transferred with a letter to the Royal Naval Hospital.

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308 Hollis-Hallel, Forty Years of Convict Labour, p. 49.
310 It is these letters which form the basis of analysis of this group of patients in this research.
The *Tenedos* was abandoned in 1856, with the patients moved into the Boaz Island prison which had been purpose-built two years earlier.\(^{311}\) At the end of March 1863, the convict establishment on Bermuda was officially closed down, with all serving prisoners transferred to Western Australia.\(^{312}\) The Royal Naval Hospital continued to operate, and accommodated ill and wounded soldiers and sailors well into the twentieth century.

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*An Evolving Structure*

The colonies were regarded by some as ‘blank slates’ upon which the ideal system of medical provision could be established.\(^{313}\) While the reality was less than perfect, in both Bermuda and Van Diemen’s Land it was the penal patients who were guaranteed access to the most highly-trained medical practitioners and the best-established hospitals available in their respective colonies.\(^{314}\) Although the standard of these facilities often fell far short of ideal, this cannot detract from the simple underlying reality: while the wealthy resorted to self-treatment in the absence of esteemed physicians to consult, and the destitute went unattended for sheer lack of any other option, convicts remained secure in the knowledge that the British government – from necessity and obligation – had to make provision for their health.\(^{315}\)

The exceptional treatment received by prisoners was not a result of humanitarian or philanthropic motives.\(^{316}\) Rather, convicts were viewed as valuable ‘productive assets’.\(^{317}\) Each man who could not work due to illness or disability was a drain on the colonial and imperial

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\(^{311}\) Hollis-Hallett, ‘Bermuda’s Convict Hulks’, p. 90, p. 98.


\(^{314}\) Nicholas, ‘The Care and Feeding’ in Nicholas (ed.), *Convict Workers*, pp. 192-194.

\(^{315}\) Bowden, *The Blind, the Paralytic*, see particularly Chapter three.

\(^{316}\) Nicholas, ‘The Care and Feeding’ in Nicholas (ed.), *Convict Workers*, p. 195.

\(^{317}\) Nicholas, ‘The Care and Feeding’ in Nicholas (ed.), *Convict Workers*, p. 195.
purse. Their value as labourers transformed them from the refuse of Britain, worthless common criminals, into significant economic assets worth caring for; as Nicholas identifies, a convict was of little use if he was starved, mistreated, or denied medical care. Without the labour provided by healthy prisoners, settlement in these colonies (particularly Australia) was unviable – the Bermudan dockyards would remain incomplete, leaving them exposed to attack, while Van Diemen’s Land would require another workforce to construct roads and public buildings.

While great progress had been made in many aspects of British medicine by the mid-nineteenth century, in earlier decades hospitals remained an emblem of fear for much of the British public. To confront the frightening reputations of these institutions by seeking admission was both a desperate and courageous move. In urban areas, those who turned to public institutions for medical care tended to fall into distinct categories - the solitary, with little family or economic support, servants admitted by masters, and migrants and travellers, or those who travelled specifically to seek care. In rural districts it was often those already dependant on Poor Law relief who found themselves without solid kinship networks to support them through sickness.

Convicts, however, had access to superior clothing, more nutritious food, and better accommodation than many of their free counterparts who remained in their homelands. Almost all were able to access medical care that in Britain would have been far beyond their financial means. Sickness could tip a working-class family from relative sufficiency into

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destitution in a matter of days.\textsuperscript{324} As Jebb maintained, convicts “were better fed, clothed, and lodged, than the classes from which they generally come; even in the degraded state in which they have worked in the dockyards, their lot has been envied by many an honest labourer.”\textsuperscript{325}

\textsuperscript{324} In some families, both parents were required to be wage earners to bring in sufficient income for survival. Children were often administered opiates to keep them placid whilst both parents worked outside the home; as late as 1873, up to twenty percent of infant deaths were related to marasmus and inadvertent poisoning. Another major contributor to child and infant mortality rates were accidents stemming from inadequate parental supervision of young children who were left alone or in the care of older children while their parents worked (S. Cherry, ‘The Hospitals and Population Growth (Part 1)’, p. 70; see also R. Kippen, ‘Diarrhoea, Marasmus, Convulsions: Infant Mortality in Nineteenth-Century Tasmania’, \textit{Australian Population Association Eleventh Biennial Conference}, University of New South Wales (2 – 4 October, 2004) for detail on infant deaths in Van Diemen’s Land).

Chapter Three

Built Environments

Twenty-one-year-old William Kerr was not a habitually intemperate man. Married and working as a stationer, he was usually careful with his small wage and did not frequently spend it on drink.\textsuperscript{326} One night in late February, 1846, however, Kerr broke from his usual routine; by the time he arrived home he appeared to be thoroughly inebriated. That night he lay awake as his body was racked by shivering, his limbs aching and his skin glistening with perspiration.

After six days enduring a throbbing headache and six nights lying sleepless in his bed, Kerr was admitted to St Bartholomew’s Hospital in London. Dr Ormerod diagnosed inflammation of the brain, probably brought on by alcoholic excesses. He applied leeches and cold lotion to Kerr’s head, and administered opiates to ease the pain and mercury to purge his system.\textsuperscript{327} During his first night in hospital, Kerr lay sleepless, tormented by the pain searing across the back of his head.

\textsuperscript{326} St Bartholomew’s Hospital Archives and Museum, St Bartholomew’s Hospital, Medical and Surgical Case Notes of Edward Latham Ormerod, Diseases of the Central Nervous System, Kidneys, Abdominal and Infectious Skin Diseases: William Kerr (MR 16/6/11).
\textsuperscript{327} SBHAM, SBH, Medical and Surgical Case Notes: William Kerr (MR 16/6/11).
Seven restless days later, Kerr confided to Ormerod that it was the lights and noises of the hospital ward which were aggravating the pain in his head, preventing him from sleeping at night. The surgeon repeated the cupping, which again brought temporary respite from the throbbing, but Kerr continued to insist that the constant lights and noises echoing around the room intensified his discomfort. Perplexed by his patient’s complaints, Ormerod repeatedly examined Kerr’s skin “in vain for spots or vesicles,” but was unable to find any blemishes or rashes. Eventually, Ormerod instructed the nurses to move Kerr’s bed away from the lights and into a quieter part of the ward. Kerr responded with immediate and effusive gratitude, reporting that he felt “much relief from having changed his bed away from the light.”

In the first half of the nineteenth century, hospitals were often designed and constructed with economy in mind, rather than the potential of architecture to contribute to healing and recovery. While the use of space during the eighteenth century and earlier often remained ambiguous, this flexibility was reassessed as decades wore on and hospital space was redefined and medicalised. Accordingly, the built environments of hospitals incorporated much more than a straightforward demarcation of space on a plan. Kerr’s case demonstrates how the physical surroundings in which the sick were treated – whether they be a vast, open ward in St Bartholomew’s or an overheated, cramped sick bay aboard a Bermudian convict hulk – were able to influence the duration of illness, the degree of benefit a patient received from treatment, and the speed of recovery (in addition to their comfort during these processes). This chapter will trace the development of the curative environment within New Norfolk Hospital, St Bartholomew’s Hospital and the Royal Naval Hospital in Bermuda. By revealing the conditions and construction of the spaces in which

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328 SBHAM, SBH, Medical and Surgical Case Notes: William Kerr (MR 16/6/11a).
329 SBHAM, SBH, Medical and Surgical Case Notes: William Kerr (MR 16/6/12).
330 SBHAM, SBH, Medical and Surgical Case Notes: William Kerr (MR 16/6/12).
patients spent the often long days of their recovery, the impact of their accommodation upon their treatment can be explored and contrasted.

**Development of a Healing Environment**

During the thirteenth and fourteenth centuries, hospitals were generally small, consisting of one or two open rooms able to accommodate around fifteen patients, and were not differentiated in their design from ordinary household dwellings.332 In the fifteenth and sixteenth centuries, as the space set aside for healing began to increase, architects began to consider how design could be used more effectively, although it was not until the seventeenth and eighteenth centuries that the concept of architecture was deemed able to actively contribute to a patient’s recovery from disease.333

Hospitals, as spaces designated solely for the treatment of the sick, were unknown in the classical world.334 In Greece, the ill may have been tended at the home of a practitioner, or at the shrine of the god of prosperity and health, Asclepius.335 The sick were carried to these temples and often remained there, sleeping in open corridors or simply on the ground as they prayed for healing.336 Some temples incorporated large complexes of rooms, baths, and saunas designed to accommodate the ill or dying, particularly during times of festivals and other special events, when crowds descended upon the shrines to seek the intervention of deities in cases of illness or

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disablement. During Roman times, educated medical practitioners were prominent members of society, although they generally continued to practice from domestic residences – both their own and those of their patients – rather than from a separate building. Occasionally, facilities were commandeered to be utilised specifically as spaces for healing; houses may have been remodelled, temporary structures erected to act as small hospitals, or a few rooms added beside churches to accommodate the sick poor.

Connections between religion and healing continued as the Catholic church exerted a unifying (if controversial) influence which remained strong throughout the Middle Ages. Religious orders established numerous small hospitals to provide physical support, such as clothing and food, alongside spiritual guidance and health care to the solitary, the sick, and the displaced. To further support the spiritual health of their inmates, a chapel was often built into the eastern end of these hospitals to allow the observation of mass from bed. These hospitals were generally small, rectangular-shaped halls, capable of accommodating up to twenty or thirty patients, although a few were much larger in size, and able to accommodation one or two hundred inmates.

As parish networks expanded and were strengthened by increasing levels of exchange and economic development, the central role of the family in providing medical care accordingly decreased. Fuelled by the charity of the wealthy, who saw the bestowing of donations and hospitality as essential to their spiritual salvation, the “institutionalisation of philanthropy” was
secured as numerous small hospitals were established throughout Europe. Upper class families were happy to barter charitable financial support for the certainty of superior social connections in this life and the possibility of munificent considerations after death. While institutions established in rural areas often closed after brief periods, some of those founded in areas of larger settlements expanded alongside the growth of population and trade.

Despite the gradual increase in numbers of hospitals during the Renaissance, these institutions remained peripheral to society rather than the central community facilities they became in later centuries. As Granshaw states, hospitals “were few in number, employed few people, used few resources…and, above all, they treated a very restricted group of patients for a very restricted range of complaints.” Influenced, however, by the serious epidemics of plague and other diseases which swept through the rapidly expanding populations around Europe, the first coordinated attempts at public health measures were tentatively implemented. The expansion of trade networks between the fourteenth to sixteenth centuries, coupled with the concentration of wealth in more populated areas, meant that larger cities provided the ideal arenas in which innovative medical, economic, social, religious, and political ideas could be exercised.

As Rubin observes, these aspects of urbanisation resulted in the wealthy and privileged living in close contact with the indigent and destitute. This “inter-mingling” simultaneously resulted in the exposure of the “greater need” of the poor and the “greater awareness” of this desperation.

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344 M. Rubin, ‘Development and Change in English Hospitals, 1100-1500’ in Granshaw and Porter (eds.), Hospitals in History, p. 43.
345 S. Cavallo, ‘Charity, Power and Patronage in Eighteenth Century Italian Hospitals: The Case of Turin’ in Granshaw and Porter (eds.), Hospitals in History, p. 108.
350 Rubin, ‘Development and Change in English Hospitals’ in Granshaw and Porter (eds.), Hospitals in History, p. 42.
by the elite.\textsuperscript{351} It was recognised that while practitioners traditionally treated patients (particularly wealthy ones) in their homes, it was economically more efficient to treat them collectively, in an environment constructed specifically for tending the sick.\textsuperscript{352} A bishop, preaching in Winchester to the governors of the County Hospital, acknowledged that the expense of relieving “a great number of sick persons who shall attend for that purpose in the same place, bears no proportion to the charge of assisting them at their separate homes.”\textsuperscript{353} The concept that such communal facilities for tending to the ill may allow more rapid and effective treatment of patients was a later, lesser, consideration.

With both upper and lower strata of society demanding larger and better institutions to treat the growing numbers of sick, and existing institutions continually unable to meet the demand, experimental hospital designs were developed. The radial and cruciform layouts were among the most prominent of these architectural innovations, consisting of four (in the case of cruciform) or more (in the case of radial) wards opening out from a central space which could be used to house an infirmary or, if the hospital was associated with a religious order, an altar.\textsuperscript{354} Originally implemented in Italy, but soon becoming popular in other countries, this design provided almost twice as much space for accommodating patients as traditional layouts, but lessened the amount of land required.\textsuperscript{355} Smaller hospitals, too, were influenced by the pressure to modernise, with many providing separate rooms for infectious patients, emergency cases, or those suffering from psychiatric disorders.\textsuperscript{356} Hospitals were also constructed in ‘T’, ‘L’ and ‘H’ configurations, all of

\textsuperscript{351} Rubin, ‘Development and Change in English Hospitals’ in Granshaw and Porter (eds.), \textit{Hospitals in History}, p. 42.
which were to maintain their popularity for centuries due to the ease with which additional wards
could be added as the institution expanded.357

By the mid-sixteenth century, England boasted an array of various institutions which could
accommodate the sick. Specialist institutions opened to cater for patients suffering from
diseases which were overlooked or rejected by public hospitals, with chronic, venereal, and
infectious conditions forming the majority of these cases.358 Numerous leprosaria were
established, with high walls and protective buffers of air (and sometimes bodies of water)
separating lepers permanently from the rest of society.359 These buildings were adapted into
other types of medical institutions as rates of leprosy declined – lunatic asylums, venereal disease
hospitals, lazarettos, and even quarantine stations designed to isolate victims of the bubonic
plague. Many small hospitals were also established in large, remodelled homes, with a focus on
improving ventilation within the original structure rather than ridding the building of its
domestic heritage.360

Despite this proliferation of small, specific types of medical institutions, and the importance of
their role in providing support to the sick and poor, it was the substantial general hospitals
established in London which foretold the influential position of medical institutions in the
metropolis. By the late 1670s, the city was home to over half a million people.361 Beyond the
capital, England had no general hospitals, while London itself could lay claim only to the two

358 L. Granshaw, “Fame and Fortune by Means of Bricks and Mortar: The Medical Profession and Specialist
Hospitals in Britain, 1800-1948” in Granshaw and Porter (eds.), The Hospital in History, p. 200; F. Condrau, ‘The
Institutional Career of Tuberculosis: Social Policy, Medical Institutions and Patients Before World War II’ in J.
Henderson, P. Horden and A. Pastore (eds.), The Impact of Hospitals, 300-2000 (Peter Land AG, Bern, 2007), pp. 348-
349.
359 Markus, Buildings and Power, p. 113; Carlin, ‘Medieval English Hospitals’ in Granshaw and Porter (eds.), Hospitals in
History, pp. 22-23.
granted decades earlier by Henry VIII. These institutions treated approximately twenty thousand cases every year. Although this figure is large, it represented just a small fraction of the ill within the city, and, indeed, the country. The rise of humanitarian traits such as philanthropy and paternalism drew attention to the desperate need for more hospitals to care for the sick, prompting a sudden increase in donations for the establishment of new hospitals and the expansion and redevelopment of older institutions.

Settling upon a site for a new hospital was often a topic of great debate. While some private hospitals and specialist institutions were established in rural areas, general hospitals were typically located in urban areas, primarily to allow ease of access for patients and doctors. Many patients would have been unable to access an institution located at a great distance from their homes, and mobility was often especially curtailed during illness. Surgeons and physicians, too, preferred to work in hospitals within a reasonable distance to their homes. Hospitals with attached medical schools were also better located in cities, as students were more attracted to institutions which were centrally positioned.

The outpouring of funds which enabled the construction and redevelopment of so many institutions meant that by 1800, most major cities and towns featured general hospitals. This relatively rapid expansion of medical facilities stimulated a reconsideration of the precise built environments required by such services. The sprawling, chaotic muddle of buildings which accommodated many hospitals in earlier centuries were frowned upon as out-dated, inefficient,

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362 Three other London institutions granted to the stewardship of the city were Christ’s, Bridewell and Bethlem. As these are not hospitals for the sick poor they are not included in the above discussion. See below for more details on general hospitals and the wider health system at this time.


and too closely resembling the indigence and privation found in the homes and lives of those admitted to its wards. Practical concerns were not the sole considerations, however, when selecting a site and designing a hospital. By the seventeenth and eighteenth centuries, these institutions were significant public buildings which needed to be located amongst the communities they served.\textsuperscript{367} It was essential that the architecture of hospitals reflected their important social position.

\textit{The Hospital in Society}

In both Britain and its colonies, hospitals were essentially built to treat the deserving poor. While the destitute were managed under the auspices of the Poor Law, and the wealthy had the means to receive treatment in their own homes, it was the deserving poor – those who had some form of regular employment, but no savings or prosperous friends or family to fall back on during hardships – who had no available means of medical support. As buildings designed, constructed, and financed by the wealth and influence of the upper classes for the use of the deserving poor, it was essential that these institutions reflected their origins and purposes. Voluntary hospitals had to be simple and unpretentious as they housed a service for the poor, but they simultaneously had to be sufficiently distinguished as would befit a significant public institution, funded from the pockets of the aristocracy. All these complex and intertwining elements needed be recognised through the architectural design of the hospital.\textsuperscript{368}


\textsuperscript{368} Sloane, ‘Scientific Paragon to Hospital Mall’, p. 82.
Essentially, whether in health or sickness, whether deserving or idle, the “poor must be lodged like the poor.”

The simplicity of this statement, however, conceals an inherent contradiction. British hospitals were traditionally founded by donations of land or money. Although some donors undoubtedly had truly philanthropic goals, others benefactors saw sponsorship of medical institutions as a means of publicly parading their charitable deeds, and they resented paying for “monstrously ugly structures whose chief architectural feature is a ‘tall chimney’.”

One crucial purpose of voluntary hospitals may have been to absorb such exhibitions of charitable generosity, to provide an outlet for the need of the elite to be seen to be benevolently open-handed towards the underprivileged. Merchants, artisans and tradesmen with aspirations to respectability often donated labour and materials under the assurance that such endowments were as useful and appreciated (and as carefully recorded and displayed) as those made in more mercenary terms. These benefactors often did not have the financial means to make donations other than in kind, but such gifts allowed tradesmen to separate themselves socially from the labouring poor. Gifts of stone, glass, timber, and slate were made to hospitals, and the labour to transport and install it was also offered freely. One entrepreneur donated some £2000 worth of stone, paving materials and lime to St Bartholomew’s during its redevelopment; taking the opportunity to “marry commerce and philanthropy,” the businessman hoped his gift would induce other city authorities to purchase his materials to use in the construction of other public buildings.

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369 Stevenson, Medicine and Magnificence, p. 5.
374 Stevenson, Medicine and Magnificence, pp. 117-118.
375 Stevenson, Medicine and Magnificence, p. 119.
donor’s social networks, ensure their philanthropic qualities were appropriately memorialised, and perhaps provide spiritual rewards after death. While ostensibly made to assist the poor, such gifts accordingly acted to endow the benefactor with social and political power which ran much deeper than the simple act of donating money.

Hospital architects had the difficult task of making the most of limited funding by investing it in utilitarian necessities, while still ensuring that the buildings served as visible demonstrations of the charitable generosity of the benefactors who made them possible. As built “manifestations of civic pride,” these hospitals were major social institutions, and it was essential that their design and appearance supported this intention. It was beginning to be understood, however, that hospitals had to be much more than showpieces. Architects focused on maximising space, ensuring that as a *public* institution, the hospital could accommodate as many patients as possible. Medical practitioners, on the other hand, emphasised the importance of wide open spaces, the implementation of plentiful and reliable ventilation, the isolating of sanitary and auxiliary services, and the installation of impermeable and easily cleaned surfaces to ensure that, as a *medical* institution, the hospital functioned as efficiently and effectively as possible.

This tension between economy, functionality, and architectural finery influenced almost every aspect of the design and construction of medical institutions. Number and placement of beds, for example, was a contentious issue. While donors and authorities often pushed for more patient accommodation to increase the number able to be served by a single hospital, some doctors realised the danger of overcrowded conditions and urged the implementation of

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minimum space requirements for each patient.\textsuperscript{379} At times, however, some hospitals were better known for their impressive architectural façades than for the functionality of their designs or the efficacy of their treatment regimes.\textsuperscript{380}

Complicating matters still further was the fact that grand architecture, magnificent proportions and pretentious decoration implied that funding for the institution was abundant, discouraging future financial support from the donors who embodied the hospitals’ financial and administrative security. Some authorities were condemned for “the Building of \textit{Gaudy Palaces}, instead of \textit{convenient Hospitals} for the Poor [with] more Ostentation than Charity; whilst the Ornaments, especially of \textit{Paintings and Carvings} are EXTRAVAGANCES, that would else have provided for many other \textit{POOR}.”\textsuperscript{381} Public hospitals were notorious for spending bequests and donations on building works rather than on improving conditions and services for patients. In the eighteenth century, a man willed £200 to St Bartholomew’s Hospital under the stipulation that it was “for the use of the Poor and not for building.”\textsuperscript{382}

This uneasy balance between economic functionality and costly elegance continued in the design and construction of early hospitals in the Australian colonies. New South Wales’ Governor Lachlan Macquarie, for example, was criticised for authorising the erection of imposing government medical institutions of magnificent proportions, intending them to become “grand element[s] in the landscape” around which communities would flourish.\textsuperscript{383} Not all authorities shared his vision, and his detractors condemned the expense of such monumental edifices,

\textsuperscript{379} Pickstone, \textit{Medicine and Industrial Society}, p. 107.
\textsuperscript{380} Pickstone, \textit{Medicine and Industrial Society}, p. 147.
\textsuperscript{381} Cited in Stevenson, \textit{Medicine and Magnificence}, p. 22 (emphasis and italics original).
\textsuperscript{382} Stevenson, \textit{Medicine and Magnificence}, p. 5, pp. 18-23
declaring that penal institutions should be plain, economical, and utterly functional with no unnecessary – and expensive – frippery.\textsuperscript{384}

It was not until well into the nineteenth century that the unique challenges of designing and constructing such institutions were fully recognised.\textsuperscript{385} During the period of time covered by this research (and, indeed, beyond it into the late nineteenth century), the conventional place for the sick in British communities remained the home; as discussed in Chapter Two, family and friends formed the customary support networks during illness, with wider parish assistance utilised if necessary.\textsuperscript{386} It was only when these networks of support broke down and people moved outside their community that public institutions to tend the ill became necessary.\textsuperscript{387} In this way, the hospital formed a “surrogate household” for the sick, replacing the traditional communal structure with something more akin to social support.\textsuperscript{388} The slow evolution of hospital architecture prior to the sixteenth century was largely due to this social stigma, inasmuch as hospitals stood as symbols of the failure of local communities to care for their own sick. Their resemblance to poorhouses and the legacy of their charitable origins contributed further to their dismal reputation, as evidenced in various ways in each of the three hospitals in this sample, all of which adopted medical and architectural advancements in different ways and to different degrees.\textsuperscript{389}

\textsuperscript{384} Kerr, \textit{Design for Convicts}, p. 37.
\textsuperscript{385} Stevenson, \textit{Medicine and Magnificence}, p. 4.
\textsuperscript{387} Stevenson, \textit{Medicine and Magnificence}, p. 3.
\textsuperscript{388} It was not, however, a straightforward decline of the role of the family filled in by an increase in the role of the state. Changes in family size, increased ability to travel longer distances for employment, changes in morbidity and mortality patterns, and numerous other fluctuating elements make this a complex transition (see, for example, P. Horden and R. Smith (eds.), \textit{The Locus of Care: Families, Communities, Institutions, and the Provision of Welfare Since Antiquity} (Routledge, London, 2003); Stevenson, \textit{Medicine and Magnificence}, p. 3; Duncum, ‘The Development of Hospital Design’ in Poynter (ed.), \textit{The Evolution of Hospitals}, p. 208).
By the eighteenth and early nineteenth centuries, hospitals in London and wider afield were feeling the pressure to construct or adapt their facilities to accommodate innovations in the design of healing environments. Despite lying at vastly different geographic positions, the three hospitals in this sample were all influenced to varying degrees by architectural, medical, and scientific advancements. The free passage of fresh air and ease of cleaning were among the most influential, with both the interior details and the broader floor plans of institutions tailored to accord with new understandings of the importance of salubrious and well-ventilated environments.

New floor plans took over from earlier layouts, with the cruciform design popular during the fifteenth and sixteenth centuries superseded by more modern layouts, such as the corridor plan. Often two or three storeys high, a central administration block connected a large corridor which housed the wards, allowing for easy segregation of patients by sex or disease. This type of design remained popular in Britain for its simplicity, economy, and ease of superintendence for over a century from around 1700. The wide corridors were particularly spacious, allowing uncomplicated nursing and administration, and were also able to comfortably accommodate crowds of medical students in teaching hospitals. Corridor hospitals were easily established in existing large houses, or built to suit new sites, with the traditional rectangular or ‘H’-style designs being particularly favoured as they could be extended as necessary and usually required less land. In a typical corridor hospital, a basement floor often contained essential services (and sometimes an infectious diseases ward), the ground floor might admit accident and

390 Richardson, *English Hospitals*, p. 23.
391 Abel-Smith, *The Hospitals*, p. 41.
‘operation’ cases, the first floor could accommodate medical patients, while the second floor housed ‘chronic surgical’ patients.393

While they undoubtedly had a number of benefits, these corridor-plan hospitals also had poor ventilation, leading to higher rates of patient mortality. As an alternative, St Bartholomew’s Hospital and a handful of other institutions briefly trialled a ‘double ward’ plan, in which two wards were placed either side of a spine wall, punctuated with doors to allow ventilation and access. The air flow permitted by this layout, however, was still insufficient, and it was accordingly condemned for rendering it “impossible to prevent the existence of hospital atmosphere.”394

Despite the popularity of various hospital designs over the decades, until the 1850s no one particular hospital design, size or shape was considered universally ideal. Instead, the built environments of hospitals were continually evolving, utilising many different architectural designs to provide spatial flexibility.395 The use of space in hospitals tended to change as need dictated. Institutions were built to suit the requirements of their site or their sponsors, or made to fit into existing structures. This fluidity of space is illustrated in the 1829 plan of New Norfolk Hospital, where two areas are labelled simply as ‘Rooms’; these may have been used as overflow wards when the hospital became crowded, or perhaps as day- or work-rooms.396 Over time, hospital designs became more specific and inflexible in their designation of spaces for particular tasks.397

393 Taylor, Hospital and Asylum Architecture, p. 54.
394 Taylor, Hospital and Asylum Architecture, pp. 55-56.
396 Tasmanian Archive and Heritage Office, Public Works Department: Plans, Architectural Drawings, Elevations and Sections of Public Buildings, Plan of New Norfolk Invalid Hospital and Lunatic Asylum: Proposed Additions by R. Kelstall (Ground Plan and Elevations), (PWD 266/1/1432).
397 Taylor, Hospital and Asylum Architecture, p. 15.
The pavilion-plan ward, popularised by Nightingale, was the greatest innovation in hospital design in the nineteenth century. In keeping with more rigid utilisation of space, it defined the usage of different areas within the hospital more clearly than earlier plans. Pavilion-plan wards were typically long, rectangular blocks of one or two storeys, with windows placed opposite each other to assist the natural flow of air and light, with beds placed between the windows. The wards were kept separated from other service areas of the hospital, such as kitchens, administration and especially post-mortem and mortuary sectors, and were equipped with distinctive ‘sanitary towers’ at each end to accommodate washing and lavatory facilities. The ward blocks were linked by corridors, which were left open to the elements in many hospitals, interspersed with green spaces such as lawns and gardens. The areas surrounding the built environment of hospitals were also incorporated into the design and attributed with healing powers of their own. Both New Norfolk Hospital and St Bartholomew’s Hospital were provided with gardens and airing yards of various sizes where patients could enjoy the health-giving properties of fresh air and sunshine.

By the 1860s, new British institutions were built (and older hospitals altered) to align with pavilion principles, but the influence of this design does not appear in the New Norfolk Hospital records until the 1880s. Superintendent and Medical Officer of the hospital, Dr MacFarlane, gave evidence at the 1883 Royal Commission into the State of Lunatic Asylums, and commented that the treatment and the comfort of patients at New Norfolk would be significantly improved

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398 Although Nightingale is generally given full credit for the development of the pavilion ward plan, George Godwin, editor of influential design periodical *The Builder*, and John Robertson were also involved in its popularisation (Richardson, *English Hospitals*, p. 5).


403 The less common circular ward became popular in the 1880s, primarily on sites where space was limited (Taylor, *Hospital and Asylum Architecture*, pp. 8-9, p. 16).
by the addition of pavilion wards. Such wards, however, were never constructed despite the benefits they would have provided to patients and staff.

**The Role of the Hospital in Disease Transmission**

The architecture of institutions provided the ideal arena for debate about the means of disease transmission. During the eighteenth and nineteenth centuries, little in medicine was certain. Each medical practitioner extolled the accuracy of their own explanation of disease communication; each had their own definitions and distinctions; each was convinced of the facts and veracity of their account. Most, however, fell into one of two groups – the miasmatists or the contagionists. These theories co-existed to some extent, as the development of germ theory did not cause the immediate rejection of the traditional notion of miasma, which persisted well into the nineteenth century. Most practitioners would have utilised elements of both theories in their personal explanations, with many accepting that the built environment and some invisible, infectious agent played a dual role in disease transmission.

At one extreme of the disease transmission debate, miasmatists (also known as anti-contagionists) maintained that disease stemmed from rotting animal or vegetable matter, stagnant water, and human waste which produced foul-smelling, poisonous ‘miasmas’ or

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‘effluvias’. This ancient theory was based on the concept that illness originated in the environment, and that removing pestilential filth would curtail the spread of disease. Gloomy, insanitary, poorly-ventilated conditions were considered noxious; indeed, “Nothing approaches so near to the first original of the plague, as air pent up, loaded with damps, and corrupted with the filthiness that proceeds from animal bodies.” Both Florence Nightingale, pioneer of professional nursing, and Edwin Chadwick, a key figure in the advancement of public health and poor law campaigns, were ardent miasmatists, contending that “All smell is, if it be intense, immediate, acute disease.”

While miasmatists saw disease as arising from the environment, contagionists cited a poison passing from person to person (rather than from the environment to people) as the cause of illness. Speculation about ‘contagions’ (or germs) were originally attempts to explain the spread of syphilis in the late fifteenth century, but the progression of microscopic technology during the early eighteenth century allowed these concepts to take shape into recognised, systematic theories. Scientists postulated the existence of some “wonderfully minute living creatures,” responsible for the transmission of disease from one person to another. While the systematic spread of diseases such as cholera appeared to support their hypotheses, critics questioned why some fell victim to such diseases while others remained unscathed.

The integral connection between poverty and disease was noted as significant, particularly by the miasmatists. It was the poor who lived and worked, were born and died amidst the inescapable,

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412 Kisacky, ‘Restructuring Isolation’, p. 21, p. 32; Dodson, Disease, p. 48.
unrelenting, potentially fatal stench of day-to-day life – the “foetor of crowded courts and alleys…the stench of unemptied cesspools and accumulating refuse dumps…the exhalations of graveyards and slaughter houses.” Thus, disputes surrounding disease transmission were undoubtedly founded on medical and scientific contentions, but also incorporated elements of moral, political and economic debates. Indeed, as Evans points out, both moral wickedness and physical disease were believed to spread through:

invisible substances that passed from body to body in some subtle effervescence, too rarified for the human intelligence to fix upon in transit and yet so profoundly ugly in their effects that no one could reasonably doubt the fact of transmission.

In keeping with both miasma and contagion theories of disease transmission in the late eighteenth and early nineteenth centuries, the potential of hospital design to assist recovery was considered to lie in the maximisation of ventilation and cleanliness. As army physician Dr John Pringle commented, the air in hospitals was particularly disposed to cause and perpetuate disease, tainted as it was with “the poisonous effluvia of sores, mortifications, dysenteric and other putrid excrements.” Wherever people were kept crowded together in poorly ventilated and dirty institutions – whether these ‘receptacles’ be gaols, army barracks or hospitals – epidemic infections were likely to break out. It was believed that by surrounding patients with ‘walls’ of pure air, they would be protected from exposure to corrupted miasmas.

Accordingly, hospital design incorporated ample space for each inmate to prevent the overcrowding and the accompanying increase in filth and polluted vapours which represented

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418 Pringle cited in Richardson, *English Hospitals*, p. 3.
419 Evans, *The Fabrication of Virtue*, p. 95.
potentially fatal outcomes for patients. Few hospitals, however, were inclined or able to implement the ideal proportion of space per patient. Providing the recommended amount of space per bed would have dramatically reduced the number of patients which could be accommodated by a hospital. This in turn would have resulted in a deleterious effect upon potential benefactors’ views of the usefulness of the institution, and consequently upon the likelihood of them contributing funds to its continuation. A similar dilemma was faced by architects and hospital authorities when designing and constructing new facilities: maximising the number of patients in beds was more important than ensuring those patients had sufficient fresh air. This dilemma is illustrated by the letters and memoranda recording the planning of the colonial hospitals in Bermuda and New Norfolk, and in the redevelopments and renovations at St Bartholomew’s.

*A Tale of Three Hospitals*

Comparison between the built environments of New Norfolk Hospital and institutions such as St Bartholomew’s Hospital and the Royal Naval Hospital at Bermuda is inherently problematic. While all three hospitals were established to function specifically as medical institutions, the haphazard additions and renovations meant that New Norfolk Hospital, hampered by economic parsimony and complicated by too many competing political, medical, social and ideological opinions, could never evolve into anything resembling an ideal institution. While St Bartholomew’s original buildings were similarly disorganised and disparate, renovations were begun in 1729 to transform the institution into a space specifically designed for the efficient restoration of health. The Royal Naval Hospital in Bermuda was also planned to provide reasonable levels of space and facilities for its patients and staff.

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St Bartholomew’s Hospital, London

St Bartholomew’s Hospital, in Smithfields, London, originated in 1123 as part of a charitable movement. Like many early hospitals, it was founded alongside a priory, and for almost three hundred years the elements of the institution operated in conjunction. In 1420 the two religious and medical sections separated, with each part attaining independence. For the following one hundred years, St Bartholomew’s continued to tend the ill from the local area and travellers who found themselves unwell while far from home. Henry VIII’s dissolution of the monasteries in 1529, however, saw the closure of the priory, and although the secularised hospital was permitted to remain open, it was left vulnerable with no secure source of funding.

Anxious about losing a major source of support for the ill poor, London citizens petitioned Henry VIII to safeguard the future of the hospital. Sensing public fear at the possible return of the plague, and keen to secure “some lasting memento of his commiserations for the distresses of humanity,” Henry VIII relented. By “a splendid act of charity” he granted five hospitals to the city and permanently endowed them with sufficient land and income to support the sick poor, perhaps influenced by other European cities which had earlier established relief institutions. This group of hospital were known as the London Royal Hospitals, and together they provided a handful of institutions to tend the indigent of the metropolis – Bethlem to accommodate the insane, Christ’s to educate poor children, Bridewell to contain the disorderly and criminal, and St Bartholomew’s and St Thomas’ to tend to the ill. Thus, St Bartholomew’s was one very few English hospitals to survive the Reformation, and to continue offering

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“comfort to prisoners, shelter to the poor, visitation to the sick, food to the hungry, drink to the thirsty, clothes to the naked, and sepulchre to the dead.”

As a royal hospital, St Bartholomew’s enjoyed a protected status and a secure income which allowed it to continue in its role as a major provider of general healthcare to the London populace. Until the early 1700s, the hospital operated from a disorganised jumble of buildings crowded around small courtyards and gardens tucked behind the shopfronts and houses of Smithfields (see Figure 5). After the Great Fire of London in 1666, several wards were closed and repurposed as lodgings for labourers who had lost their homes, with other temporary buildings erected to serve as additional accommodation. Decades later, this ‘temporary’ accommodation was still in use and causing great difficulties in the daily running of the institution. Makeshift dwellings blocked walkways, obstructing communication and ventilation between different parts of the hospital, and the tenants of the lodgings lined the staircases and passages of the hospital, begging or offering for sale “commodities very improper for the patients.” Administration and patient accommodation were housed in disparate buildings “so irregular that there is scarce any Communication between the several parts of it & the whole has hardly so much as the outward appearance of an hospital.”

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427 Richardson, English Hospitals, p. 2, pp. 17-18; Stevenson, Medicine and Magnificence, pp. 126-127.
428 Stevenson, Medicine and Magnificence, p. 129.
429 Stevenson, Medicine and Magnificence, pp. 129-130.
430 Cited in Stevenson, Medicine and Magnificence, p. 126 (spelling and grammar original).
This overcrowding, dilapidation, and disorder were not, however, limited to the hospital and its grounds. Smithfield, the area of London in which St Bartholomew’s was situated, was crisscrossed with congested laneways crowded with livestock bound for the famous Smithfield Market (see Figure 6). The open, grassy field in which the market operated originally stood outside the city’s boundaries but, as the urban area extended into the rural districts beyond, the market was absorbed by the metropolis.

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431 Engraving by B. Cole, held at the Wellcome Library (London), also at <http://catalogue.wellcome.ac.uk/record=b1183515> accessed 1 September 2010.
Figure 6: A 1677 map of London in which Smithfield Market and St Bartholomew’s Hospital are circled. Smithfield Market is the white diamond-shaped area, with the square borders of St Bartholomew’s at its lower right edge. St Paul’s Cathedral is the cruciform building below, and in the lower right corner is the Tower of London.432

While the grazier and the butcher were content with the bustling market remaining in the centre of London, shop-keepers and pedestrians, who were daily forced to contend with roaming cattle and oxen “of immense size,” were less than satisfied and belaboured “the impropriety of driving sheep and bullocks through crowded streets, exposing passengers to danger, as well as the cattle to injury, and causing detriment to shops” (see Figure 7).433 Indeed, contemporary observers such as C. Knight remarked that the “lowing of the beasts, the tremulous cries of the sheep, the barking of dogs, the rattling of sticks on the heads and bodies of the animals, the shouts of the drovers, and the flashing about of torches, present altogether a wild combination.”434

of an alternative space, and perhaps the momentum required to seek one out, meant that the market was never closed or moved, despite its status as an unmitigated “nuisance.”

Figure 7: Smithfield Market in 1855.

Between 1729 and 1770, however, major building works were undertaken, dramatically transforming the built environment of both Smithfield and St Bartholomew’s, and reshaping the hospital according to emerging concepts of a healing environment. Many original structures were demolished, and the non-medical parts of the hospital (tenancies and shopfronts) were gradually removed to clearly demarcate the hospital from the surrounding city. Architect James Gibbs designed the new St Bartholomew’s Hospital, proposing a more unified and elegant plan centred on “a dignified square” surrounded by four large, rectangular three-storied blocks or ‘piles’ (see Figure 8). Three of these blocks were allocated to patient care and treatment. Each of these blocks was three storeys high, with each floor divided into four wards (two either

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437 Richardson (ed.), *English Hospitals*, p. 18.
side of a ‘spine’ wall) and separated in the centre by stairs, vestibules, and a private room for nurses.\textsuperscript{439}

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{fig8.png}
\caption{An engraving by W. Toms, showing a view of St Bartholomew’s Hospital in 1730, after its comprehensive renovations.\textsuperscript{440}}
\end{figure}

St Bartholomew’s new design provided a combined total of thirty-six wards when the final patient block was completed. The fourth block (to the north) was set aside for administrative functions, including a spacious governors’ room.\textsuperscript{441} This design had several advantages. One block could be built at a time, allowing patients to be accommodated in the newly erected ward while funds were raised for the construction of the next wing.\textsuperscript{442} It also improved air flow, and was believed to limit the miasmic spread of infection, protecting the institution in the event of

\textsuperscript{439} Stevenson, \textit{Medicine and Magnificence}, pp. 130-131.
\textsuperscript{440} Engraving by W. Toms after R. West and J. Gibbs, held at the Wellcome Library (London), also at <http://catalogue.wellcome.ac.uk/record=b1179724> accessed 1 September 2010.
\textsuperscript{441} Stevenson, \textit{Medicine and Magnificence}, p. 130.
\textsuperscript{442} Stevenson, \textit{Medicine and Magnificence}, p. 116.
fire by allowing the conflagration to be isolated in a single block, shielding the other wings of the hospital.\textsuperscript{443}

As the sick entered the hospital through the grand gateway they were met by the beadles, who acted as guards and porters.\textsuperscript{444} Those who appeared sufficiently ill (but not incurable or infectious) were directed to the steward, who oversaw the admission and discharge of patients from his room to the right of the entrance, recording names and other pertinent details in a large book.\textsuperscript{445} Those who managed to secure admission were then allocated a bed, with specialised wards provided for patients requiring ‘Cutting’, ‘Sweating’ or a particular ‘Diet’.\textsuperscript{446}

St Bartholomew’s new design encompassed a total of thirty-six wards, each with fourteen beds arranged either side of a partition. Each floor of the ward blocks was built around a central staircase, with sanitary facilities located at the extremities of the buildings.\textsuperscript{447} Operating theatres were later added to some blocks to accommodate the growing number of surgical cases.\textsuperscript{448} The new layout and innovative design features of St Bartholomew’s provided well-ventilated and light-filled spaces for patients, the ideal “place of rest and relief for the sick poor.”\textsuperscript{449}

\textbf{New Norfolk Hospital, Van Diemen’s Land}

New Norfolk Hospital was similarly established as a centre of rest and relief, but for a different category of patients.\textsuperscript{450} On the nineteenth of April, 1827, Lieutenant-Governor George Arthur issued a brief memorandum to the Principal Medical Superintendent, directing that all invalids

\textsuperscript{443} St Bartholomew’s narrow escape from the Great Fire of London was still relatively fresh in the minds of the authorities involved in the rebuilding of the institution, and protection from another disaster would have been a high priority (Stevenson, \textit{Medicine and Magnificence}, p. 131).
\textsuperscript{444} Moore, \textit{The History of St Bartholomew’s Hospital}, p. 793.
\textsuperscript{445} Moore, \textit{The History of St Bartholomew’s Hospital}, pp. 787-788.
\textsuperscript{446} Richardson (ed.), \textit{English Hospitals}, p. 2.
\textsuperscript{447} Richardson (ed.), \textit{English Hospitals}, p. 18.
\textsuperscript{448} Moore, \textit{The History of St Bartholomew’s Hospital: Volume II}, p. 845.
\textsuperscript{449} Moore, \textit{The History of St Bartholomew’s Hospital: Volume II}, p. 855.
from around the colony of Van Diemen’s Land should be removed to the newly established hospital at New Norfolk. The institution was designed to accommodate those who possessed the potential of introducing chaos to the fragile social equilibrium – the aged, infirm, pauperised and chronically ill – in a single location, with the intention of allowing them to be “comfortably lodged and taken care of at a very trifling expense.”

A temporary hospital had occupied the site since early in the nineteenth century, but it was not until 1827 that the location was selected for the colony’s largest invalid depot, designed to merge the numerous small and scattered hospitals, barracks, penal stations, gaols, depots, and rented houses in which invalids had formerly been accommodated. Admitting its first patients on the second of June, 1827, the invalid depot was an indispensable part of Arthur’s efficient penal system, designed to relieve the rest of the system of the growing number of “such convicts as through age and infirmities have become unable to labour.” Although twenty-two miles (thirty-five kilometres) distant from Hobart Town, New Norfolk was accessible by water and road, and was well positioned to receive cases of accident and injury from convict gangs and masters in the district. This location provided an ideal compromise between the salubrity of fresh country air and open space, and ease of access to major population centres for medical practitioners, patients and visitors.

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451 TAHO, Colonial Secretary’s Office: General Correspondence (CSO 1/83/1838), p. 27.
452 This section of Arthur’s memorandum on the original document was struck out (TAHO, CSO: General Correspondence (CSO 1/83/1838), p. 27; Markus, Buildings and Power, p. 95).
453 The exact date from which a hospital had been located at New Norfolk is unknown, but Gowlland suggests that it may have been between 1810-1820 (R. Gowlland, Troubled Asylum: The History of the Royal Derwent Hospital (self-published, New Norfolk, 1981), p. 1; M. Morris, Invalids, Paupers and Lunatics: Port Arthur, New Norfolk and Other Peninsula Stations (unpublished report for the Port Arthur Historic Site Management Authority, 2002), p. 29.
455 After reports of long, damp journeys via the river, authorities recommended that patients be transported to New Norfolk by cart to avoid aggravating illnesses. The two parties from which New Norfolk Hospital received the most cases were Bridgewater, located halfway between New Norfolk and Hobart, and Hamilton, twenty-four miles (thirty-nine kilometres) west of New Norfolk (G. Crabbe, History of Lachlan Park Hospital (Department of Health Services, Hobart, 1966), pp. 2-3).
Upon the opening of New Norfolk Hospital, the parsimony exercised by the imperial and colonial authorities in its design and construction became immediately apparent. The institution was comprised of two barracks, one used for “Cooking, washing and other cursory operations” and the other for patient accommodation.\textsuperscript{457} Conditions were austere, and the small timber buildings were poorly constructed and infested with insects and vermin.\textsuperscript{458} The rooms were small in size, dark, and insufficiently ventilated. There were no bathrooms, no privies within the walls of the hospital, and the patients lacked access to basic items such as tables and cutlery.\textsuperscript{459} Despite these inadequacies, in one or two areas the design of New Norfolk Hospital met the standards laid down by reformer John Howard.\textsuperscript{460} The institution was set at a distance from any urban centre, with a peaceful rural outlook and close to a water supply.\textsuperscript{461} Furthermore, the building was comprised of a single storey (although later alterations would add a second level to part of the structure), which was raised from the ground by several stone steps.

These features were, however, of little consolation to Dr Robert Officer, Superintendent of the Hospital, who was disturbed by the potential of the poor conditions of the institution to impede his patients’ recovery and convalescence. He wrote to New Norfolk’s Police Magistrate, William Henry Hamilton, urging him to convey to the Governor the importance of patient accommodation, and the benefits improved barracks would afford to the treatment of convict patients.\textsuperscript{462} Officer argued for urgent improvements, and reported that many of his patients had already “been greatly affected by the wretched condition of the barracks they inhabit.”\textsuperscript{463} The types of diseases typically suffered by New Norfolk inmates – chronic conditions aggravated by

\textsuperscript{457} The first extant plan of New Norfolk was drawn up in 1827, but it was designed to show the proposed 1836 extensions, and does not delineate which parts of the building were constructed earlier, and which parts later (TAHO, CVO: General Correspondence (CSO 1/83/1838), pp. 13-15).
\textsuperscript{458} Fearnley, Royal Derwent Hospital, p. 1.
\textsuperscript{459} TAHO, CVO: General Correspondence (CSO 1/83/1838), pp. 13-15; Piddock, A Space of Their Own, p. 152.
\textsuperscript{460} See Piddock, A Space of Their Own.
\textsuperscript{462} TAHO, CVO: General Correspondence (CSO 1/83/1838), pp. 13-15.
\textsuperscript{463} TAHO, CVO: General Correspondence (CSO 1/83/1838), pp. 13-15.
damp and draught, such as rheumatism, paralysis and ophthalmia – rendered Officer’s concerns all the more pressing.464

By late 1828, less than eighteen months after Arthur issued his memorandum, the New Norfolk Hospital was already impossibly crowded.465 Aware that his patients were suffering from this insalubrious situation, and with his efforts at treatment rendered “hopeless” by the hospital’s poor condition, Officer wrote another outspoken letter to Hamilton, which was in turn forwarded to Colonial Secretary John Burnett.466 In it Officer vociferously protested that the substandard size and design of the hospital’s rooms, compounded by the overcrowded conditions, prevented effective classification of the sick.467 Miasmic theories of disease transmission emphasised the importance of isolating patients suffering from different conditions. Accordingly, popular hospital designs of the period incorporated architectural support for this segregation, but the layout of the New Norfolk institution actively worked against such isolation.468

Following Officer’s lead, Hamilton sent an earnest missive to Burnett, decrying the “base conditions and general unfitness” of New Norfolk Hospital. “Impressed with the belief that a very eligible Hospital may be erected, on as simple a plan and at an inconsiderable expense,” Hamilton appealed to the Colonial Secretary to consider constructing a new institution.469 Just three weeks later, sensing the urgency in Hamilton’s letter, but nonetheless having “given all possible attention to economy in its structure, and convenience in its arrangement,” Burnett sent

464 Some patients even attributed illnesses to their exposure to the weather while in New Norfolk Hospital; in 1855, a man was treated for laryngitis, which he blamed on the lack of weatherproof accommodation while in the institution (Crabbe, History of Lachlan Park Hospital, p. 21; TAHO, CSO: General Correspondence (CSO 1/83/1838), pp. 13-15).
465 TAHO, CSO: General Correspondence (CSO 1/83/1838), pp. 13-15.
466 TAHO, CSO: General Correspondence (CSO 1/83/1838), pp. 13-15.
467 TAHO, CSO: General Correspondence (CSO 1/83/1838), pp. 13-15.
469 TAHO, CSO: General Correspondence (CSO 1/83/1838), p. 16.
Arthur a plan for a hospital designed to accommodate sixty invalids and ten lunatics. Arthur approved this plan, although due to dispute over the exact location of the extensions, the Council did not commission Civil Engineer John Lee Archer to produce a formal plan until late November 1829, almost exactly one year after Hamilton first petitioned Burnett to improve the physical environment of New Norfolk Hospital. Archer, however, forwarded his design to Arthur just eleven days later. A further five days after this, on the ninth of December, 1828, Arthur issued a memorandum directing work to commence as soon as possible.

Reflecting the urgent need for better conditions, Arthur instructed that the extensions, now intended to accommodate one hundred patients, should be “completed during the present Summer.” This was perhaps a somewhat ambitious request; two months after the Governor approved the plans Archer defensively attributed the lack of progress with construction to delays with paperwork, irritably remarking that he was not aware there was any particular rush. After further complaints from Arthur, and the requisition of additional stone masons and bullocks, the new buildings were operational, although not completed, by 1831. Further works based on designs drawn up by Officer were commenced in 1832 at a cost of £600 to provide additional accommodation for lunatics. From this date, New Norfolk Hospital became the primary site of treatment for psychiatric patients in Van Diemen’s Land.

470 Although ‘lunatic’ is now considered an insensitive derogatory term, until the mid-nineteenth century it was the accepted term applied to patients admitted for psychiatric conditions. Accordingly, it is used here in the latter sense, with no negative connotations implied (TAHO, CVO: General Correspondence (CSO 1/83/1838), p. 21).
471 TAHO, CVO: General Correspondence (CSO 1/83/1838), p. 45.
472 TAHO, CVO: General Correspondence (CSO 1/83/1838), p. 47; TAHO, CVO: General Correspondence (CSO 1/83/1838), p. 35; Gowlland, Troubled Asylum, p. 6; Crabbe, History of Lachlan Park Hospital, p. 3.
473 TAHO, CVO: General Correspondence (CSO 1/83/1838), p. 47; TAHO, CVO: General Correspondence (CSO 1/83/1838), p. 35; Gowlland, Troubled Asylum, p. 7.
474 TAHO, CVO: General Correspondence (CSO 1/83/1838), pp. 68-69.
475 The exact date at which the new sections of the hospital were opened is unknown (TAHO, CVO: General Correspondence (CSO 1/83/1838), pp. 68-69; TAHO, CVO: General Correspondence (CSO 1/83/1838), p. 37; Brown, Poverty is Not a Crime, p. 15; J. Burnham, ‘The Royal Derwent Hospital in Tasmania: Historical Perspectives on the Meaning of Community Psychiatry’, Australian and New Zealand Journal of Psychiatry, 9 (1975), p. 163).
Following the additions made to improve patient conditions in 1832, the New Norfolk Hospital was comprised of two conjoined quadrangles. The front square, bound on three sides with buildings and on the remaining side by a high wall, was intended for the reception and treatment of invalids, while the totally enclosed rear quadrangle was used to accommodate psychiatric cases. The open courtyard in the centre of the rear quadrangle was divided by a high wall with male patients on one side and female inmates on the other. A Board of Inquiry, commissioned in 1833 to assess the hospital, described the institution as incorporating eight large rooms and several smaller ones, which was considered sufficient for the one hundred and thirty patients and twenty-one staff. In 1834, however, numbers of patients again began to exceed the space available for them. By 1836 the situation was growing desperate, with more than twice the intended number of patients accommodated in increasingly miserable conditions. Some patients were forced to sleep on the floors, while even those lucky enough to secure space in a bed could not always be sure of finding a sheet or blanket there.

As a temporary solution to these overcrowded conditions, two hundred and one of the two hundred and ninety-nine patients were transferred from the New Norfolk Hospital to the Sorell Creek Convalescent Station during late 1836 and early 1837. Extensions undertaken throughout this time provided a more permanent solution by increasing the amount of accommodation available for inmates, although information describing these alterations is scarce (see Figure 9).

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477 TAHO, PWD: Plans (Plan of New Norfolk Invalid Hospital), (PWD 266/1/1432).
478 The use of space poses interesting parallels with treatment methods, particularly in the case of psychiatric patients (restraint methods used in treatment were replicated in their environment – high walls and small, enclosed yards), which are too extensive to discuss within the scope of this thesis.
479 Crabbe, History of Lachlan Park Hospital, pp. 4-5
481 Crabbe, History of Lachlan Park Hospital, p. 6.
482 Gowlland, Troubled Asylum, p. 28; Crabbe, History of Lachlan Park Hospital, p. 6.
From plans draw up by Civil Engineer Roger Kelsall, which included building works of 1829, 1832, and the anticipated extensions of 1836, it would appear that additional wings were proposed for either side of the existing buildings to provide further lodgings for psychiatric patients (see Figure 10).

Once these alterations were completed, the ground floor of the hospital consisted of twenty-four wards of various sizes, fifty-two cells, and eleven enclosed yards. Staff could utilise the six overseers’ rooms, five store-rooms, three kitchens, two washrooms, an office, and two ambiguous spaces labelled simply as ‘rooms’, while the superintendent was provided with his own quarters. The surgeons were equipped with a dispensary, a surgery, and a dead-room fitted with a table and a large trough. Six blocks of privies appear on the plan, all external to the

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484 Roger Kelsell, a soldier and engineer, was appointed to be Clerk of Works in the Ordnance Department of Van Diemen’s Land in 1835 (*Australian Dictionary of Biography* (vol. 2, Melbourne University Press, Melbourne, 1967), pp 37-38; TAHO, *PWD: Plans (Plan of New Norfolk Invalid Hospital)*, [PWD 266/1/1432]; Piddock, *A Space of Their Own*, p. 150).

485 There is also one other room, labelled possibly as an ‘oven’ – the writing is difficult to decipher (TAHO, *PWD: Plans (Plan of New Norfolk Invalid Hospital)*, [PWD 266/1/1432]).
perimeter of the hospital. A chapel with a lobby was also proposed, but no records exist of its construction.\textsuperscript{486}

Figure 10: A plan of New Norfolk Hospital based on the 1836 plans drawn up by Civil Engineer Roger Kelsell. The front section accommodated the medical patients, while the rear section was reserved for the psychiatric patients, with the female cases occupying the left yard and the male patients the right. It can be seen from this plan that smaller cells were used for isolating psychiatric patients, while medical cases were accommodated in wards with fireplaces located between each set of rooms. Verandahs bordered the medical yard (which was unfortunate for patient Peter Patterson, who fell off this verandah, a height of three feet. Fortuitously, Patterson escaped with only “pain in the Knees.”)\textsuperscript{487}

These were the last alterations undertaken at New Norfolk Hospital while it remained a medical institution. The institution was evidently ignored for the following two decades, left utterly neglected with no maintenance undertaken to protect either the newly constructed extensions or

\textsuperscript{486} It is not unusual that parts of a plan were not constructed. As discussed above, when St Bartholomew’s was renovated, the plan allowed for part of the hospital to be completed at a time to allow it to be used while another section was constructed. Perhaps more commonly, plans were sometimes drawn up with no real intention of them ever being built. The convict hospital in Bermuda is one example of this; the two-storey hospital designed for construction on Norfolk Island in the late 1830s is another (F. Starr, ‘Convict Artefacts from the Civil Hospital Privy on Norfolk Island’, \textit{Australasian Archaeology}, 19 (2001), p. 40).

\textsuperscript{487} A photograph of the original plans was not included here, as it was too faint to be legible (TAHO, \textit{Royal Derwent Hospital: Case Notes of Peter Patterson} [HSD 246/1/6/82]).
the original buildings from deterioration and decay. In 1848, the hospital ceased to admit medical cases and became solely a psychiatric institution.\footnote{488} When it was transferred from Imperial to Colonial authority in 1855, many badly-needed minor renovations were carried out with some urgency, simply to make the hospital functional. The ambiguous beginnings of the institution – was it a hospital, an asylum, an invalid depot? – may have contributed to its neglect.\footnote{489} Despite this general lack of care, however, New Norfolk Hospital nonetheless played a significant role in the care of the sick and vulnerable in Van Diemen’s Land.

\textbf{Royal Naval Hospital, Bermuda}\footnote{490}

The establishment of a hospital in Bermuda similarly grew from a transient beginning into a permanent institution. While the general population of Bermuda had no hospital, from 1794 temporary buildings and hospital hulks accommodated sick soldiers, sailors, and (from 1823) convicts.\footnote{491} A jumble of impermanent structures was built to house the convict administration and any on-shore accommodation and facilities required for the prisoners. With no wider plan for the convict establishment, many of these structures rapidly outgrew their usefulness, becoming dilapidated and decayed in the humid environment of Bermuda.\footnote{492}

Construction of a permanent institution began in 1816 as part of an extensive programme of works designed to improve the naval facilities on the island.\footnote{493} Two years later, in 1818, the new Royal Naval Hospital opened on an elevated site along Lagoon Road on Ireland Island,

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\item \footnote{488} This thesis will focus on the period between 1827-1848, the phase during which the institution admitted medical cases. To attempt examination of both medical and psychiatric aspects of the hospital (both in terms of patient care and hospital architecture) would be beyond the scope of this research, but would be an informative task for future researchers, although Piddock has already undertaken valuable work in this area (see Piddock, \textit{A Space of Their Own}; Crabbe, \textit{History of Lachlan Park Hospital}, p. 22; E. Ratcliffe and K. Kirkby, ‘Psychiatry in Tasmania: From Old Cobwebs to New Brooms’, \textit{Australasian Psychiatry}, 9 (2001), p. 128).
\item \footnote{489} Burnham, ‘The Royal Derwent Hospital’, p. 163.
\item \footnote{490} As noted in Chapter one, information regarding the Royal Naval Hospital in Bermuda is scarce. .
\item \footnote{492} Hollis-Hallett, \textit{Forty Years of Convict Labour}, p. 79.
\item \footnote{493} R. Willcock, \textit{Bulwark of Empire: Bermuda’s Fortified Naval Base, 1860-1920} (self-published, New Jersey, 1962), p. 43.
\end{itemize}
Bermuda’s northwesternmost island, appropriately overlooking Hospital Island. Although the elevated site of the institution was acceptably breezy, permitting a good flow of air through the institution, it unfortunately overlooked a stagnant lagoon.\footnote{C. Campbell, \textit{The Intolerable Hulks} (Heritage Books, Maryland, 1994), p. 141; Lloyd and Coulter, \textit{Medicine and the Navy}, p. 255.} For several years the area around the hospital bore the highest rates of yellow fever in Bermuda, with Deputy Inspector-General W.R.E. Smart expressing popular opinion in his assertion that “marshland and bad sanitation are the exciting causes” of the scourge.\footnote{W. Smart, unpublished paper on yellow fever in Bermuda, cited in Lloyd and Coulter, \textit{Medicine and the Navy}, p. 189.} The warmer Bermudian climate fostered the spread of diseases such as malaria and fevers, illnesses which were less frequently observed in the cooler climates of Van Diemen’s Land and London. Surgeons commented that the warm, moisture-laden air of Bermuda caused animal and plant matter to ferment, issuing disease-causing material into the air.\footnote{\textit{Accounts and Papers of the House of Commons: Colonies} (vol. 37, 1855), p. 65.} In an attempt to disperse this stagnant air, a channel was dug to permit the tide to wash through the lagoon near the hospital, removing the miasmic stench and successfully clearing away the swarms of mosquitoes by eradicating their breeding ground.

The new hospital was a two-storey rectangular building (see Figure 11). Otherwise conventional in design, it was distinguished by a stylish but heavy dome, which was later removed as its weight was too much for the structure to bear.\footnote{Lloyd and Coulter, \textit{Medicine and the Navy}, p. 254.} Sections of the hospital were prefabricated in Britain and shipped to the islands, including cast iron verandah columns, floor joists and roof trusses, while local limestone was used for the stonework.\footnote{K. Forbes, \textit{Bermuda Online Multinational: Bermuda’s Hospitals}, at \url{http://www.bermuda-online.org/ kemh.htm} accessed 16 September 2008.} Although the indigenous materials fared well in the humid climate of Bermuda, the iron columns required frequent repainting, supporting wooden beams rotted away, and slate roof coverings blew off in every strong wind.
As at New Norfolk Hospital, sanitary facilities were limited. As late as 1840, Bermuda’s Royal Naval Hospital had a single water closet, exclusively for the use of its higher-ranking officer patients. All other inmates were relegated to the four outside privies. Separate wings for staff accommodation and additional wards for patients were added in later years, with one wing set aside for convict inmates. This wing occupied the entire upper section of the hospital, and included the “exclusive use of the gallery” to ensure plentiful fresh air.

This ostensibly generous allowance of space was actually a means of exerting additional supervision over the prisoners by corralling them in one easily observable area, away from other patients. Military patients in Bermuda (like their free counterparts in the Australian colonies) evidently resented occupying the same institution as penal patients; many decried this sharing of space, claiming that treating convict patients alongside naval and military men would “virtually suspend” prisoners’ punishment, causing them to forget their lowly social and moral status.

By physically confining convicts to a clearly delineated section of the hospital and emphasising

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500 Lloyd and Coulter, Medicine and the Navy, p. 255.
502 Hollis-Hallett, Forty Years of Convict Labour, p. 57.
503 Hollis-Hallett, Forty Years of Convict Labour, p. 57.
their incarceration with intense surveillance, authorities ensured that other patients did not have to visibly share the same space. This plainly marked convict patients as different in an incontestably inferior sense. Such enforced separation also had the effect of preventing prisoners from associating with the nurses (who were predominantly local Bermudian women) while they tended their non-penal patients; convalescing prisoners would have acted as attendants for their acutely ill colleagues.\textsuperscript{504}

Despite this apparently plentiful allowance of space, by 1848 the Royal Naval Hospital was overcrowded with convict patients.\textsuperscript{505} When novelist Anthony Trollope inspected the institution several years later, he remarked that while the “hospital arrangements and attendance are excellent as regards the men’s comfort…the ill-arrangement of the buildings is conspicuous, and must be conspicuous to all who see them.”\textsuperscript{506} Complaints were made that ill naval officers or their family members were being turned away as beds reserved for them were occupied by prisoners. There were also grumblings from authorities in Britain, who objected to the “enormous expense” of maintaining convict patients in a naval hospital.\textsuperscript{507} As it belonged to a separate department and jurisdiction, the cost of managing sick prisoners in this manner was far greater than when the convict department was in charge of its own hospital, as it was in Van Diemen’s Land.\textsuperscript{508}

While a separate convict hospital would have neatly solved all these difficulties, it was not until 1857 that plans were drawn up for a penal medical institution in Bermuda.\textsuperscript{509} However, authorities recognised that once the public works were completed, Bermuda would no longer be a practical destination for prisoners as there were few other forms of labour on the small group

\textsuperscript{504} Hollis-Hallett, \textit{Forty Years of Convict Labour}, p. 57.
\textsuperscript{505} Hollis-Hallett, \textit{Forty Years of Convict Labour}, p. 57.
\textsuperscript{506} A. Trollope, \textit{The West Indies and the Spanish Main} (Harper and Brothers, New York, 1860), p. 376.
\textsuperscript{507} Hollis-Hallett, \textit{Forty Years of Convict Labour}, p. 58.
\textsuperscript{508} Hollis-Hallett, \textit{Forty Years of Convict Labour}, p. 58.
\textsuperscript{509} Hollis-Hallett, \textit{Forty Years of Convict Labour}, pp-50-60.
of islands suitable for large gangs of men. It was not considered economically efficient to construct a hospital when, within a decade, there would be no convict patients to fill the beds. The authorities were correct – within five years, the final remaining convicts were transferred from Bermuda and the penal station was closed.

Both penal and naval hospital buildings encompassed an innate contradiction which was unknown at civil institutions such as St Bartholomew’s. The need for a built environment which simultaneously promoted healing and comprehensive surveillance often caused consternation, as architects and authorities vied to create a plan which offered both salubrity and security to its unfree patients.

For public hospitals, the first priority – tempered, as always, by considerations of economy – was undeniably the swift and effective treatment of illness. Healing, however, was not so simple for the patients of convict and naval institutions. While open space and fresh air were crucial to health, confinement – or, at the very least, enclosure – was a significant element in the accommodation of soldiers and prisoners. As Evens wrote, “security required enclosure; salubrity required exposure and fragmentation.” That these dual purposes sat uneasily alongside one another is reflected in the difficulties of designing hospitals to suit patients whose very status was so ambivalent. These institutions had to maintain high levels of security to prevent escape, but simultaneously guard against the poor ventilation and dangers of miasma.

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caused by gloomy enclosed spaces and impenetrable stone walls. While taking into consideration the space requirements of medical and surgical treatments, architects also had to prioritise ease of patient management and superintendence – and nowhere were control and observation more crucial than in a convict or naval hospital.\textsuperscript{513} Indeed, one of the primary reasons Sydney’s first permanent hospital was established was due to “the want of the ordinary means of preventing escape” from the earlier institution.\textsuperscript{514} A new hospital offered the opportunity to construct a building which would provide “more secure detention of the sick.”\textsuperscript{515}

Particular care was taken to ensure patients’ confinement to the hospital. This was an element of hospital design and architecture which also concerned the Royal Navy; accordingly, naval institutions such as Bermuda’s were designed to provide the same security and isolation as afforded by a naval ship, but without the associated environmental defects which promulgated disease and death.\textsuperscript{516} It was not simply a straightforward matter of ensuring that patients remained within the institution; the security was also a measure designed to exert a beneficial influence upon the physical (and moral) wellbeing of the inmates. The Commissioners for Sick and Wounded Seamen, responsible for the management and administration of naval hospitals, maintained that if patients could be isolated from the temptations of alcohol, promiscuity and gambling, their recovery would be hastened.\textsuperscript{517}

The Superintendent of New Norfolk Hospital, and the authorities to whom he answered, were also frequently forced to balance the security of the hospital with the health and employment of their convict patients. The numerous enclosed yards incorporated within the institution permitted patients to be securely and continuously detained and monitored by overseers, but

\textsuperscript{513} Taylor, Hospital and Asylum Architecture, p. 22.  
\textsuperscript{515} Bigge, Report of the Commissioner of Inquiry, p. 105.  
\textsuperscript{516} Stevenson, Medicine and Magnificence, pp. 174-175.  
\textsuperscript{517} Stevenson, Medicine and Magnificence, pp. 174-175.
compromised air flow and permitted foul odours to accumulate in stagnant corners. Some cells had open skylights instead of windows, limiting escape opportunities for its occupants, but providing little protection from climatic extremes. These cells, although secure, were difficult to monitor as staff were obliged to trample around the perimeter of the institution, peering inside through the peephole in each heavy door to ascertain the inmate’s movements. For the same reasons, they were also poorly suited as hospital accommodation.

In 1859, a Joint Committee appointed to inquire into conditions at the New Norfolk Hospital declared that the numerous high walls partitioning the institution acted to “impair the salubrity and injure the cheerfulness” of the hospital. The Committee’s recommendations bear evidence of their attempts to alter the hospital’s environment into one more closely aligned with recovery than confinement. Among their suggestions were the construction of “pleasure and recreations grounds,” the provision of day rooms, the demolition of cells, and the lowering or removal of stone walls (although some of these were to be replaced with railings). Some of the Committee’s recommendations were implemented rapidly, with progress made as early as 1861, while others were not carried out until the 1880s.

By the 1830s, when William Kerr was admitted to St Bartholomew’s, hospitals had become central to society, with their roles extending far beyond care of the sick poor. Questions of isolation and quarantine impinged on trade and commercial interests, for example, while the

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518 Piddock, *A Space of Their Own*, p. 176.
521 Piddock, *A Space of Their Own*, p. 158.
wretched conditions of the slums in which the poor lived and worked probed the charitable and philanthropic ideals of wealthy classes. Such significant institutions demanded architecture which reinforced their social significance. Their design, however, had to be more than mere aesthetic display. Just as the treatments occurring within the buildings incorporated advancements in science and medicine, so too did the architecture of the hospital incorporate innovations.

While these innovations were easily distinguished in the built environments of urban British hospitals such as St Bartholomew’s, they were less in evidence at colonial institutions. Although all three institutions were dependant on somewhat erratic sources of financial support, the London hospital was not constrained by the same level of bureaucratic complexity as the colonial institutions. The difficulties inherent in attempts to negotiate the multiple sets of government officials involved in the design, construction, renovation, and repair of colonial hospitals could confound even the most determined architects and surgeons. This accordingly acted to prevent the implementation of medical innovations in ventilation or surveillance, even when such advancements could benefit the patients or staff. It seems apparent that those working in and visiting the colonial hospitals, particularly in the case of New Norfolk, were aware that the conditions were inadequate in many respects and many actively sought to improve the built environments. Failings in ventilation, sanitation, heating and cooling were all subjects of letters directed to colonial and imperial authorities from surgeons, clergymen, and Vandemonian officials. Neither the colonial nor the imperial authorities, however, wished to outlay more funding for the institutions than was absolutely necessary; once the hospital had been built and fitted out (albeit parsimoniously), the government assured itself that a medical institution had been provided which was perfectly adequate for the needs of unfree patients.

523 Porter, ‘What is Disease?’ in Porter (ed.), The Cambridge Illustrated History of Medicine, p. 103.
In the early nineteenth century, as Foucault argued, hospitalisation entailed confinement as well as care. The details of medicalisation – isolation, classification, supervision, physical examinations and copious note-taking; in short, physical and mental control by care-givers over patients – were also conducive to incarceration. The patient’s body was no longer their own, but a description, a diagnosis, a number laid bare (both physically and on paper) in a much more visible manner than the bodies of the upper classes. Authorities sought to ensure the bureaucratic exposure of the troublesome – the destitute, the criminal, the insane – and to define and tame them using their bodies as “unalterable records.” Exactly what patients chose to present to authorities, however, could vary, with some choosing to assert their fragile autonomy by restricting or altering the body they presented for inspection.

While this process of examination, identification, and classification was necessarily taken to a more extreme level at the Royal Naval Hospital in Bermuda and the New Norfolk Hospital in Van Diemen’s Land, it was also apparent at St Bartholomew’s Hospital in London. The conflicting needs for security and visual control of the patient on one hand, and the importance of unrestricted flows of air to the recovery of health on the other were clearly demonstrated in hospitals where patients were also prisoners. This tension between care and custody is reminiscent of that experienced at asylums. Some surgeons believed that due to the conflict between the need to both secure and cure its unfree patients, such hospitals could never become ideal institutions in terms of the provision of curative medical treatment. Moreover, an increasingly rigid and medicalised influence began to be exerted over the use of space both inside and outside hospital walls. By controlling the built environment, architects and hospital

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524 M. Foucault, Birth of the Clinic (Routledge, London, 2005), p. 83; Sloane, ‘Scientific Paragon to Hospital Mall’, p. 82.
525 Markus, Buildings and Power, p. 113.
530 Piddock, A Space of Their Own, p. 156.
authorities sought to manipulate the natural environment, to influence patients’ surroundings and thereby attain power – however tenuous and ephemeral – over disease.

Religious links to medicine and hospital care endured from the earliest times through into the nineteenth-century hospitals, predominantly due to the institutions’ reliance (particularly in the case of hospitals such as St Bartholomew’s) on the generosity of the rich towards the poor. Medical institutions, particularly those devoted to the care of the vulnerable, existed at a point of convergence of religious and social responsibilities. To provide financial or material assistance to such institutions could be advantageous in both spheres. The character of this generosity, however, had been somewhat altered over the passage of time, with the rise of humanitarian sentiments replacing – to some extent – Biblical notions of the rich tending selflessly to the sick poor. By sponsoring patients or serving as governors, the wealthy could both assuage their own consciences and meet a number of their social and moral obligations.\(^{531}\) Such philanthropy came to be seen more as a means to secure a position in a profitable social network than as a shortcut to posthumous peace, with religious generosity replaced by secular benevolence.\(^{532}\)

From as early as the fifteenth and sixteenth centuries, architects had begun to consider how hospital design could actively contribute to the speed of patients’ recovery. Until the nineteenth century, however, hospitals were more often re-purposed private dwellings than purpose-built facilities.\(^{533}\) The small rooms typical of these buildings were understood to protect against the promulgation of infection, but they made nursing difficult and, unless they had many windows,
ventilation could be poor. The provision of a calm environment and sufficient space to allow exercise and allow the free passage of fresh air assumed a great importance.

By the early nineteenth century, the potential of architecture to contribute to healing and recovery was well-established. It was recognised that simple features of the built environment (such as the influence of softened light and muffled sound, in William Kerr’s case) could be manipulated and become, of themselves, curative. A number of new design features increased in significance, with architects and hospital authorities focusing particularly on the control of air – heating it, cooling it, removing that which was infected and malodorous and replacing it with that which was clean and fresh. While economy and maximising the number of beds available remained important, the role of the built environment in assisting the recovery process became increasingly influential.

An examination of the built environments of the three hospitals which form the focus of this study has allowed a glimpse into the physical surroundings experienced by the patients of these institutions. More significantly, perhaps, such an analysis also reveals the impact of patients’ accommodation upon their treatment. With hospitals serving as an important arena for debate on the means of disease transmission, hospital authorities were under pressure to provide evidence that their facilities would prevent the spread of disease and actively assist the curative therapy of their patients.

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535 MacDonald, ‘The Infirmary of the Glasgow Town’s Hospital’, p. 83.
Chapter Four

Rates and Types of Disease

Byland Smith lay uneasily in a motionless hammock aboard the *Dromedary* hulk. Wracked with cramps and tormented with constant diarrhoea, the twenty-seven-year-old convict had sought the attention of Royal Naval surgeon Thomas Brownrigg. In the cramped sick bay, Brownrigg dosed his patient with castor oil, mercury, and chalk. Smith’s purging ceased, only to be replaced by a constant ache in his chest. Brownrigg bled Smith until the pain eased and his pulse slowed, and for three days the case seemed to be progressing favourably. On the seventh of November, however, Smith’s throat was dry and tender, and his bowels continued to purge. Brownrigg puzzled over Smith’s symptoms as his patient grew progressively weaker, with fever causing “great prostration of strength.”536 With no further avenues of treatment available to Brownrigg,

536 The National Archives, *Admiralty and Predecessors, Office of the Director General of the Medical Department of the Navy and Predecessors, Service Registers and Registers of Deaths and Injuries: Case Book, Royal Naval Hospital, Bermuda: Byland Smith* (ADM 104/98, p. 00152-00154).
Smith was sent ashore to the naval hospital, accompanied by a note expounding on the “obscurity” of his case.

For surgeons such as Brownrigg in the early nineteenth century, it was not merely the cause or the treatment of illness which was shrouded in mystery. Diagnosis, too, was difficult, but as physiologist Marshall Hall wrote in the early nineteenth century, “The Diagnosis of Diseases constitutes the first part of the office of the physician.”  

The ability to label the afflictions of the sick, to name each pain, swelling and inflammation, underwrote the growing authority, knowledge and status of the medical practitioner. This process of identification allowed both patient and surgeon to define the experience of sickness, to delineate treatments and predict potential outcomes. Diagnosis thus acted as a guideline, directing knowledge of disease and the application of this knowledge. Additionally, as a form of communication and interaction between practitioner and patient, diagnosis mediated between practitioners’ cognitive expertise and skills, and patients’ more emotional and physical experiences.

During this period, the process of diagnosis was analogous to the understanding of disease. Disease, as the manifestation of imbalanced humours, materialised differently in the unique constitution of each patient. These symptoms were variable, changeable, constant only in their fluidity. As practitioner John Robertson lamented, the “degree to which diseases are modified by constitution, season, climate and an infinite variety of accidental circumstances” rendered any attempt at a comprehensive system of diagnosis essentially specious.

Instead, doctors sought to base their diagnoses on the relative tangibility of patients’ symptoms. At New Norfolk, Royal Naval and St Bartholomew’s Hospitals, patients were routinely admitted with illnesses defined as cough, diarrhoea, paralysis, swellings, or sores. Some practitioners, such as Samuel Jackson, contentiously averred that:

Symptoms do not constitute in themselves a basis of sound or safe medical practice. They are the signs, addressed to the senses, of the abnormal state or sufferings of the organs, but do not instruct us, as to the nature of the change which has ensued, which constitutes the disease.

This perspective was countered by practitioners such as medical writer and physician Lunsford Yandell, who maintained that “though dim enough at times, [symptoms] are our only guiding stars...there is nothing else to disclose to us the condition of our patient.” Yandell also wrote heatedly that “We must either dissect living bodies, practice by symptoms, or abandon our profession, and trust to nature.” Diagnosis relied upon the interpretation of visual signs of illness as well the use of touch, smell, and even taste to identify disease. Scrutinising the gums, for example, might uncover signs of lead poisoning, such as those found in St Bartholomew’s patient John Pert. As Michel Foucault comments, such meticulous examinations offered doctors the opportunity to “map the disease in the secret depths of the body,” based on the

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540 Although defined as merely symptoms under modern medical knowledge, these afflictions were considered until the twentieth century to be diseases in their own right.
544 Diabetes, for example, could be diagnosed by tasting the urine, such as in the case of John Bailey, a patient at New Norfolk Hospital who, at the request of his surgeon, tasted his own urine to test for saccharine (Tasmanian Archive and Heritage Office, Royal Derwent Hospitals: John Bailey (HSD 246/1/123); M. Foucault, Birth of the Clinic (Routledge, London, 2005), p. 202).
545 St Bartholomew’s Hospital Archives and Museum, St Bartholomew’s Hospital, Medical and Surgical Case Notes of Edward Latibarn Ormmond, Diseases of the Central Nervous System, Kidneys, Abdominal and Infectious Skin Diseases: John Pert (MR 16/6/250); H. Burton, ‘On a Remarkable Effect upon the Human Gums Produced by the Absorption of Lead’, The Medico-Chirurgical Review and Journal of Practical Medicine, 34 (1841), pp. 13-16.
symptoms which were externally accessible.\textsuperscript{546} Understanding the body through examinations and observations took patience and practice. As physician John Eberle wrote:

NOTHING so much distinguishes the experienced and truly well-qualified physician from the mere hap-hazard recipe doctor, and routinist, as the ability to estimate correctly, the import of symptoms; to trace their various relations with each other, and to determine from them the seat, nature, and extent of maladies. The number of those who are remarkable for accuracy in diagnosis, is always very small; for eminent proficiency in this respect can be obtained only by persevering observation and study, aided by a minute and comprehensive acquaintance with physiology and pathology.\textsuperscript{547}

Practitioners on both sides of the debate, however, were also aware that relying upon symptoms alone to diagnose illness was a dangerous approach. It was vital to consider other important variables, such as “age, sex, moral and physical temperament, climate, occupation, habit of living, corporeal conformation, previous diseases, hereditary predisposition, and the character of the predisposing and exciting causes” when forming an accurate diagnosis.\textsuperscript{548}

At the New Norfolk Hospital, surgeons followed meticulous guidelines when diagnosing their patients’ diseases. These comprehensive guidelines, inscribed in the front of the hospital’s case book, prompted practitioners to examine each patient thoroughly, probing every part of their body for clues to their ailment (see Table 3). Not only were their physical symptoms investigated, but their medical history, posture, attitude, and general appearance were also

\textsuperscript{546} How frequently practitioners actually carried out such comprehensive examinations is certainly questionable (Foucault, \textit{The Birth of the Clinic}, pp. 166-167, p. 200).
\textsuperscript{547} J. Eberle, \textit{A Treatise on the Practice of Medicine} (4\textsuperscript{th} ed., vol. 1, Grigg and Elliot, Philadelphia, 1838), p. 77 (capitalisation and grammar original).
\textsuperscript{548} Eberle, \textit{A Treatise on the Practice of Medicine}, p. 78.
scrutinised. Other physicians, such as John Eberle and Marshall Hall, also wrote detailed
guidelines to assist practitioners in their diagnoses.\textsuperscript{549}

<table>
<thead>
<tr>
<th>History</th>
<th>Disease</th>
<th>Date of admission</th>
<th>General appearance</th>
<th>Peculiar temperament</th>
<th>Previous disease with dates and place</th>
<th>Vaccinated or Inoculated</th>
<th>Present Symptoms</th>
<th>Name</th>
<th>Class</th>
<th>Age</th>
<th>Ship</th>
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<th>Animal Functions</th>
<th>Speech</th>
<th>Delirium</th>
<th>Memory</th>
<th>Judgement</th>
<th>Sensation</th>
<th>Taste</th>
<th>Smell</th>
<th>Sight</th>
<th>Hearing</th>
<th>Movement of the Muscles</th>
<th>Articulation</th>
<th>Sleep</th>
<th>Countenance and Motion</th>
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<th>Vital Functions</th>
<th>Pulse</th>
<th>Heart's action</th>
<th>Cough</th>
<th>Breathing</th>
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<tr>
<th>Natural Functions</th>
<th>Appetite</th>
<th>Thirst</th>
<th>Deglutition</th>
<th>Bowels</th>
<th>Dejections</th>
<th>Skin</th>
<th>Expectoration</th>
<th>Saliva</th>
<th>Urine</th>
<th>Urethra</th>
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<thead>
<tr>
<th>Change of Visible Qualities</th>
<th>Excess of cruorine in the Blood</th>
<th>Excess of serum in the Blood</th>
<th>Too dark a colour of the Blood</th>
<th>Too florid a colour</th>
<th>An albuminous surface at the crur of the blood</th>
<th>A yellow serum</th>
<th>Pallor of the Skin</th>
<th>Preternatural weakness</th>
<th>Blueness</th>
<th>Yellowness</th>
<th>Crackling noise on pressure</th>
<th>Dilation of the pupils</th>
<th>Contracted pupils</th>
<th>Tumefaction</th>
<th>Fluctuation</th>
<th>Grating of the bone</th>
<th>Grating of the teeth</th>
<th>A sound when tapped</th>
<th>A wasting of the body</th>
<th>A wasting of a part</th>
<th>An increased size of the Body</th>
<th>An increased size of a part</th>
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<th>Uneasy Sensations</th>
<th>Pain, or uneasy feeling</th>
<th>Anxiety</th>
<th>Coldness</th>
<th>Shivering</th>
<th>Heat</th>
<th>Giddiness</th>
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Table 3: Guidelines for surgeons at New Norfolk Hospital, 1846\textsuperscript{550}

\textsuperscript{549} Eberle, \textit{A Treatise on the Practice of Medicine}, pp. 77-102; Hall, \textit{The Principles of Diagnosis}, pp. 25-37.

\textsuperscript{550} TAHO, RDH: Case Notes: Guidelines for Examinations (HSD 246/1/1).
It was the role of the practitioner to equate each patient’s unique symptoms with a definable disease; indeed, the identification (and the resulting treatment) of illnesses formed the primary aim of the discipline of medicine.\footnote{A Correspondent, ‘The Clinical Nomenclature of Disease and Perignosis’, \textit{British Medical Journal}, 1 (1870), p. 586.} Entrenched in the humoural tradition of medicine, disease concepts could not exist outside the patient. Illness was an individual representation of each patient’s unique constitution, and, as such, could not be transferred between cases. In the course of the nineteenth century, however, diseases came to be defined differently. Objective clinical signs were used to guide a practitioner’s diagnosis rather than a patient’s symptoms, which were increasingly disregarded and even belittled as subjective.\footnote{R. Porter, \textit{The Greatest Benefit to Mankind: A Medical History of Humanity from Antiquity to the Present} (Fortuna Press, London, 1999), p. 313.} Smallpox, venereal disease and yellow fever came to be understood as infectious.\footnote{Rosenberg, ‘The Tyranny of Diagnosis’, p. 242.} Epidemics of such diseases were attributed to unhygienic living conditions, to unwashed bodies living in close contact in grimy, airless dwellings. Prisoners living aboard poorly ventilated hulls, for example, were considered particularly vulnerable to outbreaks of fever.

\section*{Classification of Disease}

In a medical discipline awash with vague symptoms defined by even vaguer terminology, practitioners (particularly students and those recently qualified) keenly sought a structured system of disease classification. The ordered nature of disease demanded an equally ordered categorisation of illnesses.\footnote{Foucault, \textit{The Birth of the Clinic}, p. 191.} The urgency of this task intensified as did the growing mass of medical knowledge, with many practitioners feeling unable to utilise the new developments without a framework to support or contextualise their application.\footnote{A Correspondent, ‘The Clinical Nomenclature of Disease’, p. 586.} Dissatisfaction with available classification systems led to a continual quest for a superior method for “collecting and
communicating” this newfound information, whilst also integrating it with established knowledge.\footnote{A Correspondent, ‘The Clinical Nomenclature of Disease’, p. 586.}

Any examination of hospital care and treatment of disease (or, indeed, any discussion of healthcare) in the nineteenth century must confront the difficulty of the scarcity of information regarding precise disease classification.\footnote{S. Cherry, ‘The Role of a Provisional Hospital: The Norfolk and Norwich Hospital, 1771-1880’, 
Population Studies, 26 (1972), p. 292.} This difficulty is compounded by the challenge of utilising the original disease categories employed in hospital case notes without violating or altering their original meanings, but simultaneously ensuring that they remain intelligible to modern understandings of disease.\footnote{G. Risse, ‘Hospital History: New Sources and Methods’ in R. Porter and A. Wear (eds.), Problems and Methods in the History of Medicine (Croom Helm, Kent, 1987), p. 178.} Even if a disease appears in both nineteenth-century and modern systems of disease classification, it is crucial not to simply assume that the same definition can be applied in both instances.\footnote{G. Alter and A. Carmichael, ‘Classifying the Dead: Toward a History of the Registration of Causes of Death’, Journal of the History of Medicine and Allied Sciences, 2 (1999), p. 131.}

The extent of medical and scientific knowledge during this period did not allow practitioners or their patients the comfort of definite diagnoses and certain prognoses. Instead, medical men used the available information – the appearance of the patient and the descriptions given to them of the illness – to speculate on what the complaint may be. The broad categories of nineteenth-century disease classification allowed a more flexible interpretation of exactly what characterised each condition, but even so, many practitioners were embarrassed and frustrated by the “various and hesitative language [they were] constantly compelled to employ” when diagnosing the ills of their patients.\footnote{A Correspondent, ‘The Clinical Nomenclature of Disease’, p. 586.} For example, the names of a number of gastrointestinal conditions were used almost interchangeably to define illnesses characterised by diarrhoea and vomiting, although they
were originally intended to describe specific, discrete diseases. Compounding these difficulties is the tendency to diagnose conditions based upon symptoms (as seen above, many hospital patients were admitted suffering from ‘diarrhoea’, ‘cough’, or ‘fever’) or in response to diagnostic ‘fads’.562

Disease classification – the placement of diseases, as specific entities, within a systematic scheme of categorisation – is usually dated to Thomas Sydenham’s seventeenth century work on *Acute and Chronic Diseases*.563 Throughout the eighteenth century, a number of leading medical authorities puzzled over the relationships between the vast array of diseases which afflicted their patients, and the various symptoms which heralded their onset.564 William Cullen’s nosological arrangement, however, first published in the late eighteenth century, was perhaps the most widely-utilised model in Britain. Grouping disease into four main categories – *pyrexiae* (fevers), *neuroses* (nervous conditions), *cachexiae* (poor bodily condition and habits), and locales (local diseases) – Cullen based his arrangement on action of the traditional physiological functions (animal, vital and natural, as seen in New Norfolk Hospital’s examinations guidelines in Table 3, above).565

Cullen’s nosology supported the concept that the same disease could manifest itself differently in each individual, even if caused by the same external stimuli. Accordingly, it fostered the belief that different individuals, when exposed to the same external stimuli, could be struck with entirely dissimilar diseases. Advancements in anatomy and pathology, however, influenced the classification as well as the diagnosis of disease during the late eighteenth and early nineteenth

562 Risse, ‘Hospital History’ in Porter and Wear (eds.), *Problems and Methods*, p. 178; Alter and Carmichael, ‘Classifying the Dead’, p. 126.
564 Alter and Carmichael, ‘Classifying the Dead’, p. 121.
centuries (pioneered, for example, by Italian Giovanni Battista Morgagni, Scot Matthew Baillie and Frenchman Marie Francois Xavier Bichat).66 René-Théophile-Hyacinthe Laennec, inventor of the stethoscope, saw diseases as falling into two distinct categories – organic disease, which caused lesions in bodily organs (visible upon post-mortem), and nervous diseases, which left no permanent alteration in any organs.67

The next significant upheaval to disease classification in Britain arrived in the form of William Farr’s work on mortality statistics and public health. Innovations in medical science informed Farr’s pioneering observations, particularly those founded on advancements in pathology and anatomy.68 Farr contended that by educating the lower classes about the beneficial effects of good hygiene, ventilation, sanitation, and the importance of preventing over-crowding, their health would accordingly improve.69 Bemoaning the chaotic and haphazard state of official disease and mortality classifications, which were still based on Cullen’s nosological groupings, Farr complained that many diseases were “denoted by three or four terms, and each term has been applied to as many different diseases: vague, inconvenient names have been employed, or complications registered instead of primary diseases.”70

Farr resolved his complaints by instituting his own system of disease classification, presenting his arrangement in 1855 to the International Statistical Congress.71 In it, Farr grouped all epidemic, endemic and contagious conditions together as ‘zymotic’ diseases, with other conditions categorised according to bodily system or organs (such as nervous or integumentary systems,

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67 Foucault, The Birth of the Clinic, p. 216.
69 Porter, The Greatest Benefit, p. 408.
respiratory, circulatory or digestive organs). He also allowed for accidents, deaths from old age, and fatalities “of uncertain seat.”

Systems of disease classification such as those proposed by Cullen and Farr were widely utilised by surgeons from the late eighteenth to the mid-nineteenth centuries, despite the fact that they failed to keep up with developments in other areas of medical science. Although accurate identification of disease had progressed alongside pathology and anatomy, producing an immense catalogue of accurate clinical descriptions of illnesses, classification of illness had been left stranded without a systematic framework in which to be secured. This resulted in a farcical situation in which practitioners were theoretically and academically equipped with a vast catalogue of illnesses to assist them in diagnosing their patients’ diseases, but were in practice unable to distinguish between many of them. This situation became progressively more urgent as the medical discipline was torn between anchoring its nosology in the rapidly expanding branches of pathology and anatomy, or remaining within the safer, more traditional moorings of clinical, symptomatic diagnoses. This uncertain state continued until medical theory was freed from the heavy ties of the humoural theory later in the nineteenth century, and the two systems of anatomical and clinical medicine were given the scope in which to function mutually, rather than competitively.

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572 Farr initially rejected germ theory and contagionism, citing the cause of this group of diseases as “unspecific manifestations of insalubrity.” Later, however, he supported the concept of an organism which entered the body and multiplied, caused disease (Porter, The Greatest Benefit, p. 413).


Types and Rates of Diseases

In Australia and Bermuda, practitioners pondered alterations to these nosologies to accommodate the impact of strange climates on health and the constitution. Different weather patterns altered the character and manifestation of diseases, and created entirely new conditions, such as colonial fever, sunstroke, and bush-mania. Colonial surgeons sought to construct and stabilise “a new and puzzling order of body and environment,” and to forge a salubrious relationship between settlers and their new surroundings by delineating the impact of one upon the other.

In Britain, the climate also influenced the rates of various types of disease. The warmest summer months of June, July and August saw high rates of most diseases, especially gastrointestinal, venereal, and infectious complaints. Dysentery, for example, was said to occur more frequently during “a cold and moist autumn succeeding a warm and dry summer.” Increased hospital admissions for cases of rheumatism, skin conditions, and diseases of the nervous system during spring and autumn were attributed to the fresh and crisp weather patterns experienced in these seasons. Bitter winter weather predictably brought higher numbers of respiratory and inflammatory conditions to hospital doors.

Regardless of climatic variations and geographic distances, however, the fundamental categories of diseases utilised by the three hospitals examined in this thesis were standardised by the use of a similar type of nosological arrangement. To enable comparison of rates of diseases between these institutions, patients within the sample group were classified into either surgical or medical

578 Anderson, The Cultivation of Whiteness, p. 31.
580 Eberle, A Treatise on the Practice of Medicine, p. 235.
categories, according to their original diagnoses (see Chapter Five for details on cases of surgical diseases and conditions). Table 4, below, further categorises the medical patients into disease

<table>
<thead>
<tr>
<th>Disease Type</th>
<th>New Norfolk Hospital, Van Diemen's Land, 1843-1848</th>
<th>Royal Naval Hospital, Bermuda, 1832-1835</th>
<th>St Bartholomew’s Hospital, London, 1842-1848</th>
<th>Dragoons and Dragoon Guards, Great Britain, 1830-1836</th>
<th>Hobart Town Colonial Hospital, Van Diemen’s Land, 1830-1831</th>
<th>Port Arthur Hospital, Van Diemen’s Land, 1830-1838</th>
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<tbody>
<tr>
<td>Cutaneous</td>
<td>12</td>
<td>14</td>
<td>55</td>
<td>29</td>
<td>97</td>
<td>46</td>
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<td>Circulatory system</td>
<td>18</td>
<td>6</td>
<td>213</td>
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<td>Digestive system</td>
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<td>Eye</td>
<td>293</td>
<td>37</td>
<td>6</td>
<td>19</td>
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<td>Genito-urinary system</td>
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<td>189</td>
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<td>Musculo-skeletal system</td>
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<td>200</td>
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<td>Respiratory system</td>
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<td>Infectious</td>
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<td>20</td>
<td>49</td>
<td>44</td>
<td>27</td>
<td>173</td>
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Table 4: Medical disease types and rates per one thousand cases at the New Norfolk Hospital, the Royal Naval Hospital in Bermuda, St Bartholomew’s Hospital, among Dragoon and Dragoon Guards, at the Hobart Colonial Hospital, and the Port Arthur Hospital. These categories were based upon Guenter Risse’s study of the Royal Infirmary of Edinburgh, supported by contemporary classification systems and incidence per thousand cases. Additionally, it must be emphasised that these rates are of hospital admissions, not deaths whilst in hospital.

582 Scott, ‘A Return of Medical and Surgical Diseases’, p. vii-viii.
583 ‘Appendix 2: A Return of the Number of Diseases’ in Ross, *Death and Burial*.
584 This table includes only medical patients; see Chapter five for surgical patients.
585 A full list of all diagnoses, and explanations of these, is provided in Appendix 2. Additionally, it must be emphasised that these rates are of hospital admissions, not deaths whilst in hospital.
such as Farr’s. Examining data in this manner allows contrasts to be made between rates of disease in patients admitted to New Norfolk Hospital, the Royal Naval Hospital in Bermuda, and St Bartholomew’s Hospital. As a further comparison, three other groups of patients from similar time periods were also included in the analysis – dragoons and dragoon guards (1830-1836), patients admitted to the Hobart Town Colonial Hospital (1830-1831), and patients received at the Port Arthur Hospital (1830-1838) Van Diemen’s Land.

**Cutaneous diseases**

This small category encompassed skin conditions such as leprosy, anthrax, erythema, and paronychia. Less than fifteen cases of skin conditions per thousand patients were admitted at both New Norfolk and the Royal Naval Hospitals, and fewer than twenty-nine per thousand among dragoons and dragoon guards, the number of cases jumped at St Bartholomew’s (with ninety-seven cases per thousand patients), Port Arthur Hospital, and particularly at the Hobart Town institution.

Erysipelas was the most common cutaneous disease seen in the three hospitals, although only six cases were treated in all three institutions combined (two in the Royal Naval Hospital and four in St Bartholomew’s). Although grouped with the cutaneous diseases, erysipelas was understood to communicate with the underlying cellular tissue. It was unknown, however, whether the seat of the disease lay in the skin, “or whether the mischief fails to be rendered manifest in the substance of this structure till long after inflammation has been established in the parts.

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586 Risse, ‘Hospital History’ in Porter and Wear (eds.), Problems and Methods, p. 179.
587 ‘Table A.1. Causes of Death and Hospital Admission among Dragoons and Dragoon Guards Serving in Great Britain, 1830-6’ in Curtin, Death by Migration, p. 165.
588 J. Scott, ‘A Return of Medical and Surgical Diseases Treated at H.M. Colonial Hospital, Hobart Town, Van Diemen’s Land, for the Years 1821 to 1831’, The Transactions of the Provincial Medical and Surgical Association, 3 (Sherwood, Gilbert, and Piper, London, 1835), p. vii-viii.
589 ‘Appendix 2: A Return of the Number of Diseases Treated at the Hospital at Port Arthur’ in L. Ross, Death and Burial at Port Arthur, 1830-1877 (unpublished Bachelor of Arts (Honours) Thesis, Department of History, University of Tasmania, Hobart, 1995).
590 For explanation of terms, see Glossary of Terminology and Glossary of Diseases and Conditions.
591 S. Plumbe, A Practical Treatise on Diseases of the Skin (Thomas and George Underwood, London, 1824), p. 373.
beneath.” Fourteen-year-old James Parsons, an iron-monger’s lad admitted to St Bartholomew’s Hospital, “to his unbounded surprise awoke [one] morning at his usual hour with his face so swelled that he could not see.” Diagnosed with erysipelas, he remained under treatment for several days. Despite the peeling skin on his face, Parsons was soon judged convalescent and was discharged to return to his labour.

Other skin conditions were caused and perpetuated, particularly in the colonies, by the rubbing of heavy, wet clothing on the skin as workers laboured through inclement weather or in the water. Conversely, some cutaneous diseases were aggravated by exposure to hot weather; erysipelas, for example, was recognised as increasing in incidence as the temperature rose. Other diseases began as the wounds left after punishments, such as floggings or heavy chains biting into the skin around wrists and ankles (this may account for the high number of skin conditions seen at Port Arthur and Hobart Town). If left untreated, these gashes and abrasions frequently deteriorated into chronic ulcers (although these were admitted as surgical infections, and do not appear in Table 2). Many of these skin conditions would have also been exacerbated, if not caused, by diets deficient in vitamin A.

Diseases of the circulatory system

Circulatory diseases also comprised only a small proportion of cases admitted to the three institutions. The ratio of cases was dramatically skewed towards St Bartholomew’s, where two hundred and thirteen cases per thousand patients were reported, in comparison with New Norfolk (eighteen per thousand cases) and the Royal Naval Hospitals (six per thousand cases).

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595 See Chapter five for surgical diseases.
Reported admissions for circulatory disorders were also low at Port Arthur and Hobart Town Hospitals, and among dragoon and dragoon guards.

Dropsical affections, including anasarca, ascites, and a small group of other conditions, were by far the most commonly diagnosed circulatory disorder within the three hospitals. These conditions were characterised by the appearance of swelling caused by retained fluid engorging the cellular tissue just below the skin. Initially, the swelling would only become apparent around the lower extremities; if the patient remained active during the early stages of a dropsical affection, the swelling would generally pass unnoticed or be of a lesser degree. If the sufferer was sedentary (perhaps bed rest had been recommended as part of their treatment), or if the condition progressed, the swelling would gradually extend upwards until the torso, upper extremities, and occasionally even the neck and head became affected. Little urine was passed, “occasioned by all the watery parts of the blood running off into the cellular texture,” and patients were generally struck by a voracious thirst.

The marked bias at St Bartholomew’s Hospital towards diseases of the circulatory system represents the interests of the author of the case notes, Dr Ormerod, who went on to write several well-known papers on diseases of the heart (a common symptom of which was the accumulation of excess fluid, such as that seen in ascites, anasarca, and dropsy). The higher rate of patients admitted to the London hospital suffering from scarlatina (see Infectious Diseases, below), also tallies with the greater number of cases of various types of swelling – anasarca was commonly seen in patients who had recently suffered from scarlatina. As Eberle

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599 Cullen, First Lines on the Practice of Physic, p. 228.
600 See, for example, E. Ormerod, On the Pathology and Treatment of Valvular Diseases of the Heart and its Secondary Affectations (Wilson and Olgivy, London, 1851); E. Ormerod, A Review of the Present State of Cardiac Pathology (Richards, London, 1864).
maintained, “There is, indeed, no acute disease which is so apt to be succeeded by dropsical effusions as scarlet fever.” Surgeon Edward Swarbreck Hall cites those “who have led irregular and excited lives” to be most susceptible to diseases of the circulatory system, particularly those of European origins.

Diseases of the digestive system

Diagnostic confusion among medical practitioners limited the accuracy with which diseases of the digestive system could be identified. Few defining features distinguished cholera, dysentery, enteritis, or colic from any of the other “derangements of the bowels” which plagued much of the population in the early nineteenth century. Many practitioners concurred with the observation that “the symptoms which attend acute inflammation of the stomach are liable to great uncertainty.” As a result, they tended to be haphazardly grouped together, or identified according to each practitioner’s particular understanding of the characteristics of these diseases. Some cases, however, were noted by surgeons as particularly interesting; Stephen Lowe, for example, presented at St Bartholomew’s Hospital with a “very good case of enteritis.”

Enteritis and gastritis were classed as inflammatory diseases, different in their causes and prognosis when compared to other gastrointestinal conditions such as cholera. Gastritis was defined as an acute inflammation of the mucous membrane of the stomach, characterised by severe burning pain, vomiting, and either diarrhoea or constipation, depending on the organs implicated in the disease. Enteritis, a similar disease, was described as the inflammation of the intestinal canal, and was generally confined to either the peritoneal and muscular layers of the

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intestines or the mucous membranes. In cases of the condition afflicting the mucous membranes, patients often suffered copious mucous and blood discharges, while constipation, vomiting, and aching abdominal pain were frequently experienced in cases which affected the peritoneal and muscular coats.608

To assist practitioners in differentiating between these inflammatory diseases and other conditions which provoked similar symptoms, medical textbooks provided meticulously detailed checklists of clues. The following suggestions from Eberle, for example, were written to elucidate the differences between enteritis and colic, which were:

readily distinguished by the following signs: - In enteritis, the patient lies quiet on his back, moving himself as little as possible – in colic, he throws himself about almost continually. In enteritis, abdominal pressure aggravates the pain – in colic it often relieves it. In the former affection, the pain is continuous – in the latter it frequently intermits entirely for a short period. The skin, in enteritis, is hot and dry – in colic, it is seldom above the natural temperature and generally moist. In colic there is rarely any thirst – in enteritis almost always.609

Dysentery, too, was possessed of similar characteristics to gastritis and enteritis, as it was also considered to be disease in which the mucous membranes became inflamed. It was usually attributed to “obstructed perspiration from cold, or vicissitude of atmospheric temperatures.”610

New Norfolk and St Bartholomew’s Hospitals, and the dragoons and dragoon guards, reported moderate numbers of digestive cases; the Royal Naval Hospital in Bermuda, however, admitted over four times as many (three hundred and eight cases per thousand patients), with the Hobart Town and Port Arthur institutions not far behind. The impact of these diseases upon the

608 Eberle, A Treatise on the Practice of Medicine, pp. 224-225.
609 Eberle, A Treatise on the Practice of Medicine, p. 226.
610 Eberle, A Treatise on the Practice of Medicine, p. 235.
convict labour force in Bermuda was significant enough for authorities to brand them “the greatest and most formidable enemy in the progress of the works at Ireland Island.”

In both Bermuda and Australia, the dangerous combination of monotonous diets, close contact between prisoners in unsanitary conditions, hot weather, and dirty drinking water spelled disaster. During the warmer weather of Summer and Autumn rates of gastrointestinal illnesses increased as clean water became scarce, with rivers drying up until they resembled a “series of stagnant ponds,” capable of spreading digestive diseases at an alarming rate (see Figure 12).

![Figure 42: Rates of digestive diseases per thousand cases in New Norfolk Hospital, St Bartholomew’s Hospital, and the Royal Naval Hospital in Bermuda, compared by season](image)

It is possible that the lower rates of admissions for digestive diseases at New Norfolk and St Bartholomew’s (and among dragoons and guards) are a result of differences in the administrative systems between hospitals. Minor diarrhoeal complaints, which would resolve in a few days with a low diet and rest, could be effectively treated at home or in the smaller district hospitals. In Bermuda, aboard cramped, humid convict hulks or naval ships poised to return to sea, surgeons were more likely to consider their patients’ symptoms to be serious and recommend

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614 See Chapters two and three for more detail on admission procedures.
shore-based treatment. In the Royal Naval Hospital, these men would receive improved care in a quieter and better ventilated environment, away from the supposedly miasmic dangers of the boggy shoreline. The lower number of cases of digestive diseases admitted to St Bartholomew’s may also have been influenced by the institution’s stringent admission policies, which effectively barred patients understood to be suffering from infectious diseases.

Diseases of the eye

It was New Norfolk Hospital where the greatest number of patients suffering eye conditions was received; two hundred and ninety-three cases per thousand patients were admitted here, while less than forty-three per thousand were reported among the other groups of patients. Amaurosis and highly infectious ophthalmia accounted for all but one case between the hospitals (the single exception being a case of blindness in Bermuda).

Ophthalmia was generally recorded under a single diagnostic category, but it is probable that a variety of different conditions were grouped together under this label. Trachoma may have been the predominant cause of admissions to hospital for eye diseases, although the organism which caused this highly contagious disease would not be isolated until 1957. In the 1860s two types of trachoma were identified: the endemic type, which was milder but frequently caused blindness among its victims, and the epidemic variety, which was more severe but of shorter duration. Catarrhal ophthalmia was the most common variant, characterised by inflamed, painful, and watery eyes, with swollen and granulated eyelids – patients often described this sensation as akin to having grains of sand in the eye. Although most minor cases resolved, severe infections were prone to causing chemosis or even bursting the cornea, causing rapid and irrevocable loss of vision. In contrast, rheumatic ophthalmia was generally confined to “the fibrous structures of

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617 Eberle, A Treatise on the Practice of Medicine, p. 421.
The most violent and devastating of the ophthalmic complaints was the purulent variety, which was seen relatively frequently at the New Norfolk Hospital. All its symptoms were exaggerated—enormously swollen eyelids and conjunctivas bathed in a copious purulent discharge, exacerbated by a sharp, darting pain shooting through the globe of the eye and into the head. This form of ophthalmia could cause rapid loss of vision, but as it did not often occur in such a severe form the most common outcome was the partial destruction of sight caused by a thickening or ulceration of the cornea. A fourth variety of ophthalmia, the scrofulous type, was characterised predominantly by extreme aversion to light and the agglutination of the eyelids upon waking in the morning. This type of eye condition was uncommon amongst adults and thus infrequently seen in the three hospitals in this sample.

The climate in both Bermuda and New Norfolk, and the particular types of labour undertaken by the convict workers are likely to contribute substantially to the high rates of eye conditions. For eyes accustomed to constantly gloomy daylight, the sun’s rays blurred by urban pollution, the clear air of the colonies was intensely bright. In Bermuda, the destructive combination of the glaring rays of the sun reflecting off the white cliffs and glittering ocean and the abrasive clouds of coral and limestone dust contributed to cases of ophthalmia. And there was always the unpredictable weather—James Campbell, for example, attributed his poor eyesight to being struck by lightning. As noted by Royal Naval surgeon James Prowse, acute cases of this

621 NA, *Case Book, Royal Naval Hospital, Bermuda: James Campbell* (ADM 104/98, p. 00282).
disease did “not proceed favourably on board” the convict hulks, forcing surgeons to send their
patients to the shore-based hospital.\textsuperscript{622}

In Van Diemen’s Land, the dazzling sunlight and hot breezes (and the flies and mosquitoes
which accompanied them) were said to carry ophthalmia, spreading it rapidly among the
population, particularly in dry, dusty areas where grit was easily rubbed into the eyes.\textsuperscript{623} For
these reasons, rates of ophthalmia were highest during the warm months of summer (see Figure
13).\textsuperscript{624} It is also possible that diets deficient in vitamin A contributed to some eye diseases, as
they did to the rate of skin conditions. Despite its highly-infectious nature, ophthalmia did not
occur in epidemic cycles but remained at a constant level, fluctuating with the seasons but
increasing only as the population expanded.\textsuperscript{625}

![Figure 13: Rates of eye diseases (ophthalmia) per thousand cases in New Norfolk Hospital, St
Bartholomew’s Hospital, and the Royal Naval Hospital in Bermuda, compared by season.](image)

Both acute and chronic cases of ophthalmia abounded at New Norfolk Hospital. Cases such as
John Hughes, a strong and otherwise healthy twenty-six-year-old horse-breaker, illustrates the

\textsuperscript{622} NA, \textit{Case Book, Royal Naval Hospital, Bermuda: Patient Case Notes} (ADM 104/98, p. 00324).
\textsuperscript{623} Anderson, \textit{The Cultivation of Whiteness}, p. 11.
\textsuperscript{624} Cumpston, ‘Public Health in Australia: Part 1’, p. 496.
\textsuperscript{625} P. MacFie and M. Bonet, \textit{Convict Health at Port Arthur and Tasman Peninsula, 1830-1877: The Relationship between Diet,
Work, Medical Care and Health} (unpublished paper written for the National Parks and Wildlife Service, Hobart, 1984),
p. 36.
burden chronic cases placed on the convict medical department. One night in autumn 1843 while stationed at Lovely Banks, Hughes “went to Bed as well as he ever was in his life.”626 He awoke the following morning with his right eye swollen and irritated, and “about 5 or 6 days after the other was taken bad.” After nine months of hospital treatment, Hughes was sent first to Jerusalem and then to the General Hospital in Hobart Town, before being received at the New Norfolk Invalid Depot. When his condition deteriorated further, having already been under medical care – and consequently not working – for over two years, he was transferred to the New Norfolk Hospital.

Diseases of the genito-urinary system

Venereal diseases, and their resulting impact on patients’ general health, were a significant contributor to hospital admissions in both colonies. Symptoms of various venereal diseases were often diagnosed as entirely different conditions; for example, syphilis could cause varying degrees of neurological damage, resulting in the tremors and paralysis (see mental-neurological diseases, below) for which the sufferers were admitted to hospital.627 It is impossible to estimate the extent to which this may have influenced the rates of diseases in various categories; however, as discussed above, to ensure the integrity of the data, it is crucial to retain each patient’s diagnosis as reported by the surgeon.

The Royal Naval Hospital and New Norfolk Hospital saw between sixty-six and eighty-two genito-urinary patients per thousand cases, while St Bartholomew’s saw just forty-three per thousand. This is largely attributable to the admission policy of the London institution, where those diagnosed prior to admission as suffering from a venereal disease were refused entry.628 Accordingly, all cases admitted into St Bartholomew’s were described as suffering from various

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626 TAHO, RDH: John Hughes (HSD 246/1/124).
628 See Chapters two and three for more detail on admission procedures.
kidney diseases, rather than venereal afflictions (although some conditions in this category, such as stricture, could result from venereal diseases, a fact which may have only been discovered once patients had already been admitted). In comparison, all cases at the Bermudian institute and three-quarters of those at New Norfolk were admitted for venereal disease (the remaining twenty-five percent being diagnosed as suffering from kidney disease). Sixteen-year-old drummer Thomas Bailey, for example, applied to his surgeon with symptoms of gonorrhoea the very morning the ship was due to set sail (despite having suffered signs of the diseases for the preceding two weeks). Of the comparative groups, it was the dragoons and dragoon guards who reported the highest rates of genitor-urinary disease, with one hundred and eighty-nine cases per thousand.

The kidney diseases admitted to St Bartholomew’s and New Norfolk Hospitals were comprised of cases of nephritis, renal calculi, and other nonspecific renal conditions. Joseph Wilkie was admitted to the New Norfolk Hospital in early December 1846, complaining of pain in his lower back and an inability to pass urine. Brock cupped and purged his patient, and applied blisters to the area over Wilkie’s kidneys in an attempt to bring the morbid matter causing his illness to the surface. By the following day, Wilkie lay more easily in his bed; the aching pain in his back had eased, and he was able to pass his water more readily. Four days later he was still making excellent progress, but by the end of his first week in hospital, Wilkie had become agitated, tossing restlessly in his bed and complaining of a recurrence of the nagging back pain. Over the subsequent forty-eight hours, he slowly began to slip in and out of consciousness, before being declared “in articulo mortis” at three o’clock in the afternoon, ten days after his admission. When Brock opened his patient’s body the following day, his diagnostic suspicions were confirmed – Wilkie’s kidneys “were masses of disease the structure so destroyed as to render the internal part

630 NA, *Case Book, Royal Naval Hospital, Bermuda: Thomas Bailey* (ADM 104/98, p. 00012).
631 TAHO, RDH: *Joseph Wilkie* (HSD 246/4-6/13).
not recognisable. They were much enlarged presented a dark blue color [sic] and irregular surface.”

The urinary complaints admitted to the institutions were chiefly comprised of cases of stricture and retention of urine, which were considered “very painful and distressing complaints.” This group of admissions, however, was minor in comparison to the more substantial number of cases admitted to the colonial hospitals with venereal diseases. Syphilis, condyloma, and gonorrhoea were the most frequently reported conditions, although practitioners still could not agree whether the various symptoms of venereal diseases were the manifestations of a single disease (which produced different symptoms in each patient, thus appearing to be a distinct and separate illness), or whether each set of symptoms referred to a separate disease.

**Diseases of the musculo-skeletal system**

The dominant disease in this category was that of rheumatism; indeed, in all hospitals, patients admitted with a musculo-skeletal complaint were almost exclusively suffering from rheumatism. This broad diagnosis, however, is likely to have included a diverse array of conditions characterised by aching joints. Just thirty cases of musculo-skeletal disease per thousand patients were seen at St Bartholomew’s Hospital, while the Bermudian institution admitted ninety-five per thousand cases and New Norfolk received one hundred and sixty-one per thousand (Hobart Town’s rate exceeded even that of New Norfolk, with two hundred cases per thousand).

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632 TAHO, RDH: Joseph Wilkie (HSD 246/4-6/13- HSD 246/4-6/14), [grammar original].
635 Cleland, ‘Morbidity and Mortality in the Convict Settlement’, p. 349.
The increased occurrence of musculo-skeletal diseases in the colonies may be attributable to the harsher climates and more exposed conditions experienced by workers. Some practitioners also asserted that it was difficult for newcomers to adjust to strange colonial weather patterns, with aching bodies a direct result of new climates. The nagging coughs and niggling pains which resulted from illnesses such as catarrh and rheumatism would have been interpreted on a strongly individualistic basis. Convicts, many of whom were drawn directly from the working classes of London, would be much less likely to seek treatment for irksome symptoms unless they entirely precluded employment. As Digby argues, while “the prosperous might discern an ague in an ache...a poor person’s stoicism in the face of severe bodily discomforts would have been hardened by penury.”

Cheap, easily available home remedies would have been applied in place of seeking admission to hospital, where cases of catarrh or rheumatism would almost certainly be classed as chronic and incurable, and turned away. A similar explanation can also be attributed to the lower number of respiratory cases seen in St Bartholomew’s Hospital, with people also reluctant to enter hospital with symptoms of a common cold or cough. These patients would also have been drawn from the middle to lower classes of British society, not the wealthy elite who could afford to indulge in specialised medical treatment at the first sign of a headache.

These generalisations require some clarification. In Bermuda and Van Diemen’s Land, the greater availability of medical care may have induced convicts to seek professional medical attention sooner than they would have in Britain. Indeed, the novelty of a constantly-available medical attendant would have been a luxury as well as a reassurance to many convict patients, and may have played a part in increasing the rates of admissions for complaints which were traditionally treated at home. This, however, highlights a second crucial point (which has already

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637 In this context, ‘professional’ medical attention means that which was provided outside the home.
been briefly touched upon in Chapter Two). Through transportation these convicts had been removed from their traditional networks of family and friends, the customary source of support through hardship and ill health. Devoid of alternative assistance, sick prisoners had nowhere to turn for care but the colonial surgeon, even for minor cases such as influenza or rheumatism.638

Perhaps due to its distinct lack of life-threatening symptoms (the complaint was undoubtedly unpleasant, and for many it was miserably painful, but in isolation it was not a disease which could prove fatal), relatively little space in nineteenth-century medical textbooks was occupied by the affliction. Due to the frequency with which cases of rheumatism appeared, however, the basic types of rheumatism were well known to every medical man. Acute rheumatism, or rheumatic fever, was the most violent of the types. This form was characterised by dramatic pain, swelling and stiffness of one or more joints, coupled with fever and shivering.639 Some patients appeared to suffer derangement of internal organs following an attack of rheumatic fever, but during the early to mid-nineteenth century, whether or not this was related to the initial illness was essentially unknown. As it was largely understood to be caused by exposure to a moist environment, such as “sleeping in damp beds, living within damp walls, sitting in damp clothes, or working in damp situations,” the high rate of cases reported at New Norfolk is unsurprising.640

The application of heat or pressure aggravated the pain of acute rheumatism, but in cases of chronic rheumatism, warm blankets and poultices provided relief. This form of rheumatism was the most commonly observed variety, and was also typified by pain, swelling and stiffness of the joints, although without the fever which identified acute rheumatism. The chronic form of the disease was well-known for its obstinacy. Accordingly, the emphasis was on keeping the patient

638 Convicts were also exposed to more intense surveillance which may have identified those in need of treatment sooner.
as comfortable as possible, and allowing them to continue with their lives (depending on the severity of their symptoms), rather than on active treatment.\footnote{Gregory, \textit{Elements of the Theory and Practice of Physic}, p. 308.}

The third form of rheumatism was that of rheumatic gout, defined as the inflammation of the synovial membrane of a joint. This form of the condition generally appeared in a single joint and remained there (unlike other forms of rheumatism, in which the pain moved from joint to joint around the body). Contention between practitioners arose over the distinction between rheumatic gout and arthritis, with some maintaining that the two terms denoted the same conditions, while others averred that the two were distinct and separate diseases.\footnote{Gregory, \textit{Elements of the Theory and Practice of Physic}, p. 304.} The primary reason for distinguishing between the two conditions appears to be that the arthritic form responded more readily to localised physical treatments such as blistering and leeches, while in cases of rheumatism, medicines such as calomel were favoured.\footnote{Gregory, \textit{Elements of the Theory and Practice of Physic}, pp. 304-305.} It is probable that some cases of arthritis (including many which may have been diagnosed as a form of rheumatism) were associated with venereal disease, specifically gonorrhoea, a connection which was well-known by the nineteenth century.\footnote{G. Storey and D. Scott, ‘Arthritis Associated with Venereal Disease in Nineteenth Century London’, \textit{Clinical Rheumatology}, 17 (1998), p. 500, p. 502.}

\textbf{Diseases of the respiratory system}

As with many other categories of diseases, respiratory diseases were often conflated and confused in diagnosis, rendering classification difficult and somewhat arbitrary.\footnote{A. Hardy, ‘Diagnosis, Death and Diet: The Case of London, 1750-1909’, \textit{Journal of Interdisciplinary History}, 18 (1988), p. 392.} Accordingly, few parallels occur between the rates of disease in the three institutions within the category of respiratory illnesses. Bermudian surgeon Dr James Leatham Clark, for example, was convinced...
there “some mischief going on in the chest” of one of his patients, but was unable to provide a more specific diagnosis.\textsuperscript{646}

Two hundred and fifty-one cases of respiratory diseases per thousand patients were admitted to the Royal Naval Hospital in Bermuda, while the New Norfolk institution reported one hundred and eighty-one per thousand and St Bartholomew’s thirty-seven per thousand. These rates were below that of Bermuda, where admissions of between one hundred and twenty-four and one hundred and sixty per thousand were recorded. Catarrh was the most frequently reported condition admitted to the Bermudian hospital, although the second most common, bronchitis, was seen more frequently at New Norfolk and St Bartholomew’s. Pneumonia, phthisis, haemoptysis (probably tuberculosis), and cough were also seen in greater proportions at the Bermudian hospital.

Influenza and catarrh, two of the most common respiratory complaints, were essentially the same condition. Defined as the inflammation of the mucous membranes of the nasal passages, both diseases were characterised by aching and heaviness of the head, fever, watering eyes, a hoarse throat, and increased nasal secretions.\textsuperscript{647} Alongside these symptoms, influenza was also typified by a more extreme debility than that experienced in cases of catarrh, and was generally observed in epidemic levels. Debate raged about the possible causes of these conditions, with those endorsing the miasma theory encountering impassioned arguments from supporters of the contagion theory (see Chapter Three).\textsuperscript{648} In isolation, catarrh and influenza did not generally prove fatal, but either disease could develop into more serious conditions such as bronchitis or pneumonia, particularly in the elderly or those prone to respiratory disorders such as asthma.\textsuperscript{649}

\textsuperscript{646} NA, \textit{Case Book, Royal Naval Hospital, Bermuda: Patient Case Notes} (ADM 104/98, p. 00136).
\textsuperscript{648} Gregory, \textit{Elements of the Theory and Practice of Physic}, p. 211.
\textsuperscript{649} Hall, ‘Epidemic Disease of Tasmania’, p. 82.
Asthma and similar underlying conditions could also be exacerbated by the colder climate of Van Diemen’s Land, although the weather itself could not directly cause the development of influenza or colds (see Figure 14). Additionally, rates of particular types of respiratory conditions, such as bronchitis, associated with thick, lingering fogs and low winter temperatures were higher among New Norfolk patients than in the other two institutions. Despite this, rates of respiratory conditions at the Australian hospital remained relatively stable throughout the seasons. Conversely, while Bermuda enjoyed warmer weather, the cramped, enclosed conditions aboard the convict hulks, and the constant close proximity of the convicts as they worked, ate and slept in the humid environment, fostered the more rapid and wider spread of infectious respiratory conditions such as catarrh and cough. Accordingly, rates of respiratory disease were highest in the hot and humid conditions of autumn, rather than the clear heat of summer.

Figure 14: Rates of respiratory diseases per thousand cases in New Norfolk Hospital, St Bartholomew’s Hospital, and the Royal Naval Hospital in Bermuda, compared by season

Convicts in Van Diemen’s Land were generally accommodated in much smaller groups in huts, which were often very well ‘ventilated’, particularly on gusty autumn evenings and frosty winter nights. Other respiratory conditions, such as phthisis, were attributed to a constitutional

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651 Hardy, ‘Diagnosis, Death and Diet’, p. 394.
imbalance or an inherited predisposition (although this was often emphatically rejected by the sufferer's family). James Cottrell, a twenty-six-year-old seaman, was “doing duty on the deck when his emaciated appearance” attracted the notice of Dr Isaac Wesley. Wesley found that two of Cottrell’s brothers had died of phthisis, and that despite suffering from pain in the side, laboured breathing, and a harsh cough Cottrell had not sought medical attention. Perhaps believing himself to be stricken with the disease that had inexorably carried away his brothers, he had preferred to deny his condition.

Phthisis, pleuritis, pneumonia, and bronchitis were among a more sinister group of respiratory conditions which frequently terminated in the death of the patient. Phthisis, also recorded in hospital notes as consumption or tuberculosis, was loosely applied to a cluster of respiratory diseases typified by a generalised emaciation of the patient’s body. Advances in anatomical pathology, however, allowed the delineation of a more precise definition of this condition. It was found that disease of the lungs was either the primary cause or the culmination of the process of illness in this group of maladies; accordingly, the various forms of the disease were defined as different types of pulmonary consumption. After his extensive research into diseases of the chest, Laennec suggested confining the diagnosis of ‘phthisis’ to diseases characterised by the growth of tubercles in the lungs. This proposal was adopted in France, but was less widely utilised in Britain and its colonies, where the group of conditions remained vaguely defined.

Bronchitis could also be abruptly fatal, particularly in the young and the elderly. It commenced with symptoms mimicking that of an attack of catarrh, with shivers, cough, and heaviness of the

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652 Hardy, ‘Diagnosis, Death and Diet’, p. 395.
653 NA, Case Book, Royal Naval Hospital, Bermuda: James Cottrell (ADM 104/98, p. 00152).
655 Clark, A Treatise on Pulmonary Phthisis, p. 9.
656 Clark, A Treatise on Pulmonary Phthisis, p. 10.
head and body. As it progressed, however, breathing became oppressed and the airways congested with mucous. Pleuritis, too, was another frequently fatal respiratory disease. It was characterised by a severe pain in the chest, aggravated by breathing and coughing. Due to the increase of pain upon respiration, the patient generally stifled their inhalations as much as possible, breathing predominantly through the use of the muscles of the abdomen and the diaphragm. While such measures may have provided the patient with a temporary respite, secretions would accumulate and thicken in the lungs if they were not expelled through coughing.

**Infectious diseases**

Fevers were traditionally attributed to an over-stimulated humoural system, often brought on through immoral and intemperate living. Prisoners, assumed to be an inferior class of person, were therefore deemed particularly predisposed to infectious diseases. Indeed, the Medical Superintendent of Convicts, James Hall, declared that “no body of men are so susceptible to infectious fever as convicts, especially when confined in a prison hulk in a hot climate.” In the mid-eighteenth century, however, Dr John Pringle suggested that fevers may be a result not of “some peculiar elective affinity between sin and illness,” but of the united injurious effects of poverty – poor ventilation, dirty water, deficient sanitation, and lack of knowledge of hygiene.

General cases of fever fell into one of three types, with these broader groupings then split into more specific divisions. The first variety of fever was the periodic, which was divided into remitting and intermitting. These two fevers were similar both in symptoms and progression, with both exhibiting clearly defined phases – first the patient experienced a ‘cold stage’, with

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shivering and lassitude, followed by a ‘hot stage’, during which great heat and thirst were experienced, with pain in the head and back, and lastly the ‘sweating stage’, when the symptoms of the fever dissipated and a perspiration occurred over the entire body (the ‘breaking’ of the fever). The primary difference between the intermitting and remitting cases was the length and severity of their stages. The second type of fever was the continuing form, characterised, as its name suggests, by a constant, unremitting illness devoid of the remissions experienced in cases of the other types of fevers. The third group of fevers encompassed the eruptive forms of the disease, such as smallpox, scarlatina, and measles.

Predictably, the Royal Naval Hospital admitted a far greater number of cases of infectious diseases that the other two institutions. The infectious maladies seen in Bermuda consisted entirely of periodic or continuing fevers, as did the three admitted at New Norfolk Hospital. Those reported at St Bartholomew’s were slightly more diverse, reflecting the vastly greater population from which the institution drew its patients: six cases of scarlatina, two cases of smallpox, and two cases of purpura were admitted alongside the two instances of general fever. The low numbers reported at St Bartholomew’s Hospital reflect the deliberate control exerted over admissions to exclude infectious cases, primarily to prevent an uncontrollable outbreak within the institution. This exclusionary admission policy also acted to minimise the risk of infecting other hospital patients with epidemic diseases, leaving them vulnerable to secondary – and potentially fatal – illnesses.

666 It is possible that purpura was in fact scurvy, characterised as it was by a blotchy rash on the skin (Hall, ‘Epidemic Disease of Tasmania’, p. 85).
667 Cherry, ‘The Role of a Provisional Hospital’, p. 304.
In 1837 and 1843, prisoners’ particular vulnerability to fever was demonstrated when the convict population of Bermuda suffered the highest rates of infection (other than hospital staff) during epidemics of yellow fever centring at Ireland Island.\(^{668}\) William Smart, Deputy Medical Inspector-General of the Royal Naval Hospital in Bermuda, attributed this vulnerability to the prisoners’ “disadvantageous circumstances connected with hospital accommodation” in comparison with naval personnel, who exhibited a lower rate of infection.\(^{669}\) In a particularly severe epidemic in 1853, the hospital ship \textit{Tenedos} became the focus of the epidemic, with many patients who were initially hospitalised with other diseases soon fatally contracting yellow fever.\(^{670}\) Of the one thousand six hundred convicts employed in Bermuda at the time of the epidemic, one hundred and fifty-two died.\(^{671}\)

Despite these figures supporting conclusions to the contrary, the importance of removing uninfected people from epidemic zones was, however, well understood. Hospital surgeons recommended the swift removal of ships of war as far as possible away from the shoreline, and censored communication between the two areas.\(^{672}\) It was considered particularly important to protect those newly arrived in the colony from exposure to fever, as they were deemed to be especially vulnerable to fatal attacks of the disease. This was based on the assumption that those who survived a ‘seasoning sickness’ would then be acclimatised (and become gradually more so over time) and therefore relatively resistant to diseases common to the area.\(^{673}\) To prevent the dangers of exposing unacclimatised soldiers and sailors to the perils of the Bermudian climate, authorities tended to retain the same group of men in one location for ten years or more. Over time, however, this theory was challenged by evidence which suggested that mortality in fact rose


\(^{669}\) Smart, ‘Yellow Fever Epidemics of Bermuda’, p. 44.

\(^{670}\) Smart, ‘Yellow Fever Epidemics of Bermuda’, pp. 55-56.

\(^{671}\) Verrill, \textit{The Bermuda Islands}, p. 100.


\(^{673}\) Curtin, \textit{Death by Migration}, p. 45.
with each additional year of overseas service. A system of rotation was proposed, meaning troops would spend no longer than three years in tropical stations; Bermuda, however, being a sub-tropical post, was utilised as a ‘seasoning station’ where men would be assigned before service in humid, tropic locations. This scheme was soon abandoned, however, when statistics revealed that mortality increased over time in troops stationed in Britain as well as the tropics. Land-based personnel were routinely evacuated to higher ground during times of epidemics, on the understanding that more moderate climates prevailed at higher altitudes (the lack of habitat for hosts of infectious diseases – such as mosquitoes – at such altitudes may have been more influential in lowering rates of infection, although the concept of insects as vectors of disease was not yet accepted).

Unlike Bermuda, the climate of the Australian colony was believed to discourage the epidemic spread of infectious diseases. Many of those contagious diseases common in Britain were rare, even unknown, in Van Diemen’s Land, particularly during the first few decades of settlement when population numbers were low. During this period, most convicts and settlers had ready access to clean water and a relatively nutritious diet. Furthermore, the colony’s population was protected from infectious diseases by the long voyage between Britain and the colony, during which any infectious diseases present on board could run their course and rapidly peter out due to the lack of vulnerable humans aboard ship.

If any form of contagion did manage to reach the shores of Van Diemen’s Land, the cooler weather patterns of the colony were considered to be “antagonistic to the spread of febrile

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675 Curtin, Death by Migration, p. 45.
676 Curtin, Death by Migration, p. 45.
677 Curtin, Death by Migration, p. 47.
678 J. Boyce, Van Diemen’s Land (Black Inc., Melbourne, 2009), p. 64.
679 Boyce, Van Diemen’s Land, p. 64.
Measles, for example, was not recorded in the colony until 1854 and no cases of smallpox had been detected by the mid-1860s. While scarlatina periodically appeared in epidemic form, cases of the disease were generally mild and seldom fatal. Even in Van Diemen’s Land, however, pockets of fever nonetheless occurred “where the local defects of sewerage, accumulations of filth, etc., can engender it.” According to Crowther, the colony was particularly prone to “Bilious Fevers of a Typhoid character, not contagious nor epidemic, in which, with the derangement of the Hepatic Functions, the Brain and Nerves are principally affected, and whence Coma and Delirium close the fatal scene.” The peak of the small number of cases generally occurred during cooler weather.

Hobart Town’s urban setting may have contributed to its high rate of digestive cases, coupled with the admission of ‘difficult’ or severe cases from other hospitals around the colony. Additionally, as the colony’s main medical institution was located close to the dockyards, convict and immigrant patients suffering infectious diseases were frequently received direct from ships. These complaints were often spread to other patients already in hospital, and were also occasionally communicated to those outside the institution. In mid-1839, for example, the Marquis of Hastings arrived in Hobart Town carrying two hundred and forty male convicts. A number were hospitalised with fever shortly after their arrival. The consequences of this were akin a pond into which a stone has been tossed, where the impact of the rock causes ever-widening ripples through the water. The original group of patients had already infected other convicts in the penitentiary before their own admission to hospital. The secondary group passed the disease on to other prisoners from the probation station and in private service, who then,

685 Cumpston, ‘Public Health in Australia: Part I’, p. 496.
supplemented by the arrival of another vessel bearing feverish convicts, in turn continued to broaden the pestilential cycle. By May 1840, the Hobart Town Colonial Hospital was forced to rent an additional building to accommodate their increasing caseload. Rural localities such as New Norfolk, however, were spared this inevitable spread of infectious diseases. In areas in which “people enjoy ordinary domestic advantages,” cases of contagious conditions were infrequently reported.

**Neurological-mental diseases**

This large and diverse category encompasses diseases ranging from hysteria to chorea, from neuralgia to tetanus. St Bartholomew’s Hospital admitted the largest number of neurological-mental diseases, with the most frequently reported being forms of paralysis, followed by cases of epilepsy. New Norfolk also admitted a relatively large number of cases of paralysis and epilepsy, with *cephalgia* and *apoplexia* forming much of the remainder of their neurological-mental admissions. In Bermuda, a relatively high number of patients were admitted with *cephalgia*, while only a small proportion were received complaining of paralysis or epilepsy. The rates of the three comparative groups were all below one hundred and one cases of neurological-mental diseases per thousand.

The sheer diversity of this category of diseases renders it difficult to draw conclusions regarding the relative frequency of cases between hospitals. Paralysis, for example – the rate of which is high in New Norfolk and St Bartholomew’s Hospitals but virtually non-existent in Bermuda – is attributable to so many different conditions that it is all but impossible to draw any but the most tenuous deductions about why the rate may be higher in one hospital than another. Everything from apoplexy, tumours, and various forms of pressure on the brain and spine were considered

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687 Curtin, *Death by Migration*, p. 78.
precursors to paralysis, alongside syphilis, lead poisoning, nutritional deficiencies, and even worms.  

Other diagnoses classified as mental-neurological disease were equally tenuous. Forty-year-old entrepreneurial barrister Charles Daling was admitted to St Bartholomew’s Hospital suffering from nervous exhaustion after his outlandish proposal for improving the system of electric telegraphs failed. When the unspecified “chemicals” he purchased to use in his scheme were “upset” during their journey from Dublin to London, “the circumstance so preyed on his mind that he became violently delirious and so died in the course of the next 10 days.” Another St Bartholomew’s patient, William Harper, was diagnosed with incoherency, although Ormerod contemplated reclassifying his condition as dementia, being uncertain whether or not it was “connected with any organic derangement of the brain.”

The climate was often remarked upon in cases of mental-neurological disease. “Sudden exposure to cold” was understood to contribute to attacks of paralysis, while overly hot conditions were associated with convulsive disorders. High temperatures were also regarded as dangerously draining for even the most robust constitution, and the most vigorous nervous systems were apt to lapse into exhaustion and irritability when over-exposed to the intense sunshine of the colonies.

Miscellaneous medical conditions

This final category includes a small number of conditions which do not fit neatly into any other categories, such as delirium tremens and debility or old age. Although no patients diagnosed with

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689 SBHAM, SBH: Charles Daling (MR 16/6/206).
Delirium tremens (the official diagnosis for illness induced by alcohol) were seen at the New Norfolk Hospital, both the Royal Naval and St Bartholomew’s Hospitals admitted several cases.\textsuperscript{693} This number included James Thomas, “a large fat man very intemperate” who “used to drink aether and among other feats he had drunk a gallon of gin in 3 days and a bottle of brandy during a night,” but did not take account of poverty-stricken clergyman William Edward Marshall, who was admitted with dysentery after attempting to assuage his “most insatiable thirst…by [drinking] large quantities of spirits.”\textsuperscript{694}

The rates were reversed for debility, with a significant number of cases admitted to New Norfolk, a smaller proportion to the Bermudian institution, and none to St Bartholomew’s. In London, frail elderly cases requiring the ‘comfort’ – but not the medical care – of a hospital, would be sent to the sick ward of the local workhouse. Colonial patients, however, had no such option. Instead, the wards of invalid depots and hospitals such as New Norfolk were crowded with chronic cases such as that of William Gibbons, a seventy nine-year-old convict initially admitted with fractured ribs. Although he recovered from his injury after a few months of treatment, he remained in the hospital suffering “only of old age” until his death two and a half years later.\textsuperscript{695}

Although there was a single case of scurvy in a patient admitted to New Norfolk Hospital, Port Arthur reported an astounding one hundred and seventy three cases of this nutritional deficiency per thousand patients. It is possible that cases of scurvy were simply admitted under a different diagnosis in other institutions (such as chronic skin conditions), or, although unlikely, perhaps

\textsuperscript{693} Willcock, Bulwark of Empire, p. 104.
\textsuperscript{694} SBHAM, SBH: James Thomas (MR 16/6/176); SBHAM, SBH: William Edward Marshall (MR 16/6/401).
\textsuperscript{695} TAHO, RDH: William Gibbons (HSD 246/1/122).
convicts assigned around the district of New Norfolk may have been receiving a sufficiently nutritious diet to ward off scurvy, while those at Port Arthur had a less nourishing diet.  

As pathology began to expose the role of internal lesions in illness, and to reveal clearer patterns and similarities in the prognoses and outcomes of patients diagnosed with the same condition, diseases could be articulated and embodied outside the person. Fundamental concepts of disease were revised. The patient’s experience of illness and the practitioner’s understanding of abnormal pathological findings came to be unequally weighted: when disease could be conceptualised as external to the patient, as existing as an entity outside him or her, the patient was no longer central to definitions of disease. Illness became less about human experience, individual narrative and personalised diagnosis, and more connected to objectified notions of ideal clinical pathways, measured in neat, compartmentalised units rather than chaotic, emotion-fuelled patient descriptions. Indeed, as Foucault asserted, the patient came to be viewed as “a negative element,” a mere “accident” which polluted the natural state of the disease – to arrive at an accurate diagnosis, all elements which made a case unique had to be subtracted, leaving behind only the pure facts of the illness itself. In this manner, the symptoms, diagnosis, and prognosis of an ever-expanding number of “legitimate diseases” were painstakingly mapped out, complete with elaborate networks of possible atypicalities, stranding patients on the periphery of their own disease.

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696 See, for example, Cleland’s citing of the one thousand and fifteen cases of scurvy treated in the Port Arthur Hospital between 1830-1835 (Cleland, ‘Morbidity and Mortality in the Convict Settlement’, p. 348).


In the analysis of disease, it is crucial that historians seek to utilise the meaning of diagnoses as they were used by the surgeon. Overlaying eighteenth and nineteenth-century terminology with modern connotations can distort both individual narratives and collective statistics.\textsuperscript{699} This examination of admission rates has endeavoured to preserve the diagnostic categories used by surgeons and physicians at the New Norfolk Hospital, the Royal Naval Hospital in Bermuda and St Bartholomew’s Hospital in London, and present them in a comparative framework. In doing so, it can be seen that the disease rates at each hospital represent that institution’s unique combination of demographics, climate, diet, and other influential factors.

Dietary deficiencies, for example, undoubtedly contributed in various ways to a proportion of diseases in each category. Ironically, the meagre rations supplied to invalids and hospital patients in an effort to discourage malingerers may have prolonged recovery time by further weakening patients’ bodies.\textsuperscript{700} The intensity of the occupational, climatic and geographical conditions these patients were exposed to on a daily basis – particularly in the colonies – may have also negatively impacted their constitutions, limiting their ability to resist and recover from disease.\textsuperscript{701}

A further factor influencing rates of disease in the two colonies centres on the more relaxed transportation guidelines which regulated selection of convicts bound for Van Diemen’s Land. While chronic medical conditions, physical disability, and old age were no barrier to transportation to the Australian colony, only convicts who were “in perfect health, and are declared by the surgeon to be of sound constitution,” were selected for labour in Bermuda.\textsuperscript{702} This may have resulted in a larger number of convicts with pre-existing or chronic diseases.

\textsuperscript{699} Alter and Carmichael, ‘Classifying the Dead’, p. 131.
\textsuperscript{700} A discussion of the rations provided to hospitals patients in all three hospitals in comparison with those available outside the institutions would be beyond the scope of this thesis.
\textsuperscript{701} Cleland, ‘Morbidity and Mortality in the Convict Settlement’, p. 350.
arriving in Van Diemen’s Land than in Bermuda. These regulations also meant that the convicts in the Australian colony were, as a group, likely to be older than those labouring on the Bermudian fortifications. As the age of the convicts increased, so too did their likelihood of experiencing other medical problems.\footnote{See Chapter one for detail on age distribution of patients in the sample.}

While many prisoners arrived on colonial shores having “enjoyed good health” for much of their lives, some may have already suffered an eventful medical history.\footnote{Many patient records from New Norfolk Hospital include the note “has enjoyed good health” until the current admission.} Still others may have found the new climate disruptive to their constitutions, leading to disturbing new health problems. For those who sought treatment, identification of their illness was important. Although there may have been negative consequences of the diagnostic process, there were also numerous beneficial outcomes. New medicines or new dosages of drugs could be trialled, with positive results used to provide other sufferers with improved treatment. Without standardised disease classifications, collating information on morbidity and mortality rates would be impossible, as would analysing clinical data.

For the surgeon, diagnosis enabled cases identified as the same type of condition to be compared – the basis of the modern clinical trial derived from such origins. The importance of such comparison was emphasised by St Bartholomew’s surgeon Dr Ormerod, who affirmed that “medicine is learned by adding cases together.”\footnote{SBHAM, SBH: Timothy Donovan (MR 16/6/251a).} The identification and classification of diseases was also significant on a much greater scale, as it informed the capacity of empires to enforce quarantine restrictions. While practitioners may have quibbled about the precise symptoms of various fevers or wasting sicknesses, the characteristic features of major epidemic diseases were well-known.\footnote{Alter and Carmichael, ‘Classifying the Dead’, p. 124.}
On an individual level, although the increasingly clinical nature of diagnosis extracted patients from the centre of the concept of disease during the mid-nineteenth century, it is crucial not to portray them as victims, universally and helplessly alienated from their illness. Diagnosis acted to engage the patient in a new type of narrative with his or her illness.\textsuperscript{707} If it objectified, it equally empowered. The uncertainty of an unknown disease could be replaced by the relative sureness of a prognosis, a potential path to recovery on one hand, or impending death, on the other. If fear and uncertainty could not be allayed by diagnosis, at least the patient now had the opportunity to order them, to base them more firmly on fact than on nightmarish imaginings.\textsuperscript{708} If death was to come, diagnosis at least permitted the opportunity of preparedness.

\textsuperscript{707} Rosenberg, ‘The Tyranny of Diagnosis’, p. 257.
\textsuperscript{708} Rosenberg, ‘The Tyranny of Diagnosis’, p. 256.
James Blackman faced an agonising decision. Three weeks earlier, at five o’clock on a warm Wednesday afternoon in late February, 1848, he had been out riding his master’s horse in Bridgwater, nineteen kilometres north of Hobart. Blackman’s right foot suddenly slipped through the stirrup and, frightened by the sudden cry from his rider, the horse reared around. The rider’s foot was caught and, unable to free himself as the horse struggled frenziedly, both bones in Blackman’s lower leg snapped two inches above his ankle.\footnote{709 Tasmanian Archive and Heritage Office, \textit{Royal Derwent Hospital: James Blackman} (HSD 246/1/6/152).}

Seven years earlier, Blackman, a red-headed farmer’s labourer from Sussex, had been sentenced to fourteen years transportation as punishment for stealing a jacket and a pair of shoes. Arriving in Van Diemen’s Land in mid-1842 aged twenty-three, he was first stationed in a probation gang in Victoria Valley, one hundred and one kilometres from Hobart Town. Five year later, Blackman was assigned to Mr Murdoch in Bridgwater.\footnote{710 TAHO, \textit{Conduct Registers: James Blackman} (CON 33/1/20, p. 34).} Indeed, on that February afternoon in
1848 it may have been Murdoch who helped carry Blackman, his leg and foot painfully unstable, to a boat in the nearby Derwent River. As the day deepened into night and the temperature began to drop, Blackman was rowed towards New Norfolk, twenty kilometres away. After more than ten hours in the boat, soaked with the water thrown back by the oars and shivering with fatigue and shock, Blackman arrived at the Hospital. Fifteen hours after the accident, Dr Frederick Brock observed Blackman’s injuries with trepidation. A double fracture of both bones of the leg was considered to be perhaps the most difficult break to treat.\footnote{E. Lonsdale, \textit{A Practical Treatise on Fractures} (John Churchill, London, 1838), pp. 473-507.} Blackman’s leg muscles contracted the bones from their natural positions, forcing them violently out through the skin. The sheer physical strength required to wrench the displaced bones back into position and their tendency to slip back was compounded by the dread of infection common to any nineteenth-century surgical procedure.

Brock helped Blackman onto his back and a wardsman – usually a fellow patient – was employed to firmly grasp his thigh so that the leg bent at the knee, forcing the large calf muscle to relax. Brock seized Blackman’s ankle with both hands and, working by the feel and sound of the broken ends of the bones rasping together as much as by sight, manoeuvred them back into position.\footnote{Lonsdale recommended that “a kind of see-saw motion…will unlock the ends of the bone, as well as disentangle them from the muscles.” He also warned that the fractured ankle is perhaps the most difficult break to reduce, having so little leverage with which to reposition the broken bones (Lonsdale, \textit{A Practical Treatise on Fractures}, p. 480, p. 485).} To prevent the bones sliding back once Brock and the wardsman released their grip, two long pieces of wood were positioned on either side of Blackman’s leg. Straps were bound around the limb to keep it immobile and padded with dressings over the wound, with sheets of linen rollers wrapped over the top.\footnote{Lonsdale, \textit{A Practical Treatise on Fractures}, pp. 488-493.}
Brock’s concise case notes do not record how his patient coped with the brutal pain of this treatment. It is known, however, that Blackman was not offered the newly-discovered miracle of ether anaesthetic to dull the agony of this procedure.

Over the next ten days, Blackman’s condition appeared to steadily improve. His appetite was healthy, his bowels were regular and he was “free from pain.” On the twelfth day, however, Brock pulled back Blackman’s coarse blanket to find abscesses spreading from the sole of his foot, up the ankle and over the lower part of the leg. The wound where the bone had pierced the skin was swollen, and the bandages were growing stiff from increasing quantities of pus discharging from the lesions. Brock dosed his distressed patient with wine, incised the abscesses to drain away the pus, and ordered the ankle to be rebandaged with clean dressings.

Blackman spent a restless night, perspiring heavily and waking with little appetite for his arrowroot and milk. For another ten days his condition remained much the same, neither improving nor deteriorating. Three weeks after the accident, on a Thursday in mid-March, the discharge from the wound suddenly increased, with “several small pieces of bone” coming away with the pus. The wound had also expanded in size, allowing Brock to probe further inside Blackman’s leg than he had earlier dared. What he found disturbed him. Rather than beginning...

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714 Doctors accepted that patients varied in the level of their pain tolerance, with sex, age and class also believed to influence sensibility (S. Snow, Blessed Days of Anaesthesia: How Anaesthetics Changed the World (Oxford University Press, Oxford, 2008), p. 63).

715 TAHO, RDH: James Blackman (HSD 246/1/6/155).

716 This horrific level of infection was common after compound fractures; when the bone breaks through the skin, the shards permit bacteria to enter the gaping wound. Surprisingly, it was not universally fatal. A case similar to Blackman’s was admitted to St Bartholomew’s, with the attending surgeon commenting that the favourable “termination of this case was considered as remarkably fortunate, for in this great and crowded hospital, it rarely happens that a compound fracture does well, or at best, not until a tedious suppuration” (cited in A. Digby, Making a Medical Living: Doctors and Patients in the English Market for Medicine, 1720-1911 (Cambridge University Press, Cambridge, 1994), p. 84).

717 Although suppuration and pus was sometimes considered to be a healthy process which allowed the body to naturally rid itself of toxins and rebalance the humours, in Blackman’s case Brock does not comment on the ‘healthiness’ of his patient’s discharge. It is probable, therefore, that he considered the pus to be injurious to the healing of the wound (H. Ellis, The Cambridge History of Surgery (Cambridge University Press, Cambridge, 2009), p. 82).

718 TAHO, RDH: James Blackman (HSD 246/1/6/155).
to unite, Brock recorded that the bones of Blackman’s ankle and leg remained “completely separated.” With “there being no probability of preserving the limb,” he continued brusquely, “amputation is proposed.”

The choice now facing Blackman was stark: consent to the amputation of his leg, with the very real risk of rapid death through loss of blood or a slower demise through infection, or face weeks, even months, of pain as the tissue of his leg slowly putrefied, poisoning his blood and eventually his entire body. While Blackman weighed up his dismal options, Brock consulted with the Principle Medical Officer and as many other surgeons as he could from his isolated location.\footnote{Doctors routinely consulted with a number of colleagues before proceeding with an operation, primarily to confirm the necessity of surgery, but also to diffuse the responsibility if the procedure proved fatal (M. Cooper, ‘The Agony – Surgery Before Anaesthesia, The Patient’s Perspective’ in P. Richards and P. Ogden (eds.), Anaesthesia: Awakening the Sleeping Giant (Myola Publishing, Launceston, 2003), p. 39).}

Two hundred kilometres away in a different, although almost equally isolated, colonial town, another doctor had undertaken a radical experiment which would have extraordinary impact upon Blackman’s treatment. In June 1847, eight months after its first public demonstration in America, Dr William Russ Pugh became the first surgeon in the southern hemisphere to anaesthetise a patient using ether.\footnote{Sydney dentist Dr J. Belisaro was the first medical practitioner in the southern hemisphere to report using ether to anaesthetise a patient (see, for example, E. Ratcliff, ‘The Pugh Oration: A Yankee Dodge for Making People Insensible’ in Richards and Ogden (eds.), Anaesthesia, p. 7, pp. 10-11; H. Ellis, The Cambridge History of Surgery (Cambridge University Press, Cambridge, 2009), p. 80; ‘St. John’s Hospital – Surgical Operations. The Influence of Ether’, Courier (12 June 1847), p. 2).}

Nine months later, Blackman was destined to become the first New Norfolk patient to experience the miraculous effects of the drug. Brock and his colleagues would have been aware of Pugh’s innovative and startlingly successful operations.\footnote{It is likely that Pugh would have been interested in Blackman’s case, as Pugh devoted his MD thesis to the subject of fractures, and later published a number of articles on various types of amputations (J. Paull, ‘William Russ Pugh: Not Just an Anaesthetist’, Australian and New Zealand College of Anaesthetists, at \textless http://www.anzca.edu.au/events/asm/asm2008/abstracts/william-russ-pugh-not-just-an-anaesthetist.html\textgreater , accessed 25 June 2009).} They may have seen in Blackman an opportunity to utilise new anaesthetic techniques in a
relatively rare ‘capital’ operation, to advance both personal and professional knowledge and reputation. And, of course, to ultimately – hopefully – save a patient’s life.

By early on that cloudy March afternoon, both doctors and patient had reached their decisions. Amputation was scheduled for four o’clock that day, allowing Blackman as little time as possible to dwell upon his impending surgery. As the day lengthened, Brock arranged his equipment close to the wooden table on which the operation would be performed, being sure to keep it out of Blackman’s sight. Retractors, tourniquets, ligatures, and dressings were laid out alongside a wide-toothed saw and the long, curving amputation knife. Dr John Meyer arrived to assist in the operation as Brock assembled his ether truss. As Blackman lay on the table, positioned close to the windows to take advantage of what little light filtered through the clouds, Brock dripped a tiny amount of ether onto a cloth and held it over Blackman’s mouth and nose. The pungent odour of ether often caused patients to cough and gasp, although Brock does not record that Blackman experienced any respiratory distress. In fact, quite the reverse – after half an hour of administering the ether, his patient still appeared fully conscious, in control of all his limbs and faculties. Brock records despondently that, “as it was becoming late and the Evening dull, it was determined on to defer the operation untill [sic] tomorrow morning.” Both patient and doctors were disconcerted by the apparent failure of the miracle of anaesthesia, but were determined to have a second attempt on the following day.

The second endeavour proved more entertaining, although still without the intended outcome. After Blackman had resumed his position upon the scrubbed wooden operating table, Brock administered a slightly more audacious dose of ether. All present watched apprehensively as the

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722 See the Glossary of Terminology for explanation of terms.
724 It was widely believed that patients should not see operating equipment prior to surgical procedures, lest it induce panic (T. Wakley (ed.), ‘Lectures on Surgery Delivered by Mr Wardrop’, *The Lancet*, vol. II (1833), p. 593.
725 Amputation saws had widely-spaced teeth to prevent them from becoming clogged and blunted with bone and tissue.
moments passed. Suddenly, Blackman began to giggle. “Instead of insensibility,” Brock wrote soberly, the ether produced a “state of Hysteria the Patient laughing and becoming much excited.” While Blackman enjoyed this unexpectedly hilarious interlude from the pain of his traumatised leg, Brock and Meyer solemnly pondered the possible reasons for the failure of the ether to induce unconsciousness. “Again Postponed,” wrote Brock dejectedly in Blackman’s case notes.

Later the same day, the ether was given a third trial and, reports Brock triumphantly, “Finally the limb was removed.” This time, under the influence of the ether, Blackman’s concentration became impaired; his speech slurred and became disconnected. Soon his movement became inhibited and sensibility decreased. Cautiously, Brock removed the ether-soaked cloth from Blackman’s face and picked up his knife.

As Meyer secured the tourniquet to compress the tibial artery behind Blackman’s knee, Brock grasped the skin of Blackman’s leg just below the knee and drew it taut before sinking the blade into his patient’s skin and sweeping it around the leg. As the skin shrank away from the incision, Meyer quickly positioned retractors in the gaping wound. Brock made a second and third cut through the layers of fat and muscle as Meyer forcibly pulled the flesh away from the bone using the retractors. Laying down his knife, Brock began securing the arteries in the stump. Painstakingly knotting a fine length of silk thread, he trimmed one end close to the ligature and let the other to hang out of the incision, to allow it to be removed when – if – the

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726 TAHO, RDH: James Blackman (HSD 246/1/6/162).
727 TAHO, RDH: James Blackman (HSD 246/1/6/162).
728 TAHO, RDH: James Blackman (HSD 246/1/6/162).
wound healed. Directing Meyer to loosen the tourniquet, both doctors watched as the blood resumed coursing through Blackman’s veins and arteries.

Satisfied that the ligatures would hold, Brock picked up the saw. Supporting the instrument on his left thumb nail to prevent it slipping, he began to cut into Blackman’s exposed leg bones, moving slowly at first, then increasing his pace until carefully making the last few sweeps to prevent the bones splintering. In less than three minutes Blackman’s right foot was lying in the sawdust on the floor. Having earlier approximated a few inches of skin to cover the exposed bone and flesh, Brock now set to work “forming a posterior flap” and supporting it with a bandage. Over this he wrapped calico dressings, and had “a Cloth wet with cold water applied to the part for 1½ hours.” Of Blackman’s state of consciousness, of his level of pain or distress, Brock records tantalisingly little, stating simply that “The Man bore the operation pretty well.” Whatever his experiences, he passed “a pretty good night” and awoke the day after the operation hopeful of an uneventful recovery.

Brock was academically well prepared to perform Blackman’s amputation. In the 1820s he qualified as a Doctor of Medicine at the University of Edinburgh and became a Licentiate of the

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734 TAHO, RDH: James Blackman (HSD 246/1/6/162).
735 TAHO, RDH: James Blackman (HSD 246/1/6/162).
736 TAHO, RDH: James Blackman (HSD 246/1/6/162).
Royal College of Surgeons, Edinburgh. During this period, surgery was still struggling to throw off its reputation as a low-status, manual trade and assume a respectable position in parity with the comparatively clean and genteel practice of the physician. The graphic nature of the surgeon’s work – the lancing of pus-filled boils, the excising of cysts and tumours, ‘cutting for the stone’, and the reduction of grotesque compound fractures – and the very tools they used saw them likened to macabre butchers. Surgeons were described as ‘uncouth in their manner, vulgar and indelicate in their language, slovenly in their dress, and harsh and unfeeling in their treatment’ – the absolute antithesis of an elegant and refined elite physician.

These extreme views of eighteenth and nineteenth-century surgeons have been compounded by descriptions of practitioners as reckless, imprudent performers, with a heavy emphasis on spectacular and exceptional procedures (such as amputation, ovariotomy and trephining) as opposed to the routine blood-letting, scarifying, tooth-pulling, and repairing of fistulas and hernias which formed the mainstay of the surgeon’s income. The restrictions upon surgery, depicted as being so great as to prevent any amount of useful work to be done, has also been focused upon. The reality of the surgeon’s work lies somewhere between these two extremes.

Before the miracle of anaesthesia, surgeons were indeed limited by the need for haste to a small list of relatively minor – and comparatively safe – procedures. Lithotomies, repair of hernias, removal of cataracts and the draining of septic inflammations were undertaken regularly,
alongside the routine dressing of wounds, venesection and the treatment of venereal and cutaneous eruptions. Major operations, such as those described above, were performed only when all other treatment options had been exhausted and – as in Blackman’s case – the patient’s life would be lost without immediate action. The abdominal and thoracic cavities were avoided due to the time and complexity of undertaking procedures in these regions. Although there were memorable and well-publicised exceptions, the majority of surgeons performed operations with assured composure; confidence and strength – both physical and mental – were crucial to wield the knife both swiftly and with certainty, and to withstand the anguished cries of the patient.

The operations that surgeons were able to perform, however, could cure or alleviate the symptoms of a number of diseases and conditions that may have otherwise been painful, disabling or fatal. Conservative treatment under the care of a knowledgeable, experienced, and sensible surgeon, although frighteningly painful, was accompanied by a relatively low mortality rate. Surgical patients were willing to undergo the pain and risk of operations in the knowledge that the procedures offered their final hope of relief.

Nineteenth-century surgery encompassed a much broader array of tasks than the modern concept of the term. Major operations – whether amputations, the excision of tumours, or trephining – were relatively rare. While some surgeons specialised in particular procedures, and

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742 Cherry, ‘At the Cutting Edge’, p. 96.
743 Any number of horrifically bungled operations can be found; see, for example, Cherry, ‘At the Cutting Edge, p. 98
undertook large numbers of operations for high fees in hospitals or in patients’ homes, many had little use for scalpels, other than for lancing boils or opening veins.

Surgical treatment methods fitted comfortably within the parameters of the humoural theory which delineated the understanding of medicine well into the 1800s. In an imbalanced body, excessive humours were believed to build up, leading to illness; health could be restored by removing these surplus humours and allowing the body to regain its equilibrium. Various forms of blood-letting (venesection, wet cupping, scarification, and leeching) and counter-irritation (blistering, dry cupping and the insertion of setons and issues) neatly fulfilled this role, as they universally aimed to rebalance the patient’s constitution by allowing morbid matter to flow or be expelled from the body.

Counter-irritation (or, as it was earlier termed, ‘revulsion’) operated on the understanding that diseases occurred when bodily organs became irritated by “certain physical agents.” By stimulating a localised, cutaneous disease a ‘counter-irritation’ would be produced, thereby drawing the ‘mischief’ away from the original, internal site of disease to the ‘artificial’, external location where it could be more easily cured. As one nineteenth-century practitioner explained, the “morbid state of the skin operates as a peculiar stimulus, the result of which is transmitted to centers [sic] of the nervous system, where it develops and modifies the nervous power and reflects it through organic nerves.”

**Venesection (phlebotomy or blood-letting)**

Blood-letting was undoubtedly the most common procedure performed by surgeons; essentially, many of the forms of physical treatments described below are simply various forms of bleeding.

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746 See the Glossary of Medicines and Treatments for explanation of terms.
designed to treat different types of diseases. Blood-letting as a medical treatment was an ancient practice. During the seventeenth and eighteenth centuries, influenced by renowned physician Thomas Sydenham (who commonly relieved his patients of upwards of ten ounces of blood, around three hundred millilitres), it was “carried to the greatest excess.” By the early nineteenth century, although blood-letting remained an extremely common treatment for a wide range of diseases, it was less frequently carried to such ‘heroic’ lengths.

So-called heroic medical practice was based on the notion that taking treatments (whether physical or medicinal) to an almost violent extreme was more likely to result, ultimately, in a return of health to the ailing patient. Although this type of medical practice was widespread in Britain, and therefore in its Bermudian and Australian colonies, it was particularly fashionable in America during the early nineteenth century. One of its most vociferous and well-known advocates was physician Benjamin Rush, who encouraged extensive bleeding and purging. Rush formed many of his theories during the Philadelphia yellow fever epidemics in 1793. He routinely drew up to eighty ounces (almost two and a half litres) of blood from his fever patients over a five day period – this amount is close to half the total amount of blood flowing through the average adult body. He claimed that by draining such vast amounts of blood, the strain on convulsed blood vessels would be relieved, allowing the patient to relax and health to be restored.

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752 Horsman, *Frontier Doctor*, p. 20.
Much of eighteenth and nineteenth-century medicine fitted into the heroic category, and can appear to modern eyes as unnecessarily cruel. Such aggressive measures undoubtedly possessed the dubious benefit of producing obvious results – these treatments would uniformly produce a physical loss of matter from the body. Under the influence of medicines this would commonly occur as vomiting or diarrhoea, while a loss of blood would result during scarification or venesection; regardless of the form taken by the morbid matter as it left the body, both patient and doctor could be satisfied that their treatment was clearly – visibly – operating. Such a brutal purging of the body would, however, sometimes terminate fatally. This uncertainty pervaded not only heroic medical treatments but all forms of healthcare, whether administered by practitioners in hospitals or provided at home by family or friends.

Venesection involved opening a major vein and allowing blood to flow freely from the wound. Doctors at the New Norfolk Hospital, St Bartholomew’s Hospital in London, and the Royal Naval Hospital in Bermuda all enthusiastically prescribed this form of blood-letting for a wide assortment of diseases. On the nineteenth of October, 1832, boatswain Thomas Worster was admitted to the sick list aboard the HMS Ariadne. Despite the cooling temperatures as the month came to an end, Worster had passed a sleepless night, awaking with “an acute pain in the head.” When surgeon Edward Hilditch admitted him into the sick berth, Worster’s “pulse was frequent and hard – the skin hot and dry, and there was a wild expression of the countenance” – symptoms demanding immediate venesection. Having seated his patient, Hilditch wound a bandage tightly around Worster’s upper arm a few inches above the elbow, and checked to

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753 As Segal contends, however, modern medicine can also seem violent and sometimes even unnecessarily cruel – some forms of surgery or cancer treatments may attempt to prolong life, but in the process cause immense pain and distress to the patients they are attempting to heal (J. Segal, Health and the Rhetoric of Medicine (Southern Illinois University, Illinois, 2008), p. 24, p. 124).
755 The ship’s name is difficult to read, and my interpretation may be incorrect (The National Archives, Admiralty and Predecessors, Office of the Director General of the Medical Department of the Navy and Predecessors, Service Registers and Registers of Deaths and Injuries: Case Book, Royal Naval Hospital, Bermuda: Thos Worster [ADM 104/98, p. 00012]).
756 NA, Case Book, Royal Naval Hospital, Bermuda: Thos Worster (ADM 104/98, p. 00012).
757 NA, Case Book, Royal Naval Hospital, Bermuda: Thos Worster (ADM 104/98, p. 00012).
ensure that his patient’s pulse remained perceptible at the wrist. Positioning Worster’s arm over a basin to catch the flowing blood, Hilditch pressed his thumb over a vein and made a neat incision with a sharp lancet — not too long, or the flow of blood would be uncontrollable; not too short, or the blood would seep into the surrounding cellular tissue. Patient and doctor watched as the blood gushed gently into the dish.\textsuperscript{758} As Worster’s face began to grow pale and clammy, Hilditch loosened the tourniquet and wiped the blood from his patient’s arm, pressing the wound closed and binding it with lint and dressings. Over the next ten days, Hilditch bled Worster zealously, twice bringing him close to losing consciousness.\textsuperscript{759}

Upon a sudden loss of such a quantity of blood, a patient such as Worster would have found himself becoming nauseous, his skin growing cold and moist, and his pulse slowing, until “by and by the motion of the heart [was] so much weakened that it no longer propels the blood with sufficient force to support the functions of the brain.”\textsuperscript{760} This loss of consciousness during or immediately subsequent to venesection was known as ‘syncope’. It was not considered a particularly dangerous condition; if the patient was helped into a reclining position, recovery was generally swift as the blood returned to the brain. In cases where the patient’s system was already weakened by disease, however, “the syncope either passes directly into death, or is succeeded by an intermediate state, named Sinking.”\textsuperscript{761} Few patients recovered from such a state.

At the New Norfolk Hospital, Brock also routinely bled his patients, using the same methods as his colleagues in Bermuda. Giles Marsh, a thirty-four -year-old convict in government employ, was suffering from painfully inflamed eyes. Troubled by a constant “pricking sensation in the

\textsuperscript{758} S. Cooper, \textit{The First Lines of the Practice of Surgery: Designed as an Introduction for Students and a Concise Book of Reference for Practitioners} (3\textsuperscript{rd} ed., Longman and Co., London, 1813), pp. 610-611.

\textsuperscript{759} NA, \textit{Case Book, Royal Naval Hospital, Bermuda: Thos Worster} (ADM 104/98, p. 00012).


\textsuperscript{761} Syme, \textit{The Principles of Surgery}, p. 18.
left Eye,” Marsh was relieved of almost six hundred millilitres of blood. The next day, although Marsh’s pulse remained fast at ninety-five beats per minute, Brock was satisfied to now find the rhythm “soft,” rather than the violent pulsation felt before bleeding.

For centuries, the location of the incision when letting blood had been a cause of great deliberation among practitioners. By the 1830s and 40s, as in the case of Thomas Worster, above, most surgeons simply secured a tourniquet around the patient’s arm above the elbow, and selected the vein which was visibly the largest (usually the medial basilica) for incision. For localised conditions, a vein would sometimes be chosen which was closer to the affected area; the temporal artery was also sometime opened to relieve congestion in the head (by the period of these case notes, this was the only artery routinely opened by surgeons; in all other instances veins were selected). Numerous special implements and kits, including fleams and thumb lancets, were promoted as superior tools for achieving the perfect blood-letting incision, although most mid-nineteenth-century surgeons relied upon a simple lancet to perform the procedure.

By the 1830s scientists began to challenge the unquestioned dominance of forms of bloodletting. The increasingly influential role of laboratory analysis and empirical observation in medical theory and practice meant that some practitioners were willing to contemplate the suggestion that universal administration of heroic venesection was not, perhaps, in the best interest of patients. Research by numerous scientists, such as Dr John Hughes Bennett in the 1850s, demonstrated that patient outcomes did in fact improve as bloodletting was decreased.

While venesection did not rapidly fall out of favour, as evidenced by its enthusiastic application

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762 TAHO, RDH: Giles Marsh (HSD 246/1/1-2/129).
763 TAHO, RDH: Giles Marsh (HSD 246/1/1-2/129).
at the three hospitals examined here, its use nonetheless began to gradually decline from the mid-nineteenth century.

**Scarification**

Scarification, a procedure used to make a series of shallow cuts in the skin, was often used to reduce localised inflammation and congestion. It could be used as a substitute for leeches if these were unobtainable, as the outcome of the two treatments was similar.\(^{768}\) In some instances, such as in cases of ophthalmia, the use of scarification was preferred to the application of leeches as these were prone to cause irritation to the delicate tissues of the eyes and nose.\(^{769}\)

Many practitioners were particularly enamoured of the success of this form of treatment in that “violent and destructive ophthalmia” which could obliterate a man’s sight in a matter of days.\(^{770}\) Brock utilised this procedure on Henry Pilkington, a sixty-year-old patient suffering with inflamed and swollen eyes. Taking up a lancet, its point rounded off, he everted Pilkington’s eyelid and made a number of small incisions in the exposed conjunctiva.\(^{771}\) As the scratches began to bleed, Brock applied warm fomentations to the wounds to encourage the blood to continue flowing. Small wisps of dry lint were used to soak up the blood until it began to coagulate.\(^{772}\) Warm water was then trickled over Pilkington’s eyes until the bleeding had been re-established, with Brock soaking up the blood until he was satisfied sufficient matter had been removed from his patient’s swollen eyes. Despite the “exquisite pain” of the procedure,

\(^{768}\) J. Byrne, ‘Reflections on Uterine Pathology’, *The Medical Record*, 3 (1868-1869), p. 53.


Pilkington began to improve, with the inflammation gradually lessening as the trauma of the treatment passed.\(^{773}\)

In Bermuda, too, scarification was practiced earnestly. A few days after Christmas in 1835, twenty-five year old sailor Alfred Rose was admitted from HMS *President* suffering from phlegmon in his left leg.\(^{774}\) Dr Alexander Nisbet “fully scarified” the inflamed area, probably using a scarificator, a small brass box containing between four and sixteen sharp surgical lancets, with a regulator allowing the depth of the incision to be selected.\(^{775}\) As Nisbet pressed the lever on the side, the blades were simultaneously pushed into Rose’s skin, producing a number of neat cuts. With the wounds oozing blood and pus, Nisbet alternately applied cold compresses and warm cataplasms to relieve the pain and swelling. Dr J. Prowse, another Royal Naval doctor stationed in Bermuda, admitted thirty-one year old convict James Rupell, also suffering from ophthalmia. Happily, although Rupell’s “right eye has been affected with Chemosis,” the inflammation “almost entirely disappeared after a free scarification - by this and the other means employed together with Cupping and Blistering the inflammation became considerably reduced.”\(^{776}\)

**Cupping (wet and dry)**

Scarification was often used in conjunction with cupping, another technique of abstracting blood. This method was cited as the least perilous forms of bloodletting, as there was less chance of grave accidents such as haemorrhage from slicing too deeply into a vein.\(^{777}\) It was not

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\(^{774}\) See the Glossary of Terminology for explanation of terms (NA, *Case Book, Royal Naval Hospital, Bermuda: Alfred Rose* (ADM 104/98, p. 000362).


\(^{776}\) NA, *Case Book, Royal Naval Hospital, Bermuda: James Rupell* (ADM 104/98, p. 00064).

always a technique beloved by patients, however; some sufferers found the dramatic procedure, involving fire, sharp lancets, and cups brimming with blood rather terrifying. Robert Parker, for example, a patient at St Bartholomew’s Hospital, “offered great resistance to the cupping” applied by Ormerod to treat Parker’s inflamed spinal column.\textsuperscript{778}

The aim of cupping was to “produce the largest quantity of blood in the least amount of time.”\textsuperscript{779} Both wet and dry cupping involved the use of vacuum force to raise blood to the skin; wet cupping then extracted this blood by scarifying the skin, allowing the blood to be sucked into a second heated cupping glass. Many parts of the body were cited as appropriate locations to apply cupping glasses. Around inflamed joints, on either side of the spine, across the abdomen, and even the calves of the legs could be cupped without difficulty.\textsuperscript{780} Cupping, therefore, demanded less knowledge than the other methods of bloodletting, but a careful bedside manner remained just as important. One physician summarised the essential skills required for successful cupping as “cheerfulness without impertinence or undue familiarity, the most scrupulous delicacy and cleanliness in the operation, promptitude in attendance, and manual dexterity.”\textsuperscript{781}

The most common area of the body to be cupped was the back of the neck, as in the case of Robert Green, a thirty-six-year-old New Norfolk patient admitted with chronic ophthalmia. After eight long months of treatment, during which his condition remained much the same, Green ‘took cold’ and his eyes became more vascular. Brock warmed a cloth and rubbed the back of Green’s neck vigorously to encourage good blood flow.\textsuperscript{782} Holding three small glass cupping vessels in his left hand, their edges smoothly rounded so as not to cut into Green’s skin,
Brock held a flame – probably a candle – to the lower edge of each vessel in turn. As soon as the flame was removed from the cups, Brock swiftly pressed the vessels to Green’s neck. The air inside the vessels compressed, causing the patient’s skin to redden as the blood congested. Brock quickly slipped his fingernail underneath the glass, breaking the vacuum and removing the vessel, leaving three purplish, circular bruises on Green’s neck.

Brock had now successfully ‘dry cupped’ his patient. Green was unlikely to be in any pain at this point; dry cupping was said to be uncomfortable, but not actually painful. As one physician averred, “if the patient complains, it is merely from the novelty of the sensation,” which was described as something akin to the pressure of a heavy weight upon the area being cupped. If the practitioner had prescribed only dry cupping, the treatment was now complete, but most would finish by scarifying the cupped skin, releasing the congested blood in a procedure known as ‘wet cupping’.

Picking up the scarificator, Brock incised the inflamed area on Green’s neck. With the cuts beginning to ooze, Brock cupped Green for a second time, this time with crimson blood filling each vessel. Removing the cups, this time brimming with blood, required great dexterity; one practitioner admitted that “an ambidextrous person possesses advantages in all operations, - in none more than cupping.” Brock would have held a damp sponge in one hand, and released the cup’s vacuum by sliding his fingernail under the uppermost edge of the glass as he pressed the sponge against the lower edge. With enough practice, as Brock had undoubtedly acquired during his years in the colony, he would have been able to remove each cup without spilling a drop. After bathing the wounds with warm water to remove any coagula, Brock replaced the heated cups on Green’s neck until the scarified skin ceased to bleed. Having dressed the wounds

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with simple ointment and a small lint bandage, he left his patient to rest. The next day, Brock wrote with satisfied approval, Green “says he has experienced much relief from the cupping.”

**Leeches (Hirudo medicinalis)**

A gentler, but less specific, method of blood-letting was the application of leeches. The protein secreted by the leech inhibits the body’s natural clotting mechanism, allowing blood to continue flowing unchecked (the flow occasionally continued after the leech had fallen off or been detached, requiring the attending surgeon to stitch the bite closed). The type of leeches generally used for medical treatment were of an olive-black colour, around two to three inches in length. Larger leeches were more highly valued, as they were able to consume more blood. Some leech dealers capitalised on this by allowing their leeches to gorge on blood before selling them, increasing their size and weight and so making small, inferior leeches more valuable. These leeches, however, were sluggish and difficult to attach, occasioning “much annoyance” to anxious or restless patients, while leeches which had been kept from food were easily attached to the skin and were accepted more readily by patients.

As it was essentially painless, this treatment was hugely popular among all classes of society. Leech dealers struggled to meet the demand for their wares, with the four main sellers importing around six hundred thousand leeches into London each month in the early 1840s (amounting to an astonishing grand total of over seven million leeches annually). Many practitioners lamented the fact that Britain was dependent upon this importation of foreign leeches, as they were not bred locally in sufficient quantities to be medically useful. Colonial surgeons in

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786 TAHO, RDH: Robert Green (HSD 246/1/1-2/20).
Bermuda would also have relied upon imported leeches for their supplies. Practitioners in Van Diemen’s Land, however, may have been able to source their own leeches locally.

The importation of leeches forced prices up, obliging surgeons to economise with them. Some practitioners routinely cut their leeches in half mid-way through a treatment, maintaining that they continued to suck as if nothing had happened. More commonly, a single leech would be used repeatedly by a surgeon, who would keep a ‘leech jar’ in his rooms in which to house them. This jar was kept in a cool place (never on a window sill where it may be exposed to damaging heat or frost), and the leeches were inspected daily and removed every week or so for ten or fifteen minutes of exercise on a rough linen towel.

Leeches did, however, require some additional maintenance. When a leech was removed from a patient, it would immediately be ‘stripped’ to remove the blood it had consumed. This procedure involved touching the mouth of the leech with a tiny quantity of clean white salt – not too much, or the leech would immediately expire – and then grasping it “by the tail with the fore finger and thumb of the left, and with the same finger and thumb of the right hand strip the leech from stem to stern, as a sailor would say.” After eight or ten days, the leech was ready to use on another congested patient, although care should be taken not to communicate diseases between patients. One practitioner recalled transmission of syphilis from one patient to another via a contaminated leech.

Surgeons were also required to monitor leeches as they were being used, particularly in sensitive areas, and numerous texts were published instructing practitioners on methods of removing leeches from difficult anatomical positions or retrieving lost leeches. One such Book of

792 ‘Intelligence and Miscellanies: Leeches’, American Journal of Science and Arts, 16 (1829), p. 394 (footnote).
793 Andrew, A Cyclopaedia of Domestic Medicine, pp. 320-321.
794 Andrew, A Cyclopaedia of Domestic Medicine, p. 321.
795 ‘Intelligence and Miscellanies: Leeches’, p. 394.
Emergencies provides anxious practitioners with detailed instructions for an appropriate course of action in such dire situations. Upon discovering that leeches applied to the back of a patient’s gums had ‘escaped’ into the stomach, the doctor was immediately to dose his hapless patient with salt dissolved in water which would kill the leech, and provoke the patient to vomit it up. If the leech was detected before it arrived in the stomach, and had only made it as far as the back of the throat, a salt and vinegar gargle was suggested instead.

Blistering

While bleeding allowed excess fluids to drain from the body, blistering was understood to allow the deeper layers of tissue to excrete morbid matter and release spasms, thus also contributing to the rebalancing of the patient’s humours. Early in September, 1845, John Costall was admitted to the New Norfolk Hospital. A soldier who had served in India prior to being transported, Costall had lately been employed as a constable and flagellator in the district of New Norfolk. For the previous ten days, he had been camped in the bush, exposed to wet conditions by day and night. At first, he dismissed the shivering and cold perspiration as a simple attack of catarrh, but soon the aching pain in his limbs prevented him from working. Waves of nausea forced him back to his rough bed, where he lay sleepless, his skin hot and dry and his head pounding.

The surgeon promptly ordered Costall into a warm bath, then prescribed him ipecacuanha, a commonly-used, relatively mild emetic. Instead of provoking the expected vomiting, Brock was slightly disconcerted when the medicine acted instead to purge his patient’s bowels; Costall explained to his perplexed surgeon that “Emetics never produce vomiting in him but invariably

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798 TAHO, RDH: John Costall (HSD 246/1/1/227).
799 TAHO, RDH: John Costall (HSD 246/1/1/227).
800 See Chapter Six for details on medicinal treatments.
Costall also complained of a severe pain in the right side of his chest, worsening upon inspiration. To ease any generalised inflammation affecting his patient’s system, Brock bled Costall; to target the localised pain in Costall’s chest, however, a blister was deemed necessary.

Brock took a small piece of leather and spread it with an adhesive plaster to allow the preparation to stick to Costall’s skin. Carefully leaving a margin of exposed adhesive plaster, Brock smoothed a layer of blistering plaster over the top using his thumb. This mixture, composed of powdered Spanish blistering flies (Cantharis), wax plaster, and lard, would raise a blister on Costall’s skin by separating the top layer from the skin beneath. Brock applied the small plaster to Costall’s chest over the seat of pain, and left it for ten to twelve hours. Blisters were commonly applied locally, as this was understood to foster an improved flow of matter directly from the location of inflammation to the wound made by the blister – common sites included the nape of the neck, behind the ear or on the temples.

After a period of time, the leather was peeled away and a “perfect blister” remained on Costall’s chest. The swelling was then incised with a lancet or “snipped with a pair of scissors” to allow the collected serum to escape. Brock dressed the wound with simple ointment, and strapped a soft white pad over the top. The blister would then be allowed to heal, although some practitioners advocated irritating the wound by removing the loosened layer of skin and applying a sprinkling of blistering powder to encourage it to continue weeping serum. Most surgeons

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801 TAHO, RDH: John Costall (HSD 246/1/1/227).
802 This pharmaceutical recipe varied – the example used here was that advocated by the London College of Physicians (A. Thomson, The London Dispensatory (Longman, Rees, Orme, Brown, Green and Longman London, 1815), p. 695). For further explanation of terms, see the Glossary of Terminology.
803 TAHO, RDH: John Costall (HSD 246/1/1/227)
were opposed to such methods, as it often produced an ugly, festering sore, preferring instead to allow the first blister to heal and then applying another.\footnote{\textit{External Stimulants}, The Penny Magazine of the Society for the Diffusion of Useful Knowledge, 519 (1840), p. 175.}

After being blistered, Costall’s breathing was less painful, although he continued to experience discomfort when he coughed. He did, however, complain to Brock that he “was kept awake in the fore part of the night” by the pain of his freshly blistered chest.\footnote{TAHO, RJH: John Costall (HSD 246/1/1/227).} Until the advent of anaesthetic in the mid-nineteenth century, many patients, like Costall, were aware that the pain of treatments such as blistering was an integral part of healing; nonetheless, many case notes record the relief patients reportedly experienced upon such applications. Some practitioners avoided the use of blisters where possible, particularly in public hospitals, as non-compliant patients occasionally removed the blistering plaster before the blister beneath it had fully risen.\footnote{SBHAM, SBH, Medical and Surgical Case Notes: Patient Notes (MR 16/6/210a).}

While blistering plasters were the most widely used of the vesicatories, other ointments and poultices were also used to produce a similar effect. Although these treatments do not strictly come under the category of physical treatments as they were based on medical rather than surgical procedures, they were generally categorised together as they were used with the intention of producing comparable results (external counter-irritation).\footnote{For more details on rubefacients, vesicatories, and other medicinal treatments, see Chapter Six and the Glossary of Treatments.} Rubefacients were administered to produce a reddening and irritation of the skin, with the most common including poultices such as mustard (\textit{Sinapis alba} or \textit{Sinapis nigra}), camphor (\textit{Camphorae}), and oil of turpentine (\textit{Olei terebinthinae}).\footnote{J. Wand-Tetley, ‘Historical Methods of Counter-Irritation’, \textit{Annals of Physical Medicine}, 3 (1956), p. 91.} Vesicatories, such as silver nitrate (\textit{Argentum nitrate}) and tartar ointment (\textit{Unguenta tartarised antimonii}), essentially a more severe form of rubefacent, were intended to form blisters on patients’ skin.
Setons and issues

While blisters were rarely kept open for extended periods, issues and setons were administered specifically to allow lengthy, uninterrupted drainage. When inserting a seton, the surgeon would pinch a fold of the patient’s skin, often on the nape of the neck or the temple (but never in a region close to a blood vessel or bone). An instrument known as a ‘seton-needle’ – a thin, curving, lancet-shaped tool, about three inches in length, with an eye at one end through which a piece of twine or silk thread was inserted – would then be carefully thrust through the fold of skin.  

The needle would be passed through the incision, leaving the thread in the wound. Each day, the thread would be moved through the incision to stimulate draining and prevent it from closing over. If the surgeon was unsatisfied with the production of pus, the thread would be smeared with oil and dusted with a vesicant such as Cantharides to promote a more vigorous flow.

Issues operated in a similar manner to setons but, in place of a thread, a pea or bean (sometimes more than one) was inserted to keep the wound open. Due to the larger size of the foreign body, issues tended to produce a greater flow of pus than setons. If the seton or issue ceased to discharge, the procedure would often be repeated. When William Madley, a patient at St Bartholomew’s Hospital, experienced a sudden deterioration in his condition, Ormerod immediately attributed this to sudden stoppage of his seton.

Although setons and issues were long-standing treatments which had remained part of the surgeon’s repertoire for centuries, by the 1850s practitioners had begun to question the efficacy

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812 Cocks states that “In fat subjects the operation is performed by plunging the point of a strong bladed lancet through the skin after the manner of bleeding then bearing it forward upward and outward” (Cocks, A Concise Treatise of Operative Surgery, p. 23).
815 Wand-Tetley, ‘Historical Methods of Counter-Irritation’, p. 92.
816 SBHAM, SBH, Medical and Surgical Case Notes: William Madley (MR 16/6/85 - MR 16/6/85a).
of these procedures.\textsuperscript{817} While they were steadily rejected as treatments for most diseases, surgeons continued to utilise them in cases of ophthalmia for significantly longer.\textsuperscript{818}

\section*{Rates of Physical Treatments}

Despite the obvious pain, physical treatments were popular among patients. Lay understanding of the humoural system of health meant that people were often keen to undergo treatment

\textsuperscript{817} Wand-Tetley, ‘Historical Methods of Counter-Irritation’, p. 92.

\textsuperscript{818} A small group of other physical treatments based on the use of cautery were practised during the nineteenth century, but, interestingly, are not mentioned in the pages of case notes from any of the three hospitals used in this research. Brief descriptions are nonetheless included here, as they continued to be utilised in other institutions. Cautery (generally termed ‘actual cautery’ to distinguish it from the effect produced by caustic medicines) was used to stem haemorrhage and to destroy ulcers and other growths. It was used as a potent treatment applied as a last resort, when all other means had been exhausted, which perhaps explains its lack of usage in the three hospitals in this sample (Wand-Tetley, ‘Historical Methods of Counter-Irritation’, p. 92). Indeed, Syme extols it as “the most powerful [remedial] means that can be employed” (Syme, The Principles of Surgery, p. 261). The intense, almost barbarous nature of this procedure, however, meant that only a small group of patients (perhaps the most desperate) could tolerate its application – as Cooper wrote, to “many patients the proposal [of actual cautery] is attended with horror; to all the application is severely painful” (Cooper, The First Lines of the Practice of Surgery, p. 65). To cauterise a patient, the surgeon would heat an iron until it was red hot, and apply it to specific points on the patient’s body to produce small burns. Although the surrounding skin was protected by folded cloth, the wound which remained would be black, surrounded by an angry red rim which often took weeks to heal. Another type of counter-irritation involving cautery was moxa (also known as moxibustion or moxibarium). Although originating in Asia (primarily China and Japan) and particularly popular in France, moxa had also been practiced sporadically in Britain since the seventeenth century (Wand-Tetley, ‘Historical Methods of Counter-Irritation’, pp. 93-94). This procedure involved crushing leaves of the mugwort plant (\textit{Artemisia moxa}) until they become almost cotton-like in appearance, and placing them inside a cone made of cotton wool or the pith of a sunflower, about an inch in length (other combustible materials, such as sulphur or cotton wool treated with nitre, could be used if mugwort was unobtainable, although the plant was commonly advocated to be superior for the purpose of moxa [Wand-Tetley, ‘Historical Methods of Counter-Irritation’, p. 93; R. Dunglison, Medical Lexicon: A Dictionary of Medical Science (6th ed., Lea and Blanchard, Philadelphia, 1846), p. 497]). This was placed onto the patient’s skin, and the top of the cone set alight, while the surrounding skin was protected by wet cloths (N. Chapman, Elements of Therapeutics and Materia Medica (6th ed., vol. 2, Carey & Lea, Philadelphia, 1831), p. 54). As the cone gradually burnt down, the “agreeable sensation of heat” generated by the moxa developed into pain as a slough was formed on the skin, from which oozed pus (Pereira, The Elements of Materia Medica (1857), p. 24; Dunglison, Medical Lexicon, p. 497). The depth of irritation produced by the moxa could be controlled by the practitioner – if the cone was removed early, or moved along the skin, a rubefacient or vesicant effect could be produced, while if the moxa was allowed to burn to the skin (or its combustion hastened with a blow-pipe), an eschar would result (R. Dunglison, New Remedies (6th ed., Blanchard and Lea, Philadelphia, 1851), p. 534; Wand-Tetley, ‘Historical Methods of Counter-Irritation’, p. 93). To keep the moxa in position as it burnt, and to prevent the practitioner scorching his fingers, \textit{a parte-moxa} (a tool made of metal and ebony, with a ring to hold the moxa and a handle to keep the surgeon’s hand away from the burning fibres) was used to hold the cone (Dunglison, New Remedies, p. 533). Moxa could be used in place of other forms of counter-irritation in some circumstances – indeed, a certain Mr Leney assures us that the Irish “prefer it greatly to the application of a blister” (Dunglison, New Remedies, p. 533). A similar but more generalised form of moxa could also be used, which involved soaking a sheet of linen or paper in alcohol, laying on the patient’s skin (often over the spine), and quickly applying a flame to the sheet. A flame engulfed the paper or cloth, and was swiftly extinguished as the alcohol was burnt away. The upper layer of the patient’s skin would then be found detached from the “true skin” beneath (Dunglison, New Remedies, p. 533).
which produced a visible effect, and procedures such as venesection and counter-irritation yielded dramatic results which patients could both see and feel.

Patients in the New Norfolk and the Royal Naval Hospital occasionally requested particular physical treatments, generally bleeding. In one extreme case, however, seventy-six-year-old New Norfolk patient James Richardson begged Brock to amputate his phlegmatous arm to prevent the disease spreading and to end his overwhelming debility. Three weeks later, after extensive consultation with his colleagues and the Principle Medical Officer, Brock removed Richardson’s arm just below the shoulder. “Very little blood was lost,” Brock wrote of the operation, and “the Patient bore it remarkably well.”

In Van Diemen’s Land, ill or injured convicts would first be treated at the small, temporary ‘hospital’ located close to the labour gang’s work site. Here, the surgeon would provide treatment to the prisoner and admit him to the sick bay. If his condition deteriorated, or was too serious for the limited resources of such a small site, he would be sent on to a larger hospital, such as New Norfolk. In Bermuda, although a similar pattern existed, the sick bays aboard convict hulks were more substantial than the huts used as temporary hospitals for Vandemonian prisoners. Aboard the hulks, surgeons could treat their patients almost as if in a hospital on land; indeed, many patients were admitted to the Royal Naval Hospital simply for a change of air, or because conditions aboard ship were too cramped or noisy to be advantageous for health. Bermudian surgeons, however, were unlikely to attempt any operative procedures in the sick bay,

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819 While amputation would appear to be the epitome of agonising surgical procedures, it was not unknown for suffering patients such as Richardson to beg reluctant surgeons to operate. On the other hand, it was also not unknown for (convict, naval, or military) patients to feign diseases which occasionally and unintentionally ended in amputation – the relatively common ploy of irritating wounds to keep them open, thus prolonging treatment, sometimes ended with the wound so severely infected that amputation was the only option (J. Cheyne, ‘Medical Report on the Feigned Diseases of Soldiers’, The Dublin Hospital Reports and Communications in Medicine and Surgery (vol. 4, Hodges and M’Arthur, Dublin, 1827), p. 131; TAHO, RDH: James Richardson (HSD 246/1/4-6/2).
preferring instead to transfer their surgical patients to the larger hospital facilities. The single exception was the procedure of catheterisation, (which will be discussed in further detail below).

Table 5 (below) illustrates the comparative rates of blistering, cupping and scarification, venesection, and the insertion of issues and setons in the three hospitals. New Norfolk doctors were most enthusiastic of the three institutions in their prescription of blistering; this treatment was recorded for thirty-nine percent of their patients, while this rate dropped to just thirteen percent at St Bartholomew’s. The Bermudian institution prescribed the highest rate of venesection, with thirty-three percent of patients undergoing bloodletting, while twenty-three percent of New Norfolk patients and just seven percent of St Bartholomew’s patients received the same treatment. At both the New Norfolk Hospital and St Bartholomew’s, between twenty and twenty-five percent of patients in the samples underwent cupping and scarification, while just thirteen percent of Bermudian patients received this treatment. Less than one percent of Bermudian patients, however, received either a seton or an issue as part of their treatment, while they formed part of the treatment for around three percent of admissions to St Bartholomew’s and New Norfolk.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>New Norfolk Hospital, Van Diemen’s Land</th>
<th>Royal Naval Hospital, Bermuda</th>
<th>St Bartholomew’s Hospital, London</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blistering</td>
<td>158 (39% of all patients)</td>
<td>112 (27% of all patients)</td>
<td>24 (13% of all patients)</td>
</tr>
<tr>
<td>Cupping/Scarification</td>
<td>100 (25%)</td>
<td>55 (13%)</td>
<td>41 (22%)</td>
</tr>
<tr>
<td>Issue</td>
<td>9 (2%)</td>
<td>1 (less than 1%)</td>
<td>1 (less than 1%)</td>
</tr>
<tr>
<td>Seton</td>
<td>4 (1%)</td>
<td>1 (less than 1%)</td>
<td>5 (3%)</td>
</tr>
<tr>
<td>Venesection</td>
<td>92 (23%)</td>
<td>181 (33%)</td>
<td>13 (7%)</td>
</tr>
</tbody>
</table>

Table 5: Comparison of rates of physical treatments between New Norfolk Hospital, Royal Naval Hospital in Bermuda, and St Bartholomew’s Hospital
These differences can be related to the types of conditions blistering and blood-letting were intended to treat. Blood-letting, by reducing the volume of blood in the body, discharged excess heat, thereby reducing inflammation. Accordingly, it was a common treatment for fever and other forms of inflammation frequently suffered in warmer climates such as Bermuda.\footnote{Dunglison, \textit{Medical Lexicon}, p. 106.} Blistering, as discussed above, was used as a counter-irritant; by intentionally producing a cutaneous disease, surgeons hoped to draw away morbid matter and alleviate internal maladies. Like venesection, blistering was used to reduce inflammation, but while veins were opened with the intention of relieving general systemic irritation, blistering was used to diminish localised inflammation. Rheumatism is a prime example of the type of condition targeted with blistering, and, being a disease associated with cooler climates, this treatment was accordingly prescribed to a larger number of patients in New Norfolk. While patients at St Bartholomew’s also experienced colder conditions, similar to those encountered at New Norfolk, rates of blistering were lower in the London institution as blistering was not generally used to treat the particular types of diseases recorded in the notes.\footnote{Circulatory diseases formed the bulk of St Bartholomew’s admissions used in this sample, due to the particular interest of the surgeon (Dr Edward Latham Ormerod) who wrote the notes. See Chapter four for further detail.}

A small proportion (between three and four percent) of patients at New Norfolk and St Bartholomew’s received a seton or issue whilst under treatment. At St Bartholomew’s Hospital, one patient was ordered an issue, but took fright at the thought of the procedure and fled the ward before the seton-needle could be produced.\footnote{This patient was David Cousins, “a well made man of pretty full habit of body with white hair and black eyes” – Cousins’ hair had turned completely white, including his eyelashes, when he was fifteen years of age (SBHAM, SBH, \textit{Medical and Surgical Case Notes: David Cousins} [MR 16/6/77]).} Interestingly, no Royal Naval doctors refer to inserting either setons or issues into any of their patients. Although both methods of treatment gradually sank out of favour as the nineteenth century progressed, this does not appear to be the cause of their absence within these samples, as the case notes from the Royal Naval Hospital were written in the 1830s, prior to the New Norfolk Hospital records. As will be seen...
below, it may be the case that Royal Naval doctors were simply reluctant to open the patient’s body through surgical procedures unless absolutely necessary.

Issues and setons were often used to treat obstinate inflammatory disorders, such as chronic headaches and ophthalmia, as well as epilepsy and abdominal complaints – diseases and conditions which occurred at all three hospitals examined in this study.\textsuperscript{823} They were, however, only used after other treatments had been attempted without success, largely because the procedure entailed creating a large, open sore, usually on the temple or the nape of the neck which was both uncomfortable and unsightly. Many patients were unsurprisingly opposed to a treatment which entailed bearing, for an undefined but extended period of time, a publicly visible mark of illness such as that represented by a seton or an issue. William Madley, the St Bartholomew’s patient mentioned above, certainly experienced the physical discomfort and aesthetic distaste associated with setons. Although Ormerod was pleased with his patient’s progress, commenting that he had “gained in flesh, in health & strength,” the surgeon also sympathised with the ongoing difficulties which resulted from the seton left in Madley’s neck when he was discharged from the hospital. While Madley had regained much of the powers of motion and sensation in his lower limbs, he was forced to walk “rather stiffly throwing his toes up in the air, and as the poor fellow has to hold his neck straight on account of the seton he has a rather military air.”\textsuperscript{824}

\textsuperscript{823} Dunglison, \textit{Medical Lexicon}, p. 681.
\textsuperscript{824} SBHAM, SBH, \textit{Medical and Surgical Case Notes: William Madley} (MR 16/6/85).
The Tasks of a Surgeon: Surgical Treatments

A large number of nineteenth-century patients experienced bleeding or blistering. It was a smaller group, however, who underwent more serious treatments – patients such as James Blackman whose lives depended upon the sharpness and certainty of the surgeon’s lancet. These procedures were attempted only when all other options had been exhausted; as surgeon and anatomist John Hunter declared, surgery should be employed only “when nothing but operations will relieve.”\textsuperscript{825} It was the heavy responsibility of the surgeon to decide when an operation was necessary, but it was the role of the patient to refuse or to consent to it. Unsurprisingly, patients were generally reluctant to submit to the surgeon’s knife, even when they understood that it was their last hope of survival. Aware of the indescribable pain which accompanied such procedures, most refused to consent to any form of operation until they were so weakened by disease, infection, or blood loss that their chance of living through the surgery was greatly decreased.\textsuperscript{826}

These procedures ranged from relatively routine operations such as the incision of ulcers to terrifying procedures such as amputations.\textsuperscript{827} Unlike the physical treatments outlined above, most of the surgical procedures are self-explanatory and do not require much additional clarification. A great deal of insight, however, can be gained from an examination of the reasons behind variations between the rates at which different procedures were performed at each institution, as presented in Table 6.

\textsuperscript{825} J. Hunter, cited in Digby, 	extit{Making a Medical Living}, p. 89.
\textsuperscript{826} Digby, 	extit{Making a Medical Living}, pp. 83-84.
\textsuperscript{827} See, for example, N. Rice, 	extit{Trials of a Public Benefactor: as Illustrated in the Discovery of Etherization} (Pudney and Russell, New York, 1859), pp. 41-44, for informative, if theatrical, descriptions of several surgical cases.
As illustrated in Table 6, surgeons at New Norfolk Hospital clearly performed a much higher number – over three times as many – operations as surgeons at the Bermudian and London institutions. At a fundamental level, variations in rates of surgical procedures between the three hospitals are largely attributable to differences in the implementation of the health care systems between the three locations. The case notes from St Bartholomew’s Hospital are essentially those from a medical ward, which results in few records with any mention of surgical procedures. Cases requiring more serious operations would have been admitted to the surgical wards, as would emergency cases requiring surgical intervention (such as those necessitating amputations).

The exception is the commonplace and relatively minor operation of inserting a catheter, which was a procedure undertaken with relative frequency in all three hospitals. A silver catheter,
between ten and eleven and a half inches long, was considered to be the best choice for adult male patients, with other sizes and shapes selected for female patients, and young children. Accordingly, most surgeons possessed a set of catheters of varying sizes and widths to allow them to select the appropriate instrument for each case. 828 While a wide array of variously curved catheters was available, many practitioners used straight catheters or those with a short curve at the extremity, as they allowed the instrument to be easily rotated and better followed the natural path of the urethra. 829 A celebrated advance in urology occurred with the introduction of the flexible elastic catheter, which consisted of woven silk tubes, coated with gum elastic. Whichever type of catheter was selected, it would be well-oiled and passed through the urethra into the bladder while the patient remained in a reclining position. 830 The procedure was often repeated once or twice a day as necessary, until the patient regained bladder control. 831

It is significant to note that this procedure did not entail cutting or opening the body, thus reducing the risk of infection and blood loss. 832 Despite this, catheterisation was certainly considered to be a surgical operation, and was routinely referred to as such in patient case notes. 833 The importance and regularity of this procedure can be illustrated by an inventory of articles sent to Van Diemen’s Land in 1828, which included a number of instruments for easing strictures and draining the bladder, such as curved trocars, flexible metallic bougies, and urethra syringes alongside the standard silver catheters and elastic gum catheters. 834

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830 Cooper, A Dictionary of Practical Surgery, p. 277.
832 Although the risk of infection was lower for catheterisation, it remained a significant hazard as the procedure involved the insertion of instruments (which were, of course, unsterilized) into the body.
833 See, for example, SBHAM, SBH, Medical and Surgical Case Notes: Michael Sullivan (MR 16/6/140a).
To enable comparison of rates of diseases and treatment methods between hospitals, patients within the sample group were classified into either surgical or medical categories, according to their diagnostic labels.\textsuperscript{835} These categories were based upon Guenter Risse’s study of the Royal Infirmary of Edinburgh (see Table 7, below).\textsuperscript{836}

From these figures (see also Figure 15, below), it can be seen that although New Norfolk Hospital treated a larger proportion of accident and trauma cases, the Royal Naval Hospital saw more ulcers and abscesses within its wards. As patients in both institutions were employed in hard labour, performing tasks with considerable risk of injury (such as breaking rocks, dragging logs, or quarrying limestone) it is reasonable to expect a moderate number of accident cases in both hospitals. The discrepancy between the two institutions can perhaps be explained by the differences in the administrative systems outlined above. Convict patients could be treated for longer aboard the hulks, allowing minor traumatic injuries to resolve without the need for hospital admission. Obstinate or more serious conditions, however, were likely to fester and develop into chronic conditions which often required hospital admissions due to their long treatment time.

\textsuperscript{835} These labels were applied by the surgeons treating the cases.

<table>
<thead>
<tr>
<th>Disease or Condition</th>
<th>New Norfolk Hospital, Van Diemen’s Land</th>
<th>Royal Naval Hospital, Bermuda</th>
<th>St Bartholomew’s Hospital, London</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Traumatic conditions</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contusion</td>
<td>6</td>
<td>6</td>
<td>-</td>
</tr>
<tr>
<td>Fracture</td>
<td>9</td>
<td>7</td>
<td>-</td>
</tr>
<tr>
<td>Wound</td>
<td>8</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td>Head/brain injury</td>
<td>-</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Poisoning</td>
<td>-</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Accident</td>
<td>-</td>
<td>2</td>
<td>-</td>
</tr>
<tr>
<td>Dislocation</td>
<td>-</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td>Burn</td>
<td>2</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Tumours and cancers</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scrofula</td>
<td>6</td>
<td>4</td>
<td>-</td>
</tr>
<tr>
<td>Tumour</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td><strong>Surgical infections</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ulcers</td>
<td>16</td>
<td>18</td>
<td>1</td>
</tr>
<tr>
<td>Abscess</td>
<td>1</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td><strong>Miscellaneous surgical conditions</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hernia</td>
<td>4</td>
<td>1</td>
<td>-</td>
</tr>
</tbody>
</table>

Table 7: Surgical disease categories for patients at the New Norfolk Hospital, the Royal Naval Hospital in Bermuda, and St Bartholomew’s Hospital.

All three hospitals saw relatively similar numbers of scrofula and tumours, although St Bartholomew’s records do not mention any cases of scrofula. New Norfolk saw a proportionally larger number of hernia cases when compared to the other two institutions. Differences between the two institutions could be due to the more relaxed transportation guidelines for Vandemonian convicts compared to their Bermudian counterparts. As discussed in Chapter 837 For explanation of terms, see Glossary of Diseases and Conditions.
Four, while chronic medical conditions, physical disability, and old age were no barrier to transportation to the Australian colony, only convicts who were “in perfect health, and are declared by the surgeon to be of sound constitution,” were selected for labour in Bermuda.\textsuperscript{838} This may have resulted in a larger number of convicts with pre-existing disorders – such as hernia – arriving in Van Diemen’s Land than in Bermuda. These regulations also meant that the convicts in the Australian colony were, as a group, likely to be older than those labouring on the Bermudian fortifications. As the age of the convicts increased, so too did their likelihood of experiencing a range of medical problems, including hernias and chronic infections such as ulcers and abscesses.

As is apparent from a comparison of diseases between the three institutions, the lack of patients from St Bartholomew’s in many of these surgical categories is more a result of the skewed

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{chart.png}
\caption{Comparison of rates of surgical complaints per thousand cases at New Norfolk Hospital, the Royal Naval Hospital in Bermuda, and St Bartholomew’s Hospital}
\end{figure}

sample than a reflection on the type of cases admitted to the institution. The personal interests of Dr Ormerod, the author of the notes from St Bartholomew’s, in diseases of the heart meant that many of his case notes dealt with circulatory conditions. Even those which were not related to conditions associated with heart and circulatory diseases were often recorded because they featured particularly ‘interesting’ or unusual characteristics. The proportionately higher number of patients recorded suffering from tumours may, therefore, be due to their atypical or abnormal presentation, which prompted Ormerod to note their treatment and progress in his journal.

_A Rare Occurrence_

Just after midnight two days after James Blackman’s leg was amputated, the wound began to haemorrhage.\(^{839}\) Brock was woken abruptly from his sleep; clumsily pulling on some clothes, he rushed across the courtyard to the ward. Having applied some fresh bandages, the bleeding seemed to cease, only to suddenly flow again around four o’clock in the morning. Staunching this new haemorrhage, Brock stumbled back to bed. At ten o’clock, he peeled back the dressings to find Blackman’s leg swollen and the sutures pulled taut. Brock cut the stitches and replaced the dressings, heartened when no fresh bleeding occurred.

Over the next few days, Blackman’s wound appeared to be healing. Although the dressings were discoloured with pus and the stump was swollen, no blood stained the bandages. Brock ordered Blackman’s dressings not to be removed, but upon uncovering the wound found that the flaps had become “partially separated in the situation of the bone.”\(^{840}\) Blackman slipped into delirium, unable to take food or broth or answer a question coherently. He remained insensible until the

\(^{839}\) TAHO, RDH: _James Blackman_ (HSD 246/1/6/162).
\(^{840}\) TAHO, RDH: _James Blackman_ (HSD 246/1/6/162; HSD 246/1/6/167).
evening, when he revived sufficiently to take some wine. After a restless night, Brock wrote with relief that his patient “has taken his breakfast with an appetite [and] is perfectly coherent.”

From this point on, Blackman’s story is a happy one. His wound began to granulate healthily, and in mid-June, three months after the operation which removed his leg, Brock recorded with satisfaction that the “unhealed portion of the stump now not much larger than half a crown, and is daily decreasing.” By August the leg was completely healed, and Blackman was impatiently awaiting the arrival of a wooden leg. Perhaps surprisingly, he was to be discharged back to Mr Murdoch, his old master who had brought him to New Norfolk six months earlier. Blackman seems to have quickly become accustomed to his artificial limb, as within a month of leaving hospital, he had already been reprimanded twice for absconding. After a couple of minor misdemeanors, he received his Conditional Pardon in 1853, after which James Blackman quietly fades from the colonial records.

James Blackman was one of a relatively small group of patients who underwent surgical treatment in a nineteenth-century hospital. The emphasis upon the apparently crude nature of surgical treatment during this era has led to an over-amplification of the role of surgery in nineteenth-century medicine. Of the nine hundred and ninety-nine patients examined in this sample, just thirty-nine underwent a major surgical procedure. The dangers associated with opening the human body – the most common of which was the ever-present risk of infection – meant that using surgery to effect a cure was generally more hazardous than doing nothing at all. If disease proved fatal, at least the patient had died without suffering the agony and uncertainty of surgical intervention.

841 TAHO, RDH: James Blackman (HSD 246/1/6/167).
842 TAHO, RDH: James Blackman (HSD 246/1/6/178).
843 TAHO, RDH: James Blackman (HSD 246/1/6/178).
The strong influence of the humours theory, however, ensured that physical treatments such as venesection, blistering, cupping, and blistering remained popular. While these treatments were no longer taken to the heroic lengths seen in earlier periods, and other physical remedies such as the insertion of setons and issues were gradually sinking out of favour, blood-letting in all its manifestations were familiar to both practitioners and patients alike. While blistering was clearly more frequently prescribed in cooler climates such as Van Diemen’s Land, and venesection was more common in the warmer environment of Bermuda, all three institutions regularly prescribed physical treatments for almost all of their patients. Despite this frequency, it is quite possible that Blackman was the only one of this group of patients to experience the failings and benefits of anaesthesia. The rapid expansion of knowledge in chemistry and biology was, however, fuelling advancement in drug treatments which was perhaps even more innovative than that occurring in surgical arenas.
In the sharp chill of the winter of 1847, John Warring began coughing up blood. For the past few weeks, the thirty-one-year-old ploughman from Buntingford, Hertfordshire, had felt the niggles of a developing cold; not surprising, considering the amount of time he spent outdoors on days so icy his breath hung white in the air. Initially he ignored the heaviness in his head, the aches and the lethargy, passing them off as the lingering results of a bizarre accident five months earlier when a horse had fallen on him while he slept, breaking his arm and leaving him unable to work. But the blood, staining his handkerchief a deep, crimson red, jolted him from his apathetic dismissal.

Warring sought the care of a doctor, who prescribed him various medicines over the course of the following four months. These occasionally checked the sharp cough and the frightening expectoration of blood, but did not entirely quell the symptoms. In the last week of November, Warring found his body wracked with shivering and his limbs weak and aching, with the

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844 Tasmanian Archive and Heritage Office, *Royal Derwent Hospital: John Warring* (HSD 246/1/4-6/140).
throbbing “pain in his knees compelling him to leave work.” His suffering compounded by a persistent tenderness and swelling in his abdomen, he languished in bed for the next two days, tentatively fingering the hard mass of his liver. By the third day, however, he could no longer lie down, a sense of suffocation oppressing his breathing as anasarca began swelling his lower limbs.

It was not until one evening late in January, 1848, that Warring was admitted to the New Norfolk Hospital. Although his dark complexion had yellowed and the swelling of his legs slowed his walk to a painful shuffle, Warring’s five foot nine inch, well-proportioned frame remained nonetheless impressive as he slowly entered the gloomy ward. Still unable to lie down, he sat uneasily in a chair, feet raised, as Dr Brock placed the stethoscope on his chest. Despite his hurried breathing and the rapid action of his heart, Warring’s lungs were clear. His abdomen was distended, “but not so to prevent a hard and prominent tumor being felt in the epigastric region,” Warring wincing as Brock probed the boundaries of the inflammation.

Pressing his finger into the skin of his patient’s swollen lower limbs, Brock watched as the hollow left by the touch remained for several minutes before slowly being restored.

The treatment of anasarca was heavily based on the actions of medicines. Brock’s first objective was to remove the source of the disease; however, in Warring’s case, with the disease so advanced and its onset a distant memory, he focused instead on eliminating the build up of serous fluid flooding the cellular tissue of his patient’s body before it began to seep into Warring’s thorax, effectively drowning him. Forced to decide between the surgical treatment to drain away the fluid and the medicinal treatment which sought to stimulate his patient’s body to

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845 TAHO, RDH: John Warring (HSD 246/1/4-6/140).
846 Anasarca was commonly known as dropsy (see the Glossary of Terminology).
847 TAHO, Conduct Registers of Male Prisoners Arriving in the Period of the Probation System: John Warring (CON 18/1/5/149); TAHO, RDH: John Warring (HSD 246/1/4-6/140).
848 TAHO, RDH: John Warring (HSD 246/1/4-6/140).
849 In particularly severe cases, the skin would be punctured to allow the collected fluid to drain away in a procedure known as tapping. Surgical procedures such as this, however, were only attempted as a last resort, due to the risk of opening the body and exposing it to infection (D. Zuck, ‘John Snow and the Paracentesis of the Thorax’, The History of Anaesthesia Society Proceedings, 30 (2002), p. 54).
absorb its excess secretions, Brock chose the less risky of the two options. By “exciting certain serous excretions” using medicines, the dropsical fluid saturating Warring’s lower body would be absorbed into the bloodstream, where it could easily be drained “by one or other of the common excretions.”

Writing in the Latin which was the accepted form of recording prescriptions, Brock began Warring’s treatment with the stimulant Massae pilulæ hydrargyri – mercury, commonly known as the ubiquitous ‘blue pill’. He added Pulvaris scillæ (powdered sea onion, or squill), a strong diuretic, expectorant and diaphoretic used to stimulate the secretary organs. Used in conjunction, mercury and scillæ were credited with the ability to clear the bowel of blockages, allowing surplus fluids to drain away naturally. Spiritus ammoniae aromaticus (aromatic spirits of ammonia) and Mistura camphorae (camphor) were given to stimulate Warring’s weak system under the effects of Tinctura colchici (tincture of meadow saffron), a drug which acted as an emetic, cathartic and diuretic, but which was also highly toxic if incorrectly used. One eighth of a grain of morphine was ordered to relieve the aching pain of Warring’s swollen legs, and allow him to relax into restorative sleep. Brock also prescribed a second mercurial, Unguenta hydrargyri (mercury ointment), “to be rubbed night and morning in the region of the right lobe of the Liver.” Finally, to promote the flow of excess fluid from Warring’s system, his skin was to be scarified and bled.

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857 See Chapter five for details on physical methods of treatment.
The next morning, Warring spoke in glowing terms of the medicines, especially the morphine. To his great relief, the drugs had allowed him to sleep lying down for the first time in nine weeks. Over the next few days Warring’s condition improved; as January gave way to February, he continued to enjoy restful sleep while lying in bed, “breathing without inconvenience and feeling much lighter about the stomach.” The day after this positive report, however, Warring was again gasping for breath, his shoulders hunched and his widened eyes staring anxiously. In a cycle which would repeat over the following weeks Brock prescribed more morphine, which allowed his patient to rest until dawn when the drug’s effects began to wane and Warring’s breathing again became laboured.

Brock continued with the draught composed of mercury, scillae, camphor and morphine. As the days passed, with Warring bartering dependency on morphine for freedom of breathing, Brock increased the drug to a quarter of a grain. His patient continued to “experience marked relief” from the mixture. For two weeks Warring’s condition wavered precariously, the medicines holding his symptoms at bay but unable to rid him entirely of the oppressive swelling. Just days later, however, Brock wrote grimly that Warring was “worse in every respect.”

The extended use of mercury had caused salivation, which dribbled unchecked down Warring’s chin, yellowing his clothing and bed sheets. The swelling had gradually crept up to his torso, oppressing his breathing still further. A change of medicine was called for. Brock retained the meadow saffron, scillae, morphine and camphor, but replaced the mercury with spiritis aetheris nitrosi (sweet spirit of nitre, or spirits of nitrous ether), also known for its ability to stimulate the kidneys. He also added a cathartic mixture to further encourage purging from Warring’s

858 TAHO, RDH: John Warring (HSD 246/1/4-6/141).
859 TAHO, RDH: John Warring (HSD 246/1/4-6/141-HSD 246/1/4-6/142).
860 TAHO, RDH: John Warring (HSD 246/1/4-6/142).
bowels. By the next day, to the relief of both patient and doctor, the new combination of medicines had eased Warring’s symptoms markedly.

The period of Warring’s hospitalisation – and, more widely, the period encompassed within the patient notes used in this research – was a time of great change within medicine. In the early nineteenth century, practitioners were still influenced by the generally noninterventionist position of earlier centuries, in which, as practitioner Francis Home stated, doctors should first allow nature to cure their patients before interfering with any form of treatment.\(^{862}\) All medicines were prescribed with the intention of supporting the patient’s own system while it healed itself, rather than hoping the drugs would enact the cure in isolation.

**New Challenges to Old Prescriptions**

Since the late eighteenth century, a slow but revolutionary transformation had been occurring within the pharmacopoeias of physicians, the notebooks of medical students, and across the shelves of apothecaries’ shops. Ancient and medieval remedies based on human and animal fat, urine, blood and milk were gradually giving way to innovative new preparations founded on advancements in chemistry and biology.\(^{863}\) As science increased its scope of influence, its place becoming progressively more entrenched within the medical discipline, the traditional emphasis upon rest, diet, and the importance of humoural balance began to lose its omnipotence.

Medicines which were supported by the increasingly influential discipline of science began to assume a greater position in the tasks of practitioners. These drugs, however, were prescribed

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\(^{862}\) F. Home, *Clinical Lectures* cited in Risse, *Hospital Life*, p. 177.

within the framework provided by the traditional humoral system of medicine. In this way, the humoral system of understanding could be legitimately continued, supplemented as it was by more innovative discoveries regarding the uses and actions of drugs. This smoothed the transition between humoral and scientific ways of ‘doing medicine’. Consequently, medicines were categorised within pharmacopoeias and prescribed by physicians according to their actions in rebalancing the body’s humours. The common purpose of medical treatments, particularly drugs, was to carry off stagnating matter from the body, which would otherwise cause inflammation and illness. This acted to improve circulation, increase the absorption of nutrients into the body, and generally hasten the restoration of vitality to the patient’s weakened constitution.

Patients – whether gentlefolk under the care of eminent physicians, or labourers waiting on hard wooden benches for their few minutes with the house surgeon of a sprawling urban hospital – began to see medicine as an integral part of their treatment. Despite having been lectured as medical students on the importance of allowing nature to heal before attempting to cure a patient with medicines, hospital surgeons were in the ambivalent position of needing to treat patients more intensively than custom dictated. The ill came to hospital to be treated; here they expected to receive more rigorous therapy than that to which they would otherwise be exposed. Patients began to prefer paying for drugs than mere advice; doctors were increasingly met with patients who expected to leave clutching some form of medicine, or, at the very least, a scrawled piece of paper instructing the apothecary which remedies to dish out.

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864 Risse, Hospital Life, pp. 179-180
As oil of earthworms, unicorn’s horn, spiders’ webs, and moss grown on decaying human skulls were gradually disappearing from pharmacopoeias, herbal ingredients lingered on as the mainstay of most prescriptions. Botanic elements were used by hospital surgeons as well as ‘home doctors’, all of whom valued the importance of a regulated digestive system to a generally well-balanced body. Supplementing these foundational botanic ingredients – and increasingly supplanting them – were new compounds, particularly mineral and metallic based elements. Drugs with antimony and mercury bases found popularity as purges, although both were used extensively in various forms for a large number of diverse conditions.\textsuperscript{866} Aside from their apparently superior efficacy and strength, chemical medicines were generally much more palatable than the often-bitter draughts made from herbal ingredients, and they had the additional benefit of remaining fresh and potent for longer than their botanic counterparts.\textsuperscript{867} Chemistry also allowed the raw ingredients of herbal medicines to be analysed and their active components isolated and extracted. The therapeutic effects of these purified forms of drugs such as strychnine (from \textit{Nux vomica}) and atropine (from \textit{Belladonna}) were much stronger than their original forms, requiring minute doses for powerful reactions.\textsuperscript{868}

These new and effective medicines, and the science which gave them life, presented a challenge to humoural-based theories of health and sickness. Not only did these drugs demand a rethink of traditional pharmaceutical categories, they required an entirely new system of classification – both theoretical, in the minds of apothecaries and doctors, and practical, in the pages of pharmacopoeias which were utilised across the world.

Despite the geographical isolation of the hospitals of Bermuda and New Norfolk, their colonial surgeons were, on the whole, surprisingly well equipped. A stock of over one hundred and fifty types of medicines and treatments were administered (either individually or combined into compound concoctions) to the patients admitted to the three institutions, ranging from ointments, liniments and poultices to extracts, tinctures and pills. From the nine hundred and ninety nine cases examined for this research, many valuable individual narratives describing patients’ experiences with medicines can be brought together, offering a great deal of insight into the wider medicinal treatments in the mid-nineteenth century.

Until the late eighteenth century, medical treatment had traditionally been tailored to the individual. As each patient had a unique constitution, each was expected to respond differently to the onset of disease, complicating diagnosis, prognosis, and outcome. Medical professionals made individual recommendations for each client, with each patient’s requirements for rest, diet and exercise considered in isolation. Although medicines were utilised, they were intended to supplement the more general regulating of the patient’s life with the ultimate aim of bringing the humours into perfect equilibrium – the recipe for good health.

Due to this individualised approach, medical treatment resisted easy categorisation or standardisation. Practitioners did, however, utilise two broad therapeutic strategies when faced with different groups of diseases: one designed to stimulate the patient’s system, the other to

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865 This section is by no means a complete examination of each medicine used in the three hospitals; such an exhaustive analysis is far beyond the scope of this research. However, every medicine used within the hospital case notes is documented and described in the Glossary of Medicines and Treatments.

soothe and sedate it (see Table 5).871 If a patient presented with warm, flushed skin and a rapid pulse, he would be diagnosed as exhibiting symptoms of pathological arousal which required a sedative regime to equalise his system. Conversely, a pale, lethargic patient with a slow pulse and respiration would require stimulating treatments to correct his depressed constitution. Table 8, based on Risse’s analysis of treatment at the Royal Infirmary of Edinburgh, delineates the basic elements of each regimen.872

<table>
<thead>
<tr>
<th>Diet and Beverages</th>
<th>Sedative Regimen</th>
<th>Stimulant Regimen</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abstinence or low, vegetable-based diet with cooling drinks such as cream of tartar and barley water</td>
<td>Full diet (including meat) with warming drinks such as wines, liquors and beers</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Medicines</th>
<th>Sedative Regimen</th>
<th>Stimulant Regimen</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cathartics</td>
<td>Astringents</td>
<td></td>
</tr>
<tr>
<td>Diaphoretics</td>
<td>Bitters and tonics</td>
<td></td>
</tr>
<tr>
<td>Diuretics</td>
<td>Diaphoretics</td>
<td></td>
</tr>
<tr>
<td>Emetics</td>
<td>Diuretics</td>
<td></td>
</tr>
<tr>
<td>Expectorants</td>
<td>Emetics</td>
<td></td>
</tr>
<tr>
<td>Emollients</td>
<td>Expectorants</td>
<td></td>
</tr>
<tr>
<td>Narcotics</td>
<td>Sialagogues</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Physical Treatment</th>
<th>Sedative Regimen</th>
<th>Stimulant Regimen</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blood-letting</td>
<td>Cold and warm water baths</td>
<td></td>
</tr>
<tr>
<td>Cold and warm water baths</td>
<td>Blistering, setons and issues</td>
<td></td>
</tr>
<tr>
<td>Blistering</td>
<td>Local heat and rubbing</td>
<td></td>
</tr>
<tr>
<td>Poultices and fomentations</td>
<td>Fomentations</td>
<td></td>
</tr>
<tr>
<td>Rubbing</td>
<td>Electricity</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Other Treatment</th>
<th>Sedative Regimen</th>
<th>Stimulant Regimen</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rest in a well-ventilated and darkened room; avoidance of exercise</td>
<td>Exercise</td>
<td></td>
</tr>
</tbody>
</table>

Table 8: Comparison of sedative and stimulant treatment regimens873

871 Risse, Hospital Life, p. 181.
872 Risse, Hospital Life, pp. 181-182.
873 See the Glossary of Terminology for explanation of terms.
Despite the difficulty of classifying medicines, recognising the importance of some type of systematic order within the *Materia Medica*, physicians generally grouped medicines according to their effects on the body. Predictably, ardent debate occurred over the number and nomenclature of these groups; however, the following categories delineate the basic groups of drugs utilised by St Bartholomew’s Hospital, New Norfolk Hospital, and the Royal Naval Hospital in Bermuda.

### Anodynes

This group of medicines were classed as sedatives; by relieving pain and allowing rest, they depressed and soothed patients’ tortured systems. Not surprisingly, they were among the most popular of the nineteenth-century surgeons’ drugs.

The most notable of the anodynes was opium (*Papaver somniferum*), a widely used and accepted medicine. Anodynes were commonly prescribed in pill or draught form, although opium could also be prescribed as a wine to relieve irritable coughs, an enema to reduce inflammation by drawing ‘poisons’ away from the site of disease, or as an ointment to relieve the pain of rheumatism or muscular injuries. Among the more common forms of opium were mixtures such as Dover’s powder and laudanum, both easily obtained and happily consumed by all levels of society in Britain and its colonies. Morphine acetate (morphine salts) was also available, but due to its expense it did

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875 This does not refer to opium mixed with wine, but opium steeped in wine (with cinnamon and cloves), then strained before administering to the patient. It had a pleasant taste than *Tinctura opii*. Sydenham’s laudanum was also referred to as Wine of Opium (R. Phillips, *A Translation of the Pharmacopoeia of the Royal College of Physicians of London, 1836* (S. Highly, London, 1837), p. 355.)


not challenge the popularity of laudanum or other forms of opium until the hypodermic needle was perfected in the 1850s.\textsuperscript{878} 

Before the discovery of anaesthesia, opium was also commonly administered to ease the “pungent soreness” and “smarting of the wound” immediately after surgery.\textsuperscript{879} When administered promptly after operations, opium allowed patients to rest in a comparatively comfortable oblivion until their wounds began to heal, or until infection carried them away. The drug could not, however, dull the agony of the operation while it was in progress; the size of the dose required for such an effect would be so fraught with danger that few, if any, surgeons would dare attempt its administration.\textsuperscript{880} 

Determining a safe dosage of opium was in any case a perilous business. In April 1848 Robert Adams, a forty-six-year-old actor, was admitted to St Bartholomew’s Hospital with kidney disease, his anxious face and “large heavy” body bearing testament to the effects of his intemperate lifestyle.\textsuperscript{881} His abdomen bloated with retained fluid, Adams was immediately prescribed diuretic medicines by Dr Ormerod. After a disturbed night, punctuated by vomiting and diarrhoea but little sleep, Adams lapsed into delirium, his face and neck suffused with blood, blushing his skin a dusky purple and staining his lips almost blue. In such a condition, administering opium would push Adams into an unconsciousness from which he was unlikely to wake. The patient, however, was delirious from lack of sleep. By dosing him with opium, Ormerod could ease his near-hysterical patient into the sleep he desperately craved – but it could come at the highest possible cost. For four long days, Ormerod deliberated. On the fifth day, 

\begin{flushleft} 
\textsuperscript{878} Hamilton and Baskett, ‘In the Arms of Morpheus’, p. 369. 
\textsuperscript{879} Surgeons B. Bell and J. Moore cited in Hamilton and Baskett, ‘In the Arms of Morpheus’, p. 368. 
\textsuperscript{880} Hamilton and Baskett, ‘In the Arms of Morpheus’, p. 368. 
\textsuperscript{881} St Bartholomew’s Hospital Archives and Museum, St Bartholomew’s Hospital, Medical and Surgical Case Notes of Edward Latham Ormerod, Diseases of the Central Nervous System, Kidneys, Abdominal and Infectious Skin Diseases: Robert Adams (MR 16/6/314). 
\end{flushleft}
he cupped Adams, relieving the stricken man of enough blood to reduce the congestion in his upper body – enough blood, Ormerod hoped, to allow the administering of opium. Almost immediately after the drug was swallowed, however, Adams sank into a deep sleep. At noon three days later, Adams quietly died. Ormerod had lost his gamble.

Cathartics

The type of medicine most frequently employed, both in hospitals by practitioners and at home by self-dosing sufferers, was cathartics. Sedative and stimulating plans of treatment mutually extolled the virtues of a purged gastrointestinal tract. As well as clearing morbid matter from the bowels, cathartics were believed to stimulate circulation of the blood in the lower body and assist the body to absorb nutrients through newly cleansed intestines.\(^{882}\)

Cathartics were generally grouped according to the severity of their action. Laxatives were the gentlest of the cathartics, more often self-prescribed than hospital-administered. Purgatives and drastics, however, were perhaps the mainstay of the hospital surgeon’s cache of medicines; most hospital patients underwent some form of cathartic treatment during their stay. Purgatives included *Extractum aloe* (extract of aloes), *Olei ricini* (castor oil), *Pulvaris jalapae compositus* (compound powder of jalap), and *Tincturae sennae* (tincture of senna), while drastics encompassed violent drugs such as *Extractum citrullus colosynthus* (extract of colocynth), *Extractum elaterii* (squirting cucumber), and *Scammonium* (scammony). The popularity of these cathartics was secured – among doctors, if less so among their patients – by the impressive visible results of their action.

\(^{882}\) Risse, *Hospital Life*, p. 192.
Terrence Grey, a patient at the New Norfolk Hospital, experienced the powerful effects of scammony. He was admitted four days before Christmas, 1844, suffering from ophthalmia. Having already lost the sight of his left eye, his right was shadowed by a cataract and traversed by swollen red vessels. He was admitted to the hospital more for lack of a better option than for the need of medical treatment; there was little surgeons could do for ophthalmic conditions other than cleanse the eyes and, of course, the bowels. After being purged, vomited, cupped, bled, and enduring enemas and stinging local applications to his eyes, Grey’s bowels were declared open, although his eyelids remained adhered together with a vile mixture of mercurial ointment and sticky pus. For twenty-four hours, however, Grey failed to visit the stool.

Concerned for Grey’s constitution, Dr Brock dosed his obstructed patient with scammony. The drastic acted swiftly, regulating Grey’s bowels and purging his system of waste. While both Grey and his surgeon were thankful to have escaped more dramatic effects of the powerful drug, the dose did little for Grey’s overall condition; after exactly two years at New Norfolk Hospital he was finally discharged to the Invalid Depot at Impression Bay “to try the effects of a change of air.”

Other patients dosed with drastics were less fortunate – in cases of serious overdoses, violent vomiting and diarrhoea would be followed by abdominal pain, cooling extremities and a dangerously slow pulse.

Diaphoretics and sudorifics

As with all forms of purging from the body, the free drainage of the pores of the skin was considered to be of great importance. Doctors and scientists spent lengthy periods of time calculating the number of pores on the average human body, the amount of perspiration excreted from them, and the elements contained in the exuded fluid. While suppressed or

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883 TAHO, RDH: Terrence Grey (HSD 246/1/1/8; HSD 246/1/1/58; HSD 246/1/1/147; HSD 246/1/4-6/24).
impaired perspiration could cause illness, stimulating the body to perspire copiously through the use of sudorifics, or producing a gentle perspiration by using diaphoretics, was seen as an excellent preventative and curative treatment.  

Unlike cathartics and emetics, which purged the body, often leaving it debilitated, diaphoretics had the advantage of not unduly weakening the patient. Indeed, as they were considered to be generally soothing in their character, these medicines were often part of sedative treatment regimes. To augment the warming effects of the drugs, patients receiving diaphoretics were often bathed, fomented, and wrapped snugly in layer upon layer of blankets.

Popular sudorifics included *Miitura camphorae* (camphor) and opium, with diaphoretics such as *Guaiacum* (guaiac powder) and *Decocta sarsae* (decoction of sarsaparilla). Samuel Wootley, a thirty-one-year-old pass-holder admitted to the New Norfolk Hospital, received sarsaparilla as part of his treatment for syphilis.  

After a restless night, his sheets soaked with perspiration as the drug cleansed his system, Wootley’s condition seemed marginally improved. By the following week, the ulcers over his chest and legs were healing, and his throat was no longer tender when he swallowed. He remained in hospital for a further two months until, his convalescence complete, he was discharged.

**Diuretics**

Diuretics performed the crucial task of removing dangerous excess fluid from the body by stimulating the kidneys to produce increased quantities of urine. These medicines were generally used in cases of serious illness such as ascites, anasarca, and respiratory conditions, for patients

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883 Risse, *Hospital Life*, p. 196.  
886 TAHO, RDH: Samuel Wootley (HSD 246/1/6/59; HSD 246/1/6/108; HSD 246/1/6/163; HSD 246/1/6/177; HSD 246/1/6/228; HSD 246/1/6/231; HSD 246/1/6/244).
exhibiting symptoms such as the wheezing, cough and dyspnoea common to asthma, bronchitis and emphysema.\textsuperscript{887} 

The most frequently prescribed medicines in this category were \textit{Antimonium} (antimony) and \textit{Digitalis} (foxglove). Antimony, a violently irritant drug, was used commonly as a cathartic, emetic, and diaphoretic. A minute dose in susceptible patients was sufficient to cause immediate vomiting and profuse perspiration; if the drug was not rejected from the body through such purging, it would cause the patient agonising cramps, horrendous nausea, terrible burning sensations in the abdomen, and, in extreme instances, death through heart failure.\textsuperscript{888} These alarming hazards saw the gradual abandonment of antimony in the late nineteenth century. During the early to mid-1800s, however, the drug was stocked behind every apothecary’s counter and confidently prescribed by many hospital surgeons (including those in all three institutions examined here).

\textit{Digitalis} was one of the most significant medicinal discoveries of the late-eighteenth century. Dr William Withering isolated the drug from the leaves of the foxglove, determined its dosage through bold experiments, and recognised its valuable diuretic effects.\textsuperscript{889} While exalting its exceptional diuretic capacities, Withering also prudently warned fellow practitioners of the fickle nature of the drug. If a patient was administered sufficient digitalis to cause purging or vomiting, a fatal overdose was likely.\textsuperscript{890} Smaller doses, however, provided a long-awaited and much-needed


\textsuperscript{888} Griggs, \textit{New Green Pharmacy}, p. 78.


\textsuperscript{890} Griggs, \textit{New Green Pharmacy}, p. 139.
remedy for cardiac dropsy and other forms of heart disease – conditions which, until the discovery of digitalis, could essentially not be treated.  

At the end of November, 1845, Henry Bowman was admitted to the wards of St Bartholomew’s Hospital with ascites. His face pale and anxious, he was suffering from pains across the loins and sacrum, coupled with blood-streaked diarrhoea. The day after his admission, Bowman noticed that his lower legs were swollen; when Dr Ormerod probed his abdomen the region of the kidneys was found to be tender. A week later he was prescribed digitalis to combat the increasing oedema of his lower limbs. He remained in hospital for a further week, predominantly complaining of “weight and pain in his head,” but largely convalescent from the attack of ascites. Upon his discharge in mid-December, Bowman was “very much thinner since the commencement of his illness, but in good spirits,” and, apparently, good health.

Digitalis was also used to treat respiratory conditions, particularly in Bermuda. Late in 1832, ordinary seaman John Hayes was admitted from the HMS Winchester into the Royal Naval Hospital in Bermuda. Just twenty-two years of age, Hayes was suffering from a persistent bout of pneumonia. Although, as Dr Arthur Savage records, the “acute stage yielded to repeated bleeding, blisters, Cathartics, Antimony and Mucilaginous cough mixtures,” aboard the Winchester's sick bay Hayes' skin grew “morbidly hot” and his pulse became frequent and small. When his patient began wheezing, constantly troubled by a “very teasing” cough, Dr Savage

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892 See Glossary of Diseases and Conditions for explanation of terms.
893 SBHAM, SBH, Medical and Surgical Case Notes: Henry Bowman (MR 16/6/220a).
894 SBHAM, SBH, Medical and Surgical Case Notes: Henry Bowman (MR 16/6/221).
895 SBHAM, SBH, Medical and Surgical Case Notes: Henry Bowman (MR 16/6/221).
896 The National Archives, Admiralty and Predecessors, Office of the Director General of the Medical Department of the Navy and Predecessors, Service Registers and Registers of Deaths and Injuries: Case Book, Royal Naval Hospital, Bermuda: John Hayes (ADM 104/9, p. 00014).
administered digitalis, accompanied by a bitter and an anodyne (almost certainly opium). This mixture greatly relieved Hayes’ breathing, making him sufficiently comfortable to be transferred to the larger, land-based hospital.

Some patients were placed on lengthy courses of digitalis to treat chronic conditions. Angus Smith, for example, a twenty-eight-year-old convict aboard the Coromandel hulk in Bermuda, experienced occasional attacks of haemoptysis. Small, regular doses of digitalis were found to control the condition, although they did little for his nagging cough.

Emetics

Emetics were prescribed with the intention of removing excess waste matter from the body before it contaminated the rest of the system, causing disease. By expelling this matter through vomiting, patients could be rid of the waste before it burdened the digestive tract. The vomiting was often continued until the patient’s appetite began to return, any discomfort or heaviness having been carried off by the purging. Drastic emetics, particularly those caused by lead and mercury based medicines, caused violent muscular spasms which doctors often hastily prescribed other drugs (typically belladonna) to relieve.

Ipecacuanha was a common, relatively mild emetic frequently used to treat rheumatic pains, by both hospital surgeons and self-dosing sufferers at home. In the form of a medicinal wine, it was prescribed as a gentle emetic, while as a tincture it produced a slightly more rigorous effect. In either form, it produced an emesis which was valued for its brevity and the lack of prostrating

897 NA, Case Book, Royal Naval Hospital, Bermuda: Angus Smith (ADM 104/98, p. 00038).
898 Risse, Hospital Life, p. 195.
exhaustion which often accompanied other emetic medicines.\textsuperscript{901} Frequently used to treat children, ipecacuanha was commonly prescribed in cases of mild poisoning, fever, and sick headache, and also to expel undigested food or foreign bodies from the oesophagus or stomach. More rigorous emetics included favourites such as antimonial potassium tartrate (tartar emetic) and copper sulphate (blue vitriol or bluestone). Minute doses of tartar emetic were sufficient to cause violent vomiting, followed by exhaustion.\textsuperscript{902} Its severe action rendered it too drastic for the treatment of children.

Copper sulphate was considered an excellent emetic in cases of dysentery and diarrhoea, croup, diphtheria, and other throat conditions (to expel any false membranes that may have formed across the airways), and poisoning.\textsuperscript{903} As with the majority of medicines, however, blue vitriol had a darker side. A well-known and easily purchased poison, copper sulphate was often swallowed in chunks by those intent on suicide. One such tragic case was John Harrison, a fifty-nine-year-old invalid admitted to New Norfolk Hospital after attempts to take his own life. Upon his admission, his neck was found to be bloody, scraped across the left side with jagged scratches. Harrison was questioned, and admitted that “he felt unwell and particularly unhappy in his mind having been wrongfully accused of being a tale Bearer.”\textsuperscript{904} Having swallowed two pieces of bluestone, he found that the only effect they produced was violent vomiting. The drug having failed to take his life, Harrison resorted to scratching his neck with a needle, which


\textsuperscript{904} TAHO, RDH: John Harrison (HSD 246/1/6/110).
succeeded only in having him admitted to hospital, where he was copiously bled, and his head shaved. 905

Expectorants (pectorals)

As emetics expelled the contents of a patient’s oesophagus and stomach, so expectorants brought up any stagnating matter from the lungs. 906 This category of drug, however, was less well-defined than the other groups of medicines. In an attempt to describe this awkward group of medicines, one textbook explains that as there were “no expectorants which act directly or specifically, and…no medicinal agents [were] more uncertain in their effects than those arranged under this class,” these drugs were regarded with suspicion by some medical men. 907 A few practitioners became quite outspoken in their scepticism of the class of expectorants, scornfully branding it as a “fallacious term, which ought to be obsolete, as it serves only to perpetuate error.” 908

As these sentiments demonstrate, practitioners were divided in their understandings of how expectorants operated, and, indeed, whether their operation was predictable or effective enough to entitle them to an entirely separate class of medicines. Some doctors contended that by softening, thinning, or breaking up the solidifying bronchial discharges, expectorants assisted the patient to easily cough them up. 909 A second group of practitioners challenged the nomenclature

905 Head shaving as a form of treatment was fairly common. It was performed for a number of reasons, such as allowing better access to the scalp to apply leeches, blisters or lotions, to calm the patient in cases of hysteria, or simply to allow more cooling air to flow around the patient. Conversely, it could also be performed as a type of punishment, particularly for violent or maniacal patients (W. Stokes, ‘Lectures on the Theory and Practice of Medicine, delivered at the Medical School, Park Street, Dublin, Sessions 1833-34’, London and Medical Surgical Journal, 5 (1834), pp. 713-714).
906 Incidentally, emetics were often used in conjunction with expectorants to rid the stomach of swallowed expectorations from the patient’s lungs.
909 Risse, Hospital Life, p. 196.
of this group of drugs, and questioned whether they should perhaps be classed as a type of emetic, as they operated by dislodging and expelling secretions from the passages.\textsuperscript{910} Still others insisted that expectorants operated by relaxing the muscles of the chest, allowing the patient to breathe deeply enough to restore the body’s natural respiration and thus dissipate any accumulated matter.\textsuperscript{911} In this case, practitioners suggested, perhaps these drugs should be considered to be part of the antispasmodic category, inasmuch as they acted to diminish any muscular spasms of the chest.

The precise manner in which expectorants were understood to operate was also crucial to defining exactly which medicines should be placed within the category, and how these medicines should be administered to the patient. As the primary aim of expectorants was the expelling of matter from the lungs, some practitioners expressed the belief that the medicine should be inhaled in the form of an airborne vapour or gas, while others contended that the drug would still operate if it was taken into the patient’s stomach.\textsuperscript{912} These practitioners supported their assertions by highlighting how other medicines, when ingested by the patient, were then evident upon their breath (such as camphor or oil of turpentine).\textsuperscript{913}

Expectorants were most frequently employed in cases of pneumonia, asthma, and other inflammatory respiratory conditions. They were generally considered to be a form of stimulant, as they aroused the muscles in order to encourage the rejection of matter from the lungs. In some situations, however, expectorants could also be employed to soothe a patient’s condition – when administered in combination with opium, they were used as sedatives to ease troublesome

\textsuperscript{911} Murray, \textit{A System of Materia Medica and Pharmacy}, pp. 448-450.
\textsuperscript{912} Neligan and Reese, \textit{Medicines, Their Uses and Modes of Administration}, p. 211.
coughs. Antimony, *ippecuanha*, squill, and digitalis were all prescribed as expectorants, alongside Gum-arabic and Balsam of Tolu. The patient would often be wrapped in blankets and urged to remain in bed while the medicines acted to prevent a recurrence of illness.

Mercurials (sialagogues)

Medicines containing mercury maintained their popularity for centuries among practitioners and patients. As a stimulating cathartic and diaphoretic, mercury’s value lay in its capacity to purge the body – the bowels, kidneys, and other organs – through copious sweating and salivation. It was prescribed in pill form for venereal or gastrointestinal diseases, and applied as an ointment on skin eruptions and venereal lesions (which were often kept open for lengthy periods of time to allow drainage). By the late 1830s, however, practitioners had begun to question the wisdom of free administration of such a destructive drug.

Despite its collective acceptance and usage, mercury also had the potential to cause patients horrendous injury and disfigurement. An extended course of mercurials (particularly one in which small doses were given repeatedly close together, rather than larger doses spread over a greater period) often caused patients to lapse into a debilitated and emaciated state, their discomfort compounded by the common side-effects of swollen, painful gums and constant salivation – sometimes the quantity of saliva which ran endlessly from patients’ mouths was so great that it was measured by the pint. Others were dosed to the point of “complete

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916 Risse, *Hospital Life*, p. 378.
salivation,” such as Bermuda patient William Orr, a fifty-one-year-old cook aboard a Royal Naval steamer, and Henry Bowman, the thirty-one-year-old founder treated at St Bartholomew’s who also received digitalis to treat his ascites. Most pitiful, perhaps, was William Gibbons, a seventy-nine-year-old invalid at New Norfolk Hospital, who whilst under treatment at an earlier period had been “Kept in what was there termed a walking salivation as a preventative against fever.” These patients would have spent miserable days leaning uncomfortably over a basin, their mouths streaming with saliva, their teeth loosened in their aching jaws, their tongues and gums sloughing from the constant foul flow.

Until the late 1840s, this salivation was understood by medical practitioners as favourable, a sign that the mercury had been absorbed by the patient’s system and was acting to restore health. In extreme cases, however, excess salivation would cause whole sections of patients’ jaws to fall away, leaving them permanently disfigured, publicly marked by their disease and its treatment. These appalling side-effects were accepted by many doctors as the necessary cost of utilising what was seen, despite the drawbacks, as a useful and effective medicine.

Other veteran sufferers were discernible by the tremors and paralysis typical of mercury poisoning. These side-effects of were also obvious in those who worked with mercury, such as looking-glass silverers, hatters, barometer makers, or miners employed in sourcing quicksilver. Initially, the victim would notice a certain unsteadiness in the arms, which soon progressed to muscular spasms and often also affected the speech and balance. If the exposure to mercury continued, more dramatic symptoms followed, such as delirium, seizures, and occasionally fatal

920 NA, Case Book, Royal Naval Hospital, Bermuda: William Orr (ADM 104/98, p. 00284); SBHAM, SBH, Medical and Surgical Case Notes: Henry Bowman (MR 16/6/220a).
921 TAHO, RDH: William Gibbons (HSD 246/1/1/173).
923 Risse, Hospital Life, p. 199.
apoplexy. Such dramatic effects generally arose only when the mercury was inhaled or absorbed cutaneously, but occasionally also occurred following rigorous medicinal courses. By the 1840s, however, mercurial courses had become much gentler treatments than their predecessors. Whereas eighteenth century practitioner Herman Boerhaave considered it essential that a patient under a mercurial course of treatment “should spit three or four pounds in twenty four hours” and physician Daniel Turner “says from two to three quarts are a good and sufficient discharge,” nineteenth-century medical men were confident that the mercury was exerting its beneficial effects with only a “very slight affectation of the mouth.”

**Tonics (corroborants)**

Tonics encompassed a group of drugs employed to restore vitality and tone (or tension) to patients’ constitutions. As physician John Murray recommended, over a period of continual administration, tonics “increase gradually the force of the circulation, promote the action of the digestive organs, augment the secretions, or moderate them when they have been morbidly increased and, give vigour to the muscular system.” Unlike most other categories of drugs, this group of medicines was not administered to cure illness. Rather, they were designed to help rebuild strength following any disease which left a patient emaciated, lethargic, or frail. As such, tonics were generally employed as gentle courses of lengthy duration rather than brief or intensive treatments, which risked further depleting or overwhelming the patient’s weakened constitution.

The restorative and vitalising action of tonic medicines was understood to operate slowly but effectively in a two-fold manner. When taken internally, they simultaneously strengthened the

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patient’s entire constitution through a “powerful impression upon the central organs of the nervous system,” and stimulated the appetite by exerting toning action upon the digestive system. When applied externally, they operated by increasing the density of the body’s muscular fibres, thus strengthening them. Tonics were often used in conjunction with stimulants, as each operated to enhance the action of the other drug; as physician John Biddle succinctly commented, “tonics give strength, stimulants call it forth.”

Quinine was the most potent of the nineteenth-century tonics, and formed an integral part of any surgeon’s medicine chest, particularly in warmer environments such as Bermuda. The active ingredient in Cinchona succirubra (Peruvian bark), quinine had been acknowledged for its anti-malarial properties since the seventeenth century. After a ferocious battle in which physicians fought to reject the bark from the canon of accepted Materia Medica, Cinchona was eventually received into standard pharmacopoeias as a tonic and antiseptic. Upon this acceptance, many practitioners then embraced the medicine with a passion, crediting it with miraculous curative powers over a vast array of diverse conditions. Intensely bitter, quinine had the potential to cause a number of unfortunate side-effects in patients, including “a pernicious state of mental enervation,” ringing in the ears, and dizziness. Fortunately, these generally occurred only when large doses thrust the patient’s “nervous system beyond all natural bounds,” and were generally reversible. In more moderate amounts, quinine was used to prevent and treat various types of fevers, respiratory conditions (such as asthma), inflammations (particularly skin eruptions, where it acted as an antiseptic), gastrointestinal disturbances (especially dysentery), and even venereal diseases, where it was used to offset the effects of mercury.

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928 J. Biddle, Review of Materia Medica, for the Use of Students (Lindsay and Blakiston, Philadelphia, 1852), pp. 76-77.
929 Biddle, Review of Materia Medica, p. 77.
931 Quinine was often administered in wine, to mask the bitter taste. Without such a precaution, patients often vomited after swallowing the medicine (Cook, The Physiomedical Dispensatory: Cinchona, at <http://www.henriettesherbal.com/eclectic/cook/CINCHONA.htm> accessed 15 January 2010; Risse, Hospital Life, p. 373).
James Duncan, a thirty-year-old convict aboard the Coromandel hulk, was given quinine as a tonic to restore his strength after an exhausting bout of catarrh and an even more taxing round of drastic cathartics.932 After enduring a number of doses of elaterium, Duncan’s system was severely depleted, but the quinine rapidly saw him increasing in strength. At the New Norfolk Hospital, James Bedford, a tall, thin carpenter, was also given quinine to restore his beleaguered constitution as he battled hepatitis.933

Other tonics prescribed at the three hospitals used in this sample include botanic-based medicines such as quassia (wood of the Picraena excelsa), gentian (Gentiana lutea), and the bark and roots of the magnolia. These three remedies were most frequently administered as stomachics, to treat gastrointestinal complaints, but were also employed as general restoratives.934 Various mineral-based drugs were also used, such as preparations of iron, zinc or silver. These medicines were frequently prescribed in cases of depletion of the blood, in which the tonic was understood to “exercise a restorative influence on the composition of the blood, by increasing the number of its colouring particles, and the amount of its solid constituents.”935

Where tonics were given as prophylactics, to assist in the prevention of diseases such as fever, they required careful monitoring. If healthy subjects were administered large doses of tonics, the medicines would act as a stimulant, irritating their constitutions rather than soothing and maintaining health.936 Although they were most frequently used to treat chronic disease or during convalescence, when prescribed appropriately, tonics could also assist in acute cases of

932 NA, Case Book, Royal Naval Hospital, Bermuda: James Deacon (ADM 104/98, p. 00032).
933 TAHO, RDH: James Bedford (HSD 246/1/6/217; HSD 246/1/6/222; HSD 246/1/6/225; HSD 246/1/6/231; HSD 246/1/6/232).
934 Biddle, Review of Materia Medica, pp. 78-79, pp. 80-81, pp. 87-88.
936 Biddle, Review of Materia Medica, p. 76.
epilepsy, neuralgia, and other painful spasmodic conditions, by soothing muscular fibres and relaxing the patient’s system.\textsuperscript{937}

**Other categories of medicines**

A number of other groups of medicines were routinely prescribed by doctors throughout the late-eighteenth century and well into the nineteenth. Although utilised less frequently than the drugs discussed above, these medicines all served particular purposes within the *Materia Medica*.

<table>
<thead>
<tr>
<th>Type of Medicine</th>
<th>Uses</th>
<th>Examples of Medicine</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Antacids</strong>\textsuperscript{938}</td>
<td>Neutralises stomach acid</td>
<td><em>Mistura cretae comp</em> (chalk compound)</td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>Pulvaris magnesium carbonat</em> (magnesia carbonate)</td>
</tr>
<tr>
<td><strong>Antispasmodics</strong>\textsuperscript{939}</td>
<td>Relieves spasms in the involuntary muscles</td>
<td><em>Ferula asafoetida</em> (Asafoetida)</td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>Ether</em></td>
</tr>
<tr>
<td><strong>Carminatives</strong>\textsuperscript{940}</td>
<td>Eliminates abdominal bloating</td>
<td><em>Coriandrum</em> (coriander)</td>
</tr>
<tr>
<td><strong>Emollients</strong>\textsuperscript{941}</td>
<td>Relaxes or lessens the density of bodily fibres</td>
<td><em>Mica panis</em> (bread poultice)</td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>Liniment ammonia</em> (olive oil and water solution of sodium hydroxide)</td>
</tr>
<tr>
<td><strong>Epispastics and rubeefaciens</strong>\textsuperscript{942}</td>
<td>Produces cutaneous blisters, reddening or discharge</td>
<td><em>Cantharides vesicatoria</em> (plaster of Spanish fly)</td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>Sinapis alba</em> (white mustard)</td>
</tr>
<tr>
<td><strong>Errhines</strong>\textsuperscript{943}</td>
<td>Produces discharge from the nose</td>
<td><em>Hydargryi subsulphas</em> (yellow mercuric subsulphate)</td>
</tr>
</tbody>
</table>

Table 9: Other groups of medicines employed at the New Norfolk Hospital, the Royal Naval Hospital in Bermuda, and St Bartholomew’s Hospital\textsuperscript{944}

\textsuperscript{937} Biddle, *Review of Materia Medica*, p. 77.
\textsuperscript{938} Murray, *A System of Materia Medica and Pharmacy*, p. 489.
\textsuperscript{939} Murray, *A System of Materia Medica and Pharmacy*, pp. 197-200; Risse, *Hospital Life*, p. 201.
\textsuperscript{941} Murray, *A System of Materia Medica and Pharmacy*, p. 539.
\textsuperscript{942} Murray, *A System of Materia Medica and Pharmacy*, pp. 473-476.
\textsuperscript{943} Murray, *A System of Materia Medica and Pharmacy*, pp. 468-469; Risse, *Hospital Life*, p. 201.
\textsuperscript{944} See Glossaries for further explanations of terms and medicines; see, for example, Murray, *A System of Materia Medica and Pharmacy*, for further obscure categories of *Materia Medica* – those included here are those which appear in the records of the three hospitals used in this research.
Of the twelve most commonly prescribed categories of drugs (see Tables 10 and 11), cathartics featured as the most frequently prescribed group of medicines in each of the three hospitals with around twenty percent of patients receiving a purgative. By promoting a general purging of the body, ridding the patient of disease-causing matter, cathartics served as the universal remedy of the nineteenth century. Indeed, many surgeons prescribed a warm bath and a mild aperient as part of hospital admission procedure, regardless of whether the patient was ailing from chronic rheumatism or acute ophthalmia, severe bronchitis or a sudden attack of dropsy.

<table>
<thead>
<tr>
<th>Category of Medicine</th>
<th>Percentage of Patients Prescribed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cathartics</td>
<td>19.87%</td>
</tr>
<tr>
<td>Mercurials/sialogogues</td>
<td>10.40%</td>
</tr>
<tr>
<td>Emetics</td>
<td>9.82%</td>
</tr>
<tr>
<td>Anodynes</td>
<td>9.27%</td>
</tr>
<tr>
<td>Epispastics/rubifacients</td>
<td>7.45%</td>
</tr>
<tr>
<td>Tonics</td>
<td>6.77%</td>
</tr>
<tr>
<td>Other medical treatments</td>
<td>4.83%</td>
</tr>
<tr>
<td>Astringents</td>
<td>4.64%</td>
</tr>
<tr>
<td>Diuretics</td>
<td>3.58%</td>
</tr>
<tr>
<td>Diaphoretics/sudorifics</td>
<td>2.86%</td>
</tr>
<tr>
<td>Expectorants</td>
<td>1.51%</td>
</tr>
<tr>
<td>Antacids</td>
<td>1.10%</td>
</tr>
<tr>
<td>Antispasmodics</td>
<td>0.36%</td>
</tr>
</tbody>
</table>

Table 10: Most commonly prescribed groups of medicines at the New Norfolk Hospital, the Royal Naval Hospital in Bermuda, and St Bartholomew's Hospital combined

Cathartics were followed in popularity by mercurials and other sialogogues. A substantial sixteen percent of St Bartholomew’s patients were prescribed mercury, compared to around ten percent
in New Norfolk and Bermuda. While all three institutions admitted venereal cases – the most common disease to be treated with mercury – the two colonial hospitals may not have had the luxury of prescribing their patients extended courses of the drug. Due to limited supplies, mercurial remedies may have been used more sparingly, or other medicines administered in their place.

<table>
<thead>
<tr>
<th>Medicine</th>
<th>New Norfolk Hospital (%)</th>
<th>Royal Naval Hospital (%)</th>
<th>St Bartholomew's Hospital (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anodynes</td>
<td>9.64</td>
<td>9.66</td>
<td>6.28</td>
</tr>
<tr>
<td>Antacids</td>
<td>1.21</td>
<td>1.23</td>
<td>0.22</td>
</tr>
<tr>
<td>Antispasmodics</td>
<td>0.34</td>
<td>0.38</td>
<td>0.43</td>
</tr>
<tr>
<td>Astringents</td>
<td>5.97</td>
<td>1.80</td>
<td>3.46</td>
</tr>
<tr>
<td>Cathartics</td>
<td>19.66</td>
<td>21.21</td>
<td>17.97</td>
</tr>
<tr>
<td>Diaphoretics/sudorifics</td>
<td>2.50</td>
<td>4.17</td>
<td>1.95</td>
</tr>
<tr>
<td>Diuretics</td>
<td>2.95</td>
<td>3.60</td>
<td>7.14</td>
</tr>
<tr>
<td>Emetics</td>
<td>11.83</td>
<td>7.58</td>
<td>3.46</td>
</tr>
<tr>
<td>Epispastics/rubifacients</td>
<td>9.98</td>
<td>1.42</td>
<td>6.71</td>
</tr>
<tr>
<td>Expectorants</td>
<td>1.29</td>
<td>2.46</td>
<td>0.65</td>
</tr>
<tr>
<td>Mercurials/sialogogues</td>
<td>9.30</td>
<td>10.70</td>
<td>16.02</td>
</tr>
<tr>
<td>Other medicines945</td>
<td>4.23</td>
<td>4.83</td>
<td>8.23</td>
</tr>
<tr>
<td>Tonics</td>
<td>7.90</td>
<td>5.49</td>
<td>3.25</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

Table 11: Most commonly prescribed groups of medicines prescribed at the New Norfolk Hospital, the Royal Naval Hospital in Bermuda, and St Bartholomew’s Hospital

Just under ten percent of patients were prescribed an emetic, with *ipecacuanha* and antimony featuring heavily in the case books of all three institutions. A stark disparity, however, is apparent between the three hospitals. Close to twelve percent of New Norfolk patients, received an emetic as part of their treatment – almost three times the number of patients compared to St Bartholomew’s and double that seen in Bermuda. This discrepancy is largely due to the vast

945 This category includes all other groups of medicines not appearing elsewhere in Table 11.
number of ophthalmic cases seen in the Vandemonian hospital. Ophthalmia was generally treated with copper sulphate (classed as an emetic) and Argentum nitrate (silver nitrate, grouped with the tonics). These remedies were not administered internally, but applied externally in the form of ointments or drops. The dramatic disparity between the prescription of emetics among the institutions, therefore, is largely a result of quirks in nineteenth-century classification of medicines, rather than intriguing differences between prescription writing.

Anodynes were prescribed to over nine percent of patients at New Norfolk Hospital and the Royal Naval Hospital. At St Bartholomew’s Hospital, however, just six percent of patients received a form of medicinal pain relief. This is a curious disparity; presumably patients at the colonial institutions were not suffering from more painful complaints than those in St Bartholomew’s. As discussed in Chapter Two, patients at New Norfolk and Bermuda were, however, viewed very differently by their surgeons when compared with patients at St Bartholomew’s, and these divergent perspectives may have contributed to disparities in prescription writing. In the smaller colonial hospitals, most patients were highly valued as workers; their health was an asset measurable in economic terms. Relieving their pain and restoring their health as quickly as possible was crucial to returning them to their productive labour. St Bartholomew’s patients were largely drawn from the homogenous mass of the urban working class – whatever the patient’s role in day-to-day life, he would often simply be replaced by another worker from the vast pool of unskilled labourers. In this large city hospital, the case notes reveal less personalised concern for individual patients; in such an anonymous setting pain may easily have gone unnoticed or overlooked.

Epispastics and rubifacients, predominantly plasters comprised of mustard or powdered Spanish flies, were applied to just under eight percent of hospital patients. Their use, however, was
sharply differentiated between the institutions. A little less than two percent of patients admitted to the Royal Naval Hospital had been treated with epispastics, while almost ten percent of New Norfolk cases received these cutaneous applications, with St Bartholomew’s patients falling in the middle at seven percent. This could be largely attributed to the types of conditions suffered by patients in each institution – blistering was administered to relieve localised inflammation, such as that seen in the ophthalmic or rheumatic cases common in the colder environment of Van Diemen’s Land. Diseases frequently reported in Bermuda, such as gastrointestinal and febrile conditions, were typically treated using venesection, which was used to target more generalised inflammatory diseases.\textsuperscript{946}

Around seven percent of patients across the three institutions were treated with tonics. New Norfolk (at eight percent) and Royal Naval patients (at five and a half percent) received much more frequent doses than their counterparts in St Bartholomew’s. As discussed above, the high number of ophthalmic cases received at New Norfolk were generally administered silver nitrate as part of their treatment, while the Bermudian patients often received quinine to relieve the symptoms of fevers and prevent their recurrence. Kelly notes that Colonel David Collins requisitioned quantities of ‘bark’, but confused this with the bark of trees in the native Vandemonian bushland, and commented that it seemed “strange that Collins should include bark in his requisitions with an unlimited supply on hand in Tasmanian forests.”\textsuperscript{947} The bark to which Collins was referring was in fact Cinchona (Jesuit’s or Peruvian bark), from which the active ingredient of quinine was drawn.

While almost six percent of New Norfolk patients received astringent medicines, less than two percent of Bermudian patients and just over three percent of St Bartholomew cases were treated

\textsuperscript{946} See Chapter five for more detailed discussion of physical treatments and their uses in the three institutions.  
\textsuperscript{947} B. Kelly, \textit{A Background to the History of Nursing in Tasmania} (Mercury-Walch, Hobart, 1977), p. 10.
with this group of medicine. Again, this may simply be attributable to the types of disease seen predominantly in the colder Vandemonian climate, such as respiratory afflictions. The role of astringents in treating haemorrhage may also account for its higher usage in the colonial hospitals, where it was often prescribed as an external application for wounds sustained during labouring accidents (few such work-related incidents appear in the case book of St Bartholomew’s Hospital).

Around three percent of patients were prescribed expectorants and diuretics. The exaggeratedly high number of ascites and anasarca cases documented in the St Bartholomew’s Hospital consequently inflates the rate of diuretic medicines prescribed in this institution – over seven percent compared to around three percent in both colonial hospitals. Diaphoretics were prescribed more habitually in Bermuda, where fever cases demanded the frequent use of this group of medicines. Expectorants, antacids and antispasmodics were administered to less than two percent of patients (for each group of drugs), while between four and eight percent were prescribed medicines from other categories not included in the above analysis (such as aromatics, carminatives or emollients).

**Access to Medicines**

Availability and proximity to medicines were often deciding factors in the types of treatment patients could expect to receive upon hospital admission. With London acknowledged as being among the great centres of medicine during the nineteenth century, patients at St Bartholomew’s Hospital could be assured of access to a vast range of drugs. In vast hospital wards and cramped

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948 As outlined in Chapter one and Chapter five, the St Bartholomew’s case notes used in this research were selected by the surgeon according to his interests; they do not necessarily form a representative sample.
laboratories across the city, numerous medical men, ranging from fresh-faced medical students to well-established physicians, sought renown by experimenting (generally on uninformed patients) with new medicines or new uses of old ones.

As far-flung colonies, however, Bermuda and Van Diemen’s Land had much less certain access to supplies of drugs. In the Australian colony, the Medical Department was responsible for furnishing each colonial hospital with the necessary medicines and instruments from its main supply room in Hobart Town. The stocks held in this room were supplied directly from Britain; however, there were a number of serious problems concomitant with this system. Most markedly, the length of time it took for colonial orders for particular preparations to make their way through official channels to suppliers in Britain often produced problems. After a letter requesting fresh supplies was sent from a colonial hospital, it then had to wend its way through the bureaucracies of both colonial and home government, before the order could be filled and a ship found to courier the requested medicines. It was not unusual for it to take two or more years before a depleted hospital medicine chest could be refurbished. Even then, the long journey to the colony took its toll on the drugs – the erratically fluctuating temperatures, humidity and exposure lessened the freshness and potency of many medicines.

Surgeons stationed in Bermuda were often forced to abandon their patriotism in favour of the health of their patients, finding they could frequently obtain fresher medicines from America than Britain. Until the convict establishment passed from the hands of the Royal Navy in the late 1840s, medicines were routinely supplied from Britain, despite the warm humidity which caused drugs to deteriorate rapidly as they travelled to the colony. From the 1850s, however, medicines were obtained from the most practical and freshest source – usually America. Some

surgeons contended that American medicines remained efficacious for longer periods, being “better suited to this warm and damp climate.”

In Australia, too, the efficacy of medicines supplied to colonial surgeons was questionable, and purchasing from dispensing chemists would generally have been far too expensive for the working classes. William Kelly, for example, complained in the mid-1850s that frequently the only medicines available were “ships’ stores, the scrapings of old medicine chests, quinine with as much tonic property as arrowroot; blistering ointments as harmless as Windsor-soap, and everything else equally deteriorated by age, adulteration and exposure.” This in turn meant that colonial patients were receiving less effective drugs (often in smaller doses and shorter courses) than their British counterparts. This was particularly the case for stimulants, such as mercury. The unusual climate and weather patterns of the colonies were also understood to influence the rapidity with which various medicines acted, assuming they retained sufficient potency to act at all. It was occasionally the inappropriate handling or storage of medicines, however, which rendered drugs useless. Bigge, for example, reports that “from want of room or proper arrangement in the stores in which [the medical supplies] were deposited,” coupled with the lack of care taken in “the preservation of the different articles,” meant that medicines had been damaged or done unused as they had been hidden from view.

Unpredictable access to more established pharmaceutical supplies undoubtedly stimulated interest among colonial surgeons in experimenting with native botanic remedies. While local botanic medicines undoubtedly supplemented convict treatment in Bermuda, they could not be

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952 W. Kelly, as cited in Martyr, *Paradise of Quacks*, p. 39.
found or produced in quantities sufficient to supply the entire convict population – accordingly, the use of small local supplies of various medicines was not recorded in case notes at the naval hospital.\textsuperscript{955} It is known, however, that crops such as castor oil trees were established as early as the seventeenth century, although it does not seem they were ever of particular commercial importance.\textsuperscript{956}

Practitioners posted to the Australian colonies also evidently took to collecting, naming and experimenting with local flora with great fervour. In 1788, while the settlement at Sydney Cove was still being established, the surgeons sent convicts out to scour the land for native berries and greens which could prove valuable as antiscorbutics.\textsuperscript{957} The competitive aspiration to discover a medicinal marvel was just as strong among colonial surgeons as it was amid their British-based colleagues. Many practitioners had a keen interest in botany which equipped them with added knowledge and a familiarity with medicinal plants – and there was no shortage of potential panaceas within the uncharted Australian bush. In this way, experimentation provided a means for colonial surgeons and botanists to stay connected to the wider medical and scientific worlds.

The lack of a reliable supply of medicines also forced colonial surgeons to improvise with locally available remedies. Although Australian Aborigines utilised a large repertoire of indigenous medicines and treatments, settlers appear to have been reluctant to rely upon the Aborigines’ native knowledge, preferring instead to conduct their own (often disastrous, but sometimes surprisingly successful) empirical investigations into the properties of local plants.\textsuperscript{958} This may have been due to surgeons’ doubts regarding the efficacy of Aboriginal cures when faced with

\textsuperscript{955} Hollis-Hallett, \textit{Forty Years of Convict Labour}, p. 52.
\textsuperscript{958} Pearn, ‘The Enchanted Herb’, p. 569.
European ills, combined with a lack of trust and communication between the two groups. Research has shown, however, that the effectiveness of both European and Aboriginal medicine was similar.\textsuperscript{959} It also appears that convicts undertook their own forms of experiments with local botanic resources, with a small number using plants known to be toxic to attempt suicide.\textsuperscript{960}

A number of valuable remedies were discovered through the surgeons’ experimentation, including the use of \textit{Tetragonia tetragonioides} (wild spinach), \textit{Smilax glycyphylla} (native sarsaparilla), and \textit{Leptomeria acida} (native current) as antiscorbutics and the \textit{Xanthorrhoea} (grass tree) species in cases of respiratory diseases. Various types of \textit{Acacias} (wattles) and \textit{Eucalypts} (gums) were used to treat dysentery and diarrhoea.\textsuperscript{961} Indeed, it was the oil extracted from the Eucalyptus which proved to be perhaps the Australian colonies’ most beneficial drug, both in economic and medicinal terms. In 1847, Van Diemen’s Land exported apothecary goods valued at £279; these items were likely to have included locally produced medicines, such as eucalyptus oil.\textsuperscript{962} Although this sum was minor when compared to the cost of supplying the colony with medicines – in the same year, Van Diemen’s Land imported medicines totaling over £3000 – there is no doubt that once the industry was established, the cost of producing medicines in Van Diemen’s Land was much less than that of importing the same drugs. The benefits of this local industry, however, extended beyond the economic.\textsuperscript{963} By utilising local botanic resources, patients had access to fresher, more potent medicines, and surgeons had recourse to a more reliable supply of drugs.

\textsuperscript{959} Pearn, "The Enchanted Herb", p. 569.
\textsuperscript{961} 961 J. Pearn, ‘The Enchanted Herb’, p. 570.
\textsuperscript{962} State Library of Tasmania, \textit{Statistical Returns of Van Diemen’s Land} (Government Printers, Hobart, 1847).
\textsuperscript{963} This industry evidently grew over time. By 1901, Tasmania had five businesses producing and/or marketing eucalyptus oil (Martyr, ‘No Paradise for Quacks?’, p. 145).
In mid-May, having endured three and a half weeks of hospital treatment, John Waring’s prescription was altered. Brock had departed New Norfolk Hospital – a bureaucratic quarrel saw him transferred to Port Arthur; less than two years later he would leave Van Diemen’s Land and return to England. His replacement at New Norfolk was Dr George Francis Huston, a relative newcomer to the colony. Upon taking charge of Waring’s case, Huston reviewed his patient’s condition, noting the ominous “dullness on percussion of under both Scapula [with] Considerable effusion in the Abdomen with Anasarca” of both upper and lower limbs.\(^{964}\) Waring’s entire body was sodden with retained fluid. His breathing was ragged, his lungs compressed with the serum building up in his abdomen, and Huston could palpate his patient’s inflamed liver, “distinctly felt hard and well defined under the short ribs on the right side.”\(^{965}\) The medicines were not working.

Helpless, Huston could do little for Waring but continue Brock’s prescription, supplementing his patient’s treatment with a little wine. As Waring’s anasarca increased, Huston purged his patient with *Pulveris jalapae compositus* (compound powder of jalap), which “afforded him great relief.”\(^{966}\) Heartened, Huston continued purging Warring, dosing him with violent purgatives *Citrullus colocynthis* and *Elaterii*. Warring’s condition improved, and Huston noted with relief that his patient “feels himself better than he has been for some days.”\(^{967}\) This merciful hiatus, however, was not to last. Two days later, towards the end of May, Warring was again sinking under increasing anasarca, “his countenance…worn and haggard,” his strength drained by the

\(^{964}\) TAHO, RDH: John Waring (HSD 246/1/6/181).
\(^{965}\) TAHO, RDH: John Waring (HSD 246/1/6/181).
\(^{966}\) TAHO, RDH: John Waring (HSD 246/1/6/191).
\(^{967}\) TAHO, RDH: John Waring (HSD 246/1/6/191).
combination of desperate illness and relentless purging. Warring stopped eating, taking only
wine and milk supplemented occasionally with crumbs of bread. His heart pumped furiously,
striving in vain to circulate blood throughout his swollen body, but the frantic beating could
scarcely be detected at the wrist. By late afternoon of the twenty-ninth of May, the sun sinking
below the bush bordering the hospital gardens, Warring was semi-conscious. He died quietly at
seven o’clock that night.

Warring’s case illustrates the helpless desperation felt by many nineteenth-century medical
practitioners. Despite the increasing understanding of the body in health and disease gleaned
through anatomy and pathology, this newfound knowledge seldom extended to the
understanding of how to cure illnesses, or relieve the suffering of those afflicted. As Matthew
Baillie lamented, “I know perhaps better than any other man, from my knowledge of anatomy,
how to discover disease, but when I have done so, I don’t know better how to cure it.”

Very few of the medicines available to nineteenth-century surgeons possessed compounds which
would be recognised today as scientifically effective, able to unquestionably relieve or cure a
patient’s disease. This has had the lamentable effect of causing historic medicines to be widely
dismissed as placebos, when examined from a pharmacological perspective. Even when analysed
from the viewpoint of social history, the wider influence of revolutions in science and chemistry
is often dismissed as insignificant. Such myopic approaches, however, tend to miss the
importance of the symbolic value of medicines. The lack of safe and effective active ingredients
in nineteenth-century medicines does not inevitably decrease their significance, nor does it
dictate or accurately describe the effectiveness of these drugs as experienced by patients.

Whether medicines were physically or psychologically effective, not effective at all, or whether

968 TAHO, RDH: John Warring (HSD 246/1/6/191).
969 TAHO, RDH: John Warring (HSD 246/1/6/191).
53.
they occupied some ambivalent expanse ‘betwixt and between’ is a vast area of study in its own right, too broad to be attempted here.

What can, however, be gleaned from the examination of these patient case histories is the understanding that the medicine of the nineteenth century – both as a discipline, and in the sense of the drugs utilised by practitioners – cannot be easily compressed or simplified into neat, scientific categories. Even as drugs were recorded as occupying one category, they were used just as regularly to fulfil the purposes of another. Doctors and patients alike were comfortable with the fluidity and ease of interchange between classifications – indeed, probably more comfortable than they were with the classifications themselves. Long-established humoral theories and new-found, scientifically-endorsed chemistry, biology and pathology were utilised together, forming a complex, but nonetheless reciprocal, collaboration of tradition and innovation.

Essentially, while nineteenth-century hospital physicians around the world undoubtedly supported the increasing dominance of science in medicine – indeed, they could legitimately be described as the vanguard of the movement – they and their colleagues were equally reliant upon the traditional medicines and theories of much more ancient understandings of the body in sickness and health. They drew no rigid boundaries between “the scientific and the superstitious,” they saw nothing mutually exclusive between these two ends of a single medical spectrum.\footnote{Porter, The Greatest Benefit to Mankind, p. 40.} The importance of rest, nutritious diet and appropriate exercise were valued as highly as the use of medicines in treating disease. After all, as William Cullen averred, it was better to allow disease to kill a patient, than to kill them through the over-enthusiastic
administration of medicines. Nonetheless, the weight of powerful new forms of drugs such as digitalis, opium and mercury was gradually tipping the scales away from the superstitious and towards the scientific.

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Chapter Seven

Treatment After Death ~

Post-Mortem Examinations and Dissection

In the chill of a November day, the London streets slick with icy mud, Ben Goodman collapsed on a footpath in the centre of the bustling city. The seventy-one-year-old man was carried to the closest hospital, St Bartholomew’s, where he was immediately admitted as an emergency case. Although Goodman regained his senses and the shock of his sudden fall had dissipated, his surgeons were unable to account for his ongoing paralysis; despite perfect sensation in his lower limbs, Goodman was unable to bear weight upon his legs, or even to move them. After almost four months of lying motionless in his narrow hospital cot, anasarca began to swell his

973 St Bartholomew’s Hospital Archives and Museum, St Bartholomew’s Hospital, Medical and Surgical Case Notes of Edward Latham Ormerod, Diseases of the Central Nervous System, Kidneys, Abdominal and Infectious Skin Diseases: Thomas Fomian (MR 16/6/65).
feet, legs and eventually his torso. As the fluid accumulated, his breathing became oppressed, each inhalation causing his thin chest to heave. Soon after, he was struck by a bout of diarrhoea. Goodman’s body was unable to resist the rapid and violent purging which drained his already emaciated frame, and within hours he sank and died.

Goodman’s story was tragically common. He represents vast numbers of working-class people who were admitted to hospitals, perhaps with a severe bout of bronchitis or gastroenteritis, suffering the crippling aches of rheumatism or arthritis, or (as in Goodman’s case) after an accident in the street or the workplace. Despite medical attendance, which came with both benefits and hazards, scientific knowledge proved unable to trump disease, with death emerging victorious.

Death, however, was not the only victor in this common scenario. Since the gradual advance of scientific medicine, informed by the rise of anatomy and pathology, the demand for cadavers through which to further explore the connections between the physical evidence of disease and its manifestations during life were in ever-increasing demand. The progression of these branches of medical knowledge depended on the availability of bodies for dissection. Prior to the Anatomy Act in 1832, the bodies of executed criminals formed the only legitimate source of material for anatomical examinations. Surgeons could acquire these cadavers only after a battle (usually bureaucratic in nature, but sometimes erupting into physical violence) with many antagonistic parties. The destruction of condemned felons’ bodies by dissection was predictably

974 See Glossary for explanation of terms.
and fiercely opposed by their family and friends; the judges, executioners, and Sheriff’s officers involved in the case would often also require financial inducements to pass a body directly to a surgeon’s porters (who also required remuneration); and police constables also had to be paid to protect the surgeons and their beadle as they fought for the corpses.977

It was the duty of the Crown to allocate these corpses; while they were usually sent directly to the Company of Surgeons, members of the College of Physicians, private practitioners, and hospital schools also fought jealously for the right to obtain a body unmarked by disease.978 The Crown, however, was motivated not by the humanitarian desire to speed advancements in medicine or provide the nation’s most eminent anatomists with additional material to dissect.979 Rather, the authorities sought to use dissection to humiliate and terrify the working classes into docility – disobedient and noncompliant subjects would be punished. As a sentence, dissection went far beyond straightforward public punishment. The desecration of the bodies of these criminals after death emphasised the perpetual consequences of the depravity of their crimes. This was punishment which extended past corporeal life and into the afterlife.

In the 1820s, the public was simultaneously outraged and terrified to learn that this demand had so greatly exceeded the supply of legitimately-available corpses that murders were being perpetrated to enable the sale of bodies to anatomy schools. While the first bill to regulate the sale and distribution of corpses foundered, a more carefully worded Anatomy Act succeeded in 1832. While this Act did indeed stifle – if not entirely eradicate – the heinous crime of ‘burking’

and threaten the profitable careers of grave-robbers, it did little to ease the anxiety of the working classes. Public fear surged as opponents to the Anatomy Act spread scandalous stories of hospital, gaol, asylum and workhouses inmates who were dissected before grief-stricken relatives could claim the bodies of their loved ones. Even more shocking, perhaps, were the tales of corpses who had been legitimately claimed, but who were later found to have been covertly examined, sometimes with parts of their bodies retained and preserved by anatomists, and the remains treated with irreverent derision by impudent medical students.

Mortality Rates

Regardless of the negative publicity surrounding the treatment of hospital patients after their demise, death was nonetheless a very real part of the day-to-day occurrences of early and mid-nineteenth-century medical institutions. Mortality rates have been seized upon, both during the nineteenth century and in modern times, as guides to demographic trends and the significance of social changes. They are ‘paper trails’, able to provide comparable information of the number of deaths between specific hospitals or in a single institution over time. In the multitude of statistical societies which proliferated throughout the Victorian period, men such as William Farr and Thomas Edmonds grappled with equations and complicated calculations in their attempts to compile ‘laws’ of mortality and vital statistics. By determining rates of death in various age groups, statisticians hoped to better measure, and, ultimately, to positively

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980 For an examination of a slightly later period, see S. Cherry, Medical Services and the Hospitals in Britain, 1860-1939 (Cambridge University Press, Cambridge, 1996), especially Chapter two).
influence, the health of human populations.\textsuperscript{982} Indeed, Edmonds went so far as to suggest that the “only sure index of the practical success of the science of medicine is in the increase of collective vitality, or in the diminution of collective mortality.”\textsuperscript{983}

As mentioned briefly in Chapter One, during the 1920s authors such as Griffith and Buer contended that mortality rates were actively reduced from around 1780 through the fostering of medical skills and knowledge which occurred within the growing number of hospitals.\textsuperscript{984} Improvements in hospital treatment and healthcare included, as recognised by Dobson, such elements as more developed skills in treating a wider variety of diseases (the employment of cool treatments in cases of fever, for example); the use of medicines which had demonstrably positive effects (such as quinine, the active ingredient in Peruvian bark); the implementation of vaccinations for smallpox; the gradual improvement in sanitary measures and ventilation; the growing numbers of dispensaries, voluntary, and lying-in hospitals where the sick poor could receive free or very cheap advice and treatment; segregation and quarantine of infectious cases in hospitals; and marked improvements in medical disciplines such as chemistry, surgery, and pathology.\textsuperscript{985}

While the significant influence of this growth in knowledge and skill upon “public, preventative and personal health” has been acknowledged, the extent and importance of these changes has also been highlighted.\textsuperscript{986} Controversial authors such as McKeown and Brown emphasised the impact of general social and economic changes upon mortality rates, while others placed more


importance on the significance of medical interventions such as those described by Dobson above. To what degree could the innovations of science improve the lives of those who dwelt in the overcrowded lanes and alleyways of metropolitan London, where the same narrow and gloomy roads were shared by humans, livestock, and swarms of vermin, where few inhabitants were literate, and where the living kept vigil over the dead, where sickness and disease merged with life and health?

In discrete, controlled environments such as hospitals, it seems likely that medical innovations and scientific advances would have been influential. Within these institutions, where the focus was primarily on the healing of disease, medical and administrative staff worked together to implement changes which they perceived would positively benefit their patients. Accordingly, measures were taken to manipulate environmental variables in a way which would have been all but impossible in a working class domestic setting; ventilation was controlled, temperatures were adjusted, bed-rest was often enforced, professional medical advice was generally close by (if not always immediately on hand), attempts were made to ensure relative cleanliness, and even the diet was monitored closely. Complicating any analysis of the possible impact of hospital treatment, however, is the difficulty of assessing which changes were due to medical intervention, and which may result from environmental changes.

Essentially, it is likely that any positive effects of medical intervention were limited to those who were actually treated within the hospitals – the simple fact of the existence of the institutions, and

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any advancements in the wider discipline of medicine that occurred within their walls, did not necessarily improve the health or the mortality rates of those outside the institutions. While the number of hospitals in Britain was gradually increasing over the nineteenth century, even as late as 1860 there were still only twelve thousand beds available to patients in England (accommodating approximately one hundred and twenty thousand patients annually). Thus, while the improvements are clear, their influence was socially and spatially restricted.

While the records from St Bartholomew’s Hospital used in this sample do not allow for the compilation of a mortality rate, published sources report that between 1830 and 1834 over twenty-eight thousand patients were admitted to St Bartholomew’s Hospital. Of these, one thousand eight hundred and ninety-four died, a rate of just over seven percent of cases. This rate remained remarkably steady between the years of 1790 and 1834, fluctuating from a low of slightly under seven percent (between 1825 and 1829) and a high of close to eight and a half percent (between 1815 and 1819). These rates are low compared to other institutions in London during the same timeframe. The London Hospital, for example, located just two miles away from St Bartholomew’s, had an average mortality rate of almost eleven and a half percent between 1829 and 1833, while the rate at St George’s Hospital between 1830 and 1834 was also over eleven percent.

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990 Dobson, Contours of Death, p. 36.
991 In 1834, a total of five thousand, two hundred and sixty-seven patients were admitted to St Bartholomew’s Hospital, with three hundred and forty-six of these dying whilst under treatment. These figures included seven hundred and seventy-seven male medical patients and one thousand, nine hundred and fourteen male surgical patients (House of Lords Sessional Papers: Tables of the Revenue, Population, Commerce, &c. of the United Kingdom and its Dependencies (vol. 29, William Clowes and Sons, London, 1835), p. 446).
993 Porter, The Progress of the Nation, p. 42.
These rates include both medical and surgical cases. High rates of mortality had been an accepted part of eighteenth century surgery, based on the risks to which patients were exposed both during and after procedures. 994 During the nineteenth century, however, this bleak complacency gave way to a quiet confidence; advances in knowledge, surgical skills, and improved aftercare and hygiene gave surgeons and patients hope that deaths from operations could be avoidable. Accordingly, mortality rates from routine and regularly performed operations improved greatly. At the same time, however, this confidence also fed a certain boldness which saw a small number of audacious surgeons pushing the boundaries of their knowledge and skill with innovative – and dangerous – new operations. These new procedures, such as leg amputations at the hip and operations to treat hernia and aneurism, predictably resulted in high mortality rates. 995 Therefore, while acknowledging this general trend of gradually decreasing mortality in surgical operations, it is also important to use caution when employing such generalisations. As Stanley notes, the wide variations between rates at different hospitals and among different surgeons over different time periods require detailed and comprehensive analysis, rather than a brief review, to obtain an accurate representation of hospital mortality. 996

If the advances in medicine and science discussed above did genuinely enact beneficial change within these institutions, why did the mortality rates remain relatively static? If methods of treatment, types and dosages of drugs, and surgical processes were all undergoing such reform and alteration, why did the mortality rates remain so obstinately immobile? It is this very frame of reference – change, and its speed – which itself suggests a possible answer to this question. While many things were undergoing change within the hospital, it is crucial to remember that so too were things outside the walls of the institution, as patient demographics varied over time. During these decades, hospitals grew busier, causing less severe cases to be turned away. The

994 Stanley, For Fear of Pain, p. 152.
number of dispensaries was simultaneously increasing to deal with the needs of this group of patients, who were often treated at home under the advice of ‘sixpenny’ doctors. Accordingly, only unusual or critically ill cases were admitted as inpatients – cases whose chances of recovery were lower than those of the milder cases who had been turned away. This acted to prevent the decrease of the hospital’s mortality rates, despite the incorporation of various diagnostic and curative advances during this time.

Many of these same innovations were seen at the New Norfolk Hospital. The detailed nature of the records from this institution did allow for the compilation of various statistics, which revealed a startling death rate of fourteen percent – double that of St Bartholomew’s and significantly higher than other British institutions. Although Nicholas contends that the mortality rate for convicts is comparable with those in British voluntary hospitals during the same period, this research would superficially appear to contradict such assertions.\(^\text{997}\) There are, however, a number of key differences between the two hospitals that may have a significant influence upon these figures.

Firstly, the profiles of patients admitted to these two hospitals were very different. As discussed in Chapter Two, St Bartholomew’s had complicated and restrictive admission guidelines, which excluded a wide variety of patients who were eligible for accommodation and treatment at New Norfolk Hospital. The chronically ill, the elderly, those suffering venereal or infectious diseases, ulcers, epilepsy, or who were deemed to be close to death were turned away from the British institution. In Van Diemen’s Land, these groups of patients had very few alternative options – no workhouses or other institutions existed to tend those unable to care for themselves, and hardly any patients had family or friends close by in a position to take them in – the hospital was

often their only choice. Half of the patients who died in New Norfolk Hospital were over the age of fifty, and were admitted essentially as invalids, no longer capable of caring for themselves in the community.

Secondly, the experience of transportation and the rigours of colonial work regimes appear to have negatively impacted convict health. The long voyage at sea, spent confined in an overcrowded vessel in wildly fluctuating climatic conditions, could weaken the constitution of many robust prisoners and force those already ailing further into ill-health. Maxwell-Stewart has demonstrated that the mortality rate for convicts was markedly higher in the first twelve months after their arrival in the colony, at thirty-seven per thousand, but by the second and third years the rate steadied at eight per thousand. Provisional results also suggest that the health of convicts employed in severe labour regimes (such as ganged labour), which relied upon the use of punishment to extract labour, was impaired to a degree not evident in those prisoners who worked under incentive-based management practices. Accordingly, the mortality rate of the first group of convicts was much higher, at forty-eight per thousand, than the second group, at just twelve per thousand. This stark disparity emphasises the need to consider other social aspects of the convict experience – not only healthcare – when examining mortality rates.

Thirdly, it may also be possible that sporadic access to medicines negatively impacted colonial patients’ hospital treatments, resulting in a higher mortality rate. The great expanse of ocean across which fresh medical supplies were obliged to travel before they could refill colonial

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999 Maxwell-Stewart, ‘Crime and Health’ in Richards, Valentine and Dunning (eds.), *Effecting a Cure*, p. 43.
1000 It is also important to note that most labour management systems would have employed a combination of punishment and incentives, and that while under sentence most convicts would have experience a mix of the two systems (Maxwell-Stewart, ‘Crime and Health’ in Richards, Valentine and Dunning (eds.), *Effecting a Cure*, pp. 43-44).
1001 Maxwell-Stewart, ‘Crime and Health’ in Richards, Valentine and Dunning (eds.), *Effecting a Cure*, p. 43.
medical chests meant that drugs were already several years old when they reached the convict patients.\textsuperscript{1002} However, it must be conceded that the negative impact of inadequate or stale medicines is both relatively unlikely and almost undoubtedly minor; regardless of the freshness of the medicines, few eighteenth and nineteenth-century drugs were capable of actively relieving or curing disease.\textsuperscript{1003}

\textit{The Shortage of Bodies Available for Anatomical Examination}

The difficulties experienced by medical students obtaining practical experience of the anatomy and pathology of the human body lay at the heart of the dissection controversy. As early as the mid-eighteenth century, it was considered essential for a new surgeon to:

\begin{quote}
be an accurate Anatomist, not only a speculative but practical Anatomist; without which he must turn out a mere Bungler. It is not sufficient for him to attend Anatomical Lectures, and see two or three Subjects cursorily dissected; but he must put his hand to it himself, and he able to dissect every Part, with the same Accuracy that the Professor performs.\textsuperscript{1004}
\end{quote}

Such accuracy took practice. Accordingly, the education of medical students experienced a subtle transformation, with the emphasis gradually moving from the classical and theoretical to the innovative and practical.\textsuperscript{1005} While the expansion of medical science stipulated that every surgeon have a detailed knowledge of what lay beneath the skin of their patients, and how each

\begin{flushleft}
\textsuperscript{1002} See Chapter Six for further detail.  \\
\textsuperscript{1003} See Chapter Six for further detail.  \\
\end{flushleft}
disease was manifest both internally and externally, the law precluded them from acquiring it. While the bodies of executed criminals formed the only legitimate source of material for anatomical examinations, the need to educate a generation of medical students and to hone the skills of their superiors pushed demand far beyond legal supplies.

Until the eighteen century, the Royal College of Physicians and the Company of Barber-Surgeons (which split in 1745 to form the Company of Surgeons) dominated the progress of British medicine. Under their guidance, doctors and surgeons were trained and received their qualifications; also under their control were the development of new techniques and the advancement of medical knowledge. In the early decades of the nineteenth century, however, larger urban hospitals (including St Bartholomew’s) began to establish schools in which they trained their own medical students. As The Times effusively averred, with a fervour verging on the spiritual, these hospital schools were perceived to benefit more than just the students:

The daily, the nightly – nay, the hourly, ministrations of the elder students were a constant source of comfort to the patients, and the knowledge they thus acquired of the exact progress of each case, when communicated to the physician or surgeon, enabled him with far more certainty and exactness to apply his remedies. Nor was this all: the constant presence of a body of students [stimulated] the promotion of medical science, in the discovery of new modes of alleviating sufferings, and in the attainment of knowledge, of which the patients were always themselves the very first to reap the benefits. Nor did the benefits even stop here, for from the medical school and from the wards of the hospital hundreds went forth to our towns, our villages, and hamlets, carrying with them the sound practical knowledge they had acquired, and diffusing everywhere the advantages they had thus derived...Wherever the British flag waved...there were also our young men carrying from the medical schools and hospitals the only...
protection against the dangers of climate and of toil, to which their fellow man exposed themselves.\textsuperscript{1008}

Many of these teaching hospitals were also able to offer courses in dissection to their students. Those which did so were hailed, as illustrated in the above passage, as fostering the progression of medicine and of science.\textsuperscript{1009} Accordingly, these schools experience a dramatic increase in the number of students demanding training in the minutiae of human anatomy. In the early eighteenth century, a maximum number of ten corpses annually were available to the anatomists and medical students in London; by 1831, eleven bodies were made available each year for the eight hundred or so medical students based in the city.\textsuperscript{1010} This disparity becomes all the more ludicrous when considered in the light of the recommendation that each student should have at his disposal three cadavers – one on which to practice operative surgery, and the other two to dissect.\textsuperscript{1011} Nonetheless, the bodies of criminals were considered excellent dissecting material, as they were generally young and relatively healthy (at least inasmuch as they rarely suffered from the gruesome injuries, chronic illnesses, or acute infections which often caused the demise of workhouse and hospital inmates).\textsuperscript{1012}

Through the act of dissection the state harnessed death, and the complex social and cultural relationships and rituals surrounding it, to reinforce public punishment for deplorable crimes.\textsuperscript{1013} These criminals were considered so shocking, their crimes so unpardonable, that to take their life

\textsuperscript{1008}‘St. Bartholomew’s Hospital’, \textit{The Times}, 17672 (17 May 1841), p. 3.
\textsuperscript{1009}‘To the Editor of the Colonial Times’, \textit{Colonial Times} (15 January 1833), p. 3.
\textsuperscript{1011}Goodman, ‘The Supply of Bodies’, p. 807.
\textsuperscript{1013}It was \textit{unnatural} crimes, rather than \textit{disorderly} crimes, which society found outrageous and unforgivable. Dissection, as an unnatural act, was a fitting addendum to an unnatural death by hanging – both these acts were accepted as an appropriate punishment for such unnatural crimes (G. Karskens, ‘Death was in his Face: Dying, Burial and Remembrance in Early Sydney’, \textit{Labour History}, 74 (1998), p. 22, p. 28).
was judged an insufficient retribution; the desecration of their corpses after death was necessary to further emphasise the depravity of their actions during life.\footnote{R. Davis, \textit{The Tasmanian Gallows: A Study of Capital Punishment} (Cat & Fiddle Press, Hobart, 1974), p. 3; Karskens, \textit{Death was in his Face}, p. 28.} Dissection added “some further Terror and [a] peculiar Mark of Infamy” to the already-formidable punishment of death by hanging.\footnote{Cited in Linebaugh, \textit{The Tyburn Riot} in Hay, Linebaugh, Rule, Thompson and Winslow (eds.), \textit{Albion’s Fatal Tree}, pp. 76-77.} This was wreaking vengeance, legally and publicly, upon the bodies of the guilty.\footnote{Karskens, \textit{Death was in his Face}, p. 28.} Anatomisation was also understood to offer these criminals a means – although hardly by choice – by which to repay the society they had so grievously offended.

This understanding of dissection as a punishment – as the consequence of criminal acts – pervaded society and informed widespread fears of post-mortem examination.\footnote{H. MacDonald, \textit{The Anatomy Inspector and the Government Corpse}, \textit{History Australia}, 6 (2009), p. 40.14.} Public sentiment tenuously supported the punishment of criminals through dissection, but could not condone the notion of inflicting such penalties upon those who had committed no crime.\footnote{At public executions, the crowd did sometimes still riot in an attempt to prevent the felon’s remains from being taken away for dissection (A Correspondent, \textit{Bodies for Dissection}, \textit{British Medical Journal}, 2 (1847), p. 379).} Here, the differentiation between the deserving and the undeserving poor was clear: it was acceptable for those who were idle and lawless to be dissected, but those who were honest, although poor, should be spared such a humiliating fate.\footnote{J. Knott, \textit{Popular Attitudes to Death and Dissection in Early Nineteenth Century Britain: The Anatomy Act and the Poor}, \textit{Labour History}, 49 (1985), p. 7.} Some wealthier members of society did suggest that paupers who had been dependant upon the state during life should view dissection as a method of repaying the society which had supported them, in the same way that criminals did. However, a significant proportion of the government expressed their dissatisfaction with such a proposal, perhaps influenced by the knowledge that the state also supported their lifestyles.
By the 1820s, intense competition for this limited pool of legally available corpses had pushed up the price to truly astronomical figures – from around three guineas in 1809, charges had risen within two decades to a poverty-inducing sixteen guineas. These costs were difficult for most medical students to bear. Some were forced to pool their funds and share a corpse, while others were obliged to merely spectate at dissections undertaken by others, or to attend anatomy museums where wax models and brightly coloured displays of body parts were exhibited (although simply observing would not allow them to pass their examinations). These problems were particularly acute for students attending private anatomy schools. As these institutions existed in a grey area, neither illegal nor wholly accepted, they had no legitimate, permanent source of cadavers on which their students could learn the intricacies of the human body, or practice their ligatures and lithotomies. Predominantly attended by apprentices and students who could not afford the fees of hospital schools, or those who sought additional lessons, the private academies generally operated during the summer to avoid direct competition with larger schools.

Prominent hospital schools had a clear advantage in sourcing bodies for their anatomy classes. Not only were they able to make use of the bodies of deceased, unclaimed patients from their own wards as teaching material, but they could also exercise their considerable influence to secure arrangements with workhouses. The hospital schools often bargained with these workhouses, bartering free medical treatment for their inmates during life in exchange for the use of their bodies upon death. The sheer size of the workhouses and hospitals meant that there

1020 Stanley, For Fear of Pain, p. 171.
1023 This allowed students to study over the summer at a private school, then take examinations at a hospital school when term started in winter. It may also have eased demand for corpses in winter, when the larger schools were at their busiest. It did mean, however, that any cadavers sourced by the private schools needed to be used quickly, as they putrefied more rapidly in the summer heat.
were always a number of corpses lying unclaimed in cold, gloomy dead-rooms across the city. Additionally, the proximity of the patients treated on hospital wards allowed medical students to follow inmates through their treatment (albeit unsuccessful) to their appearance on their dissection table. This was excellent practice for the pupils, who could then trace and correlate the appearance of symptoms in their patients during life to any pathological lesions or abnormalities found within their bodies upon post-mortem examination.\footnote{R. Porter, ‘Hospitals and Surgery’ in R. Porter (ed.), Cambridge Illustrated History of Medicine (Cambridge University Press, Cambridge, 1996), p. 223.}

With legal avenues for obtaining corpses exhausted, the medical profession and their students existed in a state of unease and instability. Unable to obtain the raw materials with which to extend their medical knowledge and practice their surgical skills, wealthier scholars began undertaking their anatomical studies in foreign schools such as Dublin or Paris, where radical legislation made corpses more freely available to keen practitioners.\footnote{H. MacDonald, Human Remains: Episodes in Human Dissection (Melbourne University Press, Carlton, 2005), p. 12.} This tarnished the reputation of the British medical schools, and those who studied and taught within them.\footnote{Knott, ‘Popular Attitudes to Death’, p. 4.} The students and other medical practitioners who remained in Britain, however, sought a solution closer to home.

In a society where everything was available for a price, anatomists began to turn to “a clandestine criminal fraternity” to meet their needs for corpses.\footnote{J. Walton, ‘Review of Death, Dissection and the Destitute’, Journal of Social History, 23 (1989), p. 193; Stanley, For Fear of Pain, p. 32; see also E. Hurren, Dying for Victorian Medicine: English Anatomy and its Trade in the Dead Poor, 1834-1929 (Palgrave Macmillan, Basingstoke, 2011).} They found that if sufficient money was offered, bodies could be sourced (with or without consent) from hospital dead rooms, gaols, asylums, and workhouses with credulous or money-hungry overseers. The purportedly closed eyes of the medical profession to the sources of their anatomical material acted to stimulate the
activities of grave-robbers and resurrectionists. Some were remarkably resourceful, even willing to pose as mournful relatives waiting to claim the body of a beloved family member, only to pass it discreetly into the waiting hands of the anatomy school porter. Others bribed undertakers to sell them bodies and replace them with stones or soil before sending the coffin away with the grieving relatives; more than a few mourners unknowingly wept over caskets filled with bricks, while their loved ones, secreted in a sack, were being delivered to the back door of the closest anatomy school.

Just as the poor were particularly vulnerable to unsanctioned anatomical examinations, they were also susceptible to grave-robbing. Even when paupers were granted the meagre dignity of being buried in a coffin, their flimsy caskets were often interred in shallow communal graves, yielding easily to the resurrectionists’ wooden shovels. Many anxious relatives kept a vigil over their loved one’s grave for several weeks, through the day and night, to protect the dead from lurking grave-robbers. Even the wealthy, who could enjoy the relative security of interment in lead-lined coffins, stone mausoleums, or even the iron-barred ‘mortsafe’, often paid a servant to keep watch until the body had decomposed. Figure 16, below, shows the apprehension of a bodysnatcher in the act of making off with a corpse secreted in a basket. Although the resurrectionists’ interest was confined only to those cadavers who would prove profitable due to their use as material for anatomists’ dissection tables, the anatomy schools were often supplied with putrid corpses that had been buried up to three weeks earlier, limiting their

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1031 Karskens, ‘Death was in his Face’, p. 30, p. 34.
1033 As Sir Astley Cooper pointedly declared to the Parliamentary Select Committee, however, “there is no person, let his situation in life be what it may, whom, if I were disposed to dissect, I could not obtain” (cited in Moore, *The Knife Man*, p. 90; A. Knight, *Crime Archive: Burke and Hare* (National Archives, Kew, 2007), p. 10).
usefulness. At the St Bartholomew’s medical school, Ormerod attempted to dissect kidneys belonging to James Redruff, but found them “so decomposed that no opinion can be given of their exact condition.” Redruff's heart, however, had been injected and preserved, allowing Ormerod to examine the thickened aortic valves, and to pass his slender metal probe into false membranes which had formed inside the left ventricle.

Medical students, many of them born into eminently respectable families, were also deeply implicated in the surreptitious removal of bodies from morgues and graveyards. They, too, sought out and removed corpses, conveying them discreetly back to their anatomy school.

Some pupils undertook these stealthy activities at the behest of their superiors, others under their own initiative, but the principle behind their actions remained identical – while society urged

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1035 SBHAM, SBH: Case Notes of James Redruff (MR 16/6/230).
1036 Etching with engraving by W. Austin, held at the Wellcome Library (London), also at <http://catalogue.wellcome.ac.uk/record=b1183515> accessed 1 September 2010.
1037 Knight, Crime Archive, p. 11.
continued surgical innovation, constant medical breakthroughs, and relentless scientific advancement, the lack of legally obtainable cadavers left anatomists with no adequate source of material with which to fulfil public demands.

In November 1827 the public was horrified to learn that, tempted by the offer of easy money, suspects had been arrested for murdering apparently friendless itinerants and selling the bodies to anatomists. Edinburgh newspapers broke the scandal which outraged every class of British society, but particularly those able to envisage themselves meeting the same shocking fate. The medical profession was also uneasy, with a number of recent court cases finding medical practitioners and their students guilty of inappropriately being in the possession of corpses.1038

The Anatomy Act

Into this atmosphere of scandal and chaos, a Bill was brought before Parliament to permit anatomists to use unclaimed patients for dissection.1039 It was argued that the widespread public horror of dissection was simply a result of it being a punishment for heinous crime, and that if dissection was no longer used as part of a criminal sentence, paupers would not object to their bodies being used as anatomical subjects.1040 While the Bill met with some support, it was rejected by the House of Lords on the grounds that it left the poor unable to voice their objections to posthumous examinations, and thus vulnerable to unwanted dissection, while the rich would be more able to exercise their rights to prevent their remains falling prey to they anatomist’s knife.1041 Outspoken ‘protectors of the poor’, such as the Archbishop of Canterbury

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1040 Knott, ‘Popular Attitudes to Death’, p. 5.
and the Lord Chief Justice, Lord Tenterden, were alarmed that those who had committed no
crime should be denied a peaceful burial and the opportunity to rest undisturbed in their
graves. They argued that the ‘unconquerable objection’ held by the working classes to the
dissection of their friends and relatives should be respected, and the Bill withdrawn.

In 1831, Londoners were aghast to discover that the crime of ‘burking’, which had scandalised
the Edinburgh public four years earlier, was also occurring in the midst of their metropolis. This
shocking revelation prompted a second attempt to pass a Bill regulating the supply of corpses to
medical practitioners and their students. Titled ‘A Bill for Regulating Schools of Anatomy’, it
was a masterpiece of persuasive language, the wording of the first Bill having been judiciously
moderated to ease it through the parliamentary process (even the word ‘dissection’ had been
eliminated, replaced instead with the less evocative term ‘anatomical examination’).

Essentially, the Bill aimed to ease the chronic shortage of cadavers for anatomical research by
adopting a system of presumed consent. The bodies of hospital patients and workhouse and
asylum inmates were permitted to be used as material for dissection, so long as they were not
claimed by relatives within forty-eight hours after death, and had not registered their formal
dissent to the procedure. In effect, this system assumed that patients were willing to undergo
post-mortem examinations unless they declared otherwise. This enabled authorised medical
practitioners to be in legal possession of corpses for the purpose of dissection, freeing them
from the overhanging threat of legal action for unlawful possession of a cadaver. An

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1045 MacDonald, ‘Procuring Corpses’, pp. 380-381.
Inspectorate, unprecedented in its levels of funding and authority (although much less intrusive than later inspectorates), was established to implement and enforce the new regulations.\textsuperscript{1046}

While the Anatomy Act was ostensibly proposed to placate the working classes’ anxieties about dissection, it functioned instead to actively cultivate it. Samuel Roberts, also vocal in his opposition to the Poor Law, echoed the fear felt by much of the working classes when he wrote that the body of “every unfortunate, miserable being, who is driven by want to seek refuge in a Workhouse, may, when dead, be given up to the Surgeons.” Another critic, Lord Teynham, decried the Act on the basis that it would “convert every workhouse-keeper into a systematic trafficker in dead bodies.”\textsuperscript{1047}

In this manner, the Anatomy Act functioned to worsen the plight of the working classes. Other seemingly minor guidelines associated with the Act emphasised its exploitation of the most vulnerable classes of society. By stipulating that all unclaimed bodies were to be buried with the same parsimonious irreverence, the pauper burial, which had always been despised, became something to be feared. It was not so much the thin, splintery wood which made up the coffins, or the fact that the corpses were buried naked, or wrapped in a sheet of paper or calico, and laid upon a layer of sawdust instead of a soft cloth lining. It was the social disgrace, the public humiliation symbolised by all these physical indignities which so violently emphasised the vulnerability of the poor after death.\textsuperscript{1048} This shame was compounded by the ambiguity of what had happened to the body in the mysterious time between death and burial – could anyone really be sure that the bodies inside the coffins (or, indeed, the parts inside the bodies) were complete?

\textsuperscript{1046} MacDonald, “Procuring Corpses”, pp. 380-381.
\textsuperscript{1047} Cited in MacDonald, “Procuring Corpses”, p. 381.
Perhaps, like New Norfolk convict Charles Abbott, a kidney had been removed and preserved.\textsuperscript{1049} Or like William Sumpter, another Vandemonian prisoner, maybe part of the stomach had been cut out and retained by a surgeon as an interesting memento of a curious case.\textsuperscript{1050}

Fear of such mutilation and of the indignity and uncertainty of a pauper burial led working-class families – most of whom could have better spent their hard-earned pennies on food and clothing to help keep them alive – to take out burial insurance.\textsuperscript{1051} Predictably, the number of friendly societies which offered such schemes increased dramatically in the years after the Anatomy Act was passed in 1832.\textsuperscript{1052}

Despite the Act’s shrewd exploitation of the working classes, much of the British public agreed that any form of regulation over the distribution of these dead bodies amongst anatomists was better than an omnipresent threat of random, ruthless murder.\textsuperscript{1053} Upon the wave of terror engendered by the London episodes of ‘burking’, the Anatomy Act was finally passed into law through the Parliament. It introduced a system of licensing which specified who could undertake human dissection and where it could be undertaken. This capitalised on the supply of corpses which, according to the law, went unutilised due to ignorant superstitions and outdated beliefs.\textsuperscript{1054} Henceforth, the Act caused any person in legal possession of human bodies (including overseers of hospitals and workhouses) to effectively become the owner of these

\textsuperscript{1049} Tasmanian Archive and Heritage Office, \textit{Royal Derwent Hospital: Charles Abbott} (HSD 246/4/123).
\textsuperscript{1050} TAHO, RDH: \textit{William Sumpter} (HSD 246/4/155).
\textsuperscript{1052} Richardson, \textit{Death, Dissection and the Destitute}, p. 275.
\textsuperscript{1053} MacDonald, ‘Procuring Corpses’, p. 381.
\textsuperscript{1054} A Correspondent, ‘Bodies for Dissection’, p. 379.
bodies, legally authorised to distribute them to licensed anatomists – unless the subject had specified otherwise. 1055

Consent and Dissent

Among nineteenth-century medical men there was an implicit understanding, a generally unspoken accord, that the dead bodies of patients should be used to benefit the living. Integral to this perception was the belief that surgeons possessed the right to cut into, separate, remove, keep, and even give as gifts, parts of these bodies. 1056 When anatomists purchased human cadavers, the bodies were transformed into commodities, property purchased by the surgeon and quantifiable in monetary terms. 1057 As Helen MacDonald comments, these corpses became the surgeons’ things, utterly objectified and depersonalised. 1058

This sentiment allowed medical practitioners to easily accept the Anatomy Act’s emphasis on presumed consent to dissection. Supporters of the Act emphasised that ‘none without consent’ would be dissected, but deliberately omitted that this consent would be implied – if the patient had not specifically expressed their dissent during life, surgeons could interpret their silence as assent. 1059 Surgeons were under no legal obligation to enquire whether consent had been forthcoming, nor were they obliged to inform subjects’ relatives before performing any type of anatomical examination. 1060 If the inmate lay unclaimed, and the ‘interesting’ anatomical part was

1055 MacDonald, Human Remains, pp. 39-40.
1058 MacDonald, Human Remains, p. 10.
1059 Richardson, Death, Dissection and the Destitute, p. 206.
easily obtainable and could be accessed from an area which would not be immediately visually obvious, it would simply be taken.1061

Patients were, of course, free to formally object to the dissection of their bodies after death – but many were not aware that such an overt objection was necessary, or how to go about providing it. In order to dissent to anatomical examination, hospital patients and workhouse inmates were required to inform their relatives of their wishes, either in writing or in front of at least two reliable witnesses.1062 These directives could in themselves be almost impossible for members of the lower classes to fulfil, particularly if they were bed-ridden or weak. Many were illiterate, or able to only write their names, and thus unable to leave a written testimony of their wishes (by the mid-1830s, however, increasing numbers of workhouse inmates chose to sign pre-written declarations expressing their dissent against dissection).1063 If their dissent was given verbally, the only available witnesses were often fellow inmates of patients (who would be unable, in practical terms, to ensure their friends’ wishes were honoured) or institutional staff (who may have financially or socially benefitted by treating the subject’s wishes with disdain).1064

A small number of patients in St Bartholomew’s Hospital were recorded as expressing their desire to avoid dissection if they died whilst under treatment. Dr Ormerod wrote, somewhat dispiritedly, that “no PM” was allowed on the bodies of patients Thomas Fomian, John Brown, Robert Parker, or Thomas Osbourne.1065 Another patient, sixty-eight-year-old Timothy Dunn, had been admitted suffering from abdominal cramps, diarrhoea and vomiting.1066 Ormerod

1064 Richardson, Death, Dissection and the Destitute, pp. 206-207.
1065 SBHAM, SBH: Case Notes of Thomas Fomian (MR 16/6/5-6a), John Brown (MR 16/6/92), Robert Parker (MR 16/6/89-90), and Thomas Osbourne (MR 16/6/244-a).
1066 SBHAM, SBH: Case Notes of Timothy Dunn (MR 16/6/376).
dosed him with chalk mixture every hour until his purging ceased the following day just after
midday. However, Dunn began to feel increasingly sleepy. Ormerod urged his patient to
continue walking about to prevent him slipping into unconsciousness, but Dunn nonetheless lay
down in his bed, “went quietly to sleep and died next morning at 10AM.” Ormerod eagerly
began Dunn’s post-mortem examination, keen to inspect his patient’s internal organs for any
clues to his fatal illness. He found that the liver was large and the intestines were coated with a
thin layer of yellow mucous, but were otherwise healthy, as were the kidneys. In the wall of
Dunn’s stomach, however, he found a “small hard white mass…as big as a windsor bean.” He
was just about to further investigate the structure of the tumour and its contents when he was
rudely disrupted. “Two vociferous Paddies,” he wrote indignantly, “would not permit further
examination” of Dunn’s body. This time, the fortuitous – and noisy – arrival of the patient’s
relatives had occurred just in time to prevent the complete destruction of their loved one’s
remains.

The body of another patient, Michael Sullivan, remained completely untouched despite
Ormerod’s particular interest in his case. Two weeks earlier, Sullivan, a “habitually intemperate
shoemaker,” “ran the handle of an awl into the ball of the right thumb…where the base of the
thumb meets the palm.” Sullivan self-treated the small wound, applying a plaster until it
healed. Two days before his admission, he felt an acute tightness in his chest which alarmed him
so much that he sought medical attention. As he was stumbling down the stairs to seek help, the
attack worsened, causing him to fall into the street. By the time he was admitted to hospital,
Sullivan was “under the impression that he had a most serious disease.” He was right. The
simple accident with the awl had allowed tetanus bacteria to take hold in his body (although the
role of bacteria would not be identified for decades). It was a horrific illness culminating in a

1067 SBHAM, SBH: Case Notes of Timothy Dunn (MR 16/6/376).
1068 SBHAM, SBH: Case Notes of Michael Sullivan (MR 16/6/140).
horrendous death. Eberle describes tetanus patients such as Sullivan as existing on “a continued rack of torture,” the “muscles of the chest and throat…violently and painfully contracted, the arms and legs forcibly extended, the shoulders thrust forwards, the abdominal muscles firmly retracted against the viscera, and the whole frame thrown into a most painful and unyielding state of tonic spasm.” After enduring three days of this “most horrible pain,” Sullivan died at two o’clock in the morning. Ormerod would have been keen to explore his patient’s remains for signs of the disease, but his relatives appear to have staunchly refused consent.

Other patients provided limited consent – or perhaps care was taken in these cases to ensure that the bodies appeared intact. Mr Knight, for example, a soldier “of a large and remarkably fine family,” was admitted with paralysis of the lower limbs, and spent six months in hospital before his death. On a warm, fresh day in November 1845, Ormerod began his examination of Knight’s body. He thoroughly probed Knight’s brain, commenting on the thickness of the skull in comparison to the relatively small size of the brain, and noting a cyst “about as big as a french bean & oval.” He then began to examine the rest of Knight’s body, a procedure which would usually involve a long incision down the subject’s chest and abdomen. In Knight’s case, however, Ormerod had only been permitted to examine his subject from the back, presumably to ensure the corpse appeared untouched from the front. The subject was duly heaved indecorously onto his stomach, and a long cut made down the spine, exposing the bone. After a close inspection Ormerod deemed the spinal cord “firm and healthy throughout.” An investigation of the abdominal organs was not as straightforward. After searching fruitlessly through the opening in his patient’s back, Ormerod eventually found the right kidney, but, he wrote irritably, the “left kidney could not be found by this clumsy way of proceeding.”

1069 J. Eberle, A Treatise on the Practice of Medicine (3rd ed., vol. 2, Grigg and Elliott, Philadelphia, 1835), p. 120.
1070 SBHAM, SBH: Case Notes of <[…]> Knight (MR 16/6/64).
In some cases, surgeons may have been granted permission to open certain parts of a patient’s body, but not to proceed with a full examination. William Collin, a “strongly made man” was admitted to St Bartholomew’s hospital after suddenly collapsing in the street. Although he recovered his senses relatively rapidly and was able to recognise his visiting friends, he began to lose control over his limbs, sinking into unconsciousness and dying within nine hours of his admission.\textsuperscript{1071} Ormerod was permitted to open Collin’s skull, but was not to touch any other parts of his body. In many patients, specific areas of the body – such as the brain, in Collin’s case – would have been of particularly interest, perhaps able to offer more information to connect symptoms during life to pathological abnormalities after death.

To ensure corpses remained safe from the anatomists’ knife, relatives were required to collect the body of the deceased with forty-eight hours of death. If the patient’s body lay unclaimed after this time, surgeons were free to begin their dissection. This time limit placed considerable pressure on the bereaved family, who was required to show that they had sufficient resources to pay for the burial of their loved one. If they could not afford a ceremony, they were unable to claim the body – or to protect it from anatomical examination.\textsuperscript{1072} This financial bounty was a huge obstacle to many working-class families who could simply not afford the costs of a burial. John Knott asserts that while eighty-three percent of workhouse inmates dying in London in 1827 went unclaimed, the relatives of at least seventy-six percent of these did attend the parish ceremony marking the death of their loved ones.\textsuperscript{1073} What was interpreted by the state as cold indifference was, in fact, more likely to be tragic inability to get to the hospital in time to secure a patients’ body.

\textsuperscript{1071} SBHAM, \textit{SBH: Case Notes of William Collin} (MR 16/6/42).
\textsuperscript{1073} Knott, ‘Popular Attitudes to Death’, p. 6.
This inability to ensure protection from dissection cultivated fears of examination after death. Although the Anatomy Act had formalised relatives’ ‘right to dissent’ against dissection, periodic newspaper sensations fostered the fear that little could actively be done to protect these rights, and that they were easily undermined by determined anatomists.1074

Dissection enabled the establishment of what eighteenth-century anatomist William Hunter describes as a “necessary inhumanity,” the construction of “defensive barriers” in the mind of each medical student allowing them to forge through these cultural taboos surrounding treatment of the dead.1075 The darker side of this necessary inhumanity, however, was the destruction of a natural respect for the dead. Medical students became at ease with cavalier treatment of cadavers, casually accepting of “gross indecencies,” and thus less willing to accommodate the prudish traditions of bereaved relatives, particularly those of the working classes.1076

This perception of anatomists and medical students as callous and opportunistic was propagated by illustrated newspaper scandals, revealing dissection rooms as places of carnage and chaos, where corpses were treated with utter irreverence.1077 The way these medical men touched, cut open, and deconstructed the dead was far removed from what society termed as acceptable

1074 MacDonald, ‘Procuring Corpses’, p. 393.
1076 MacDonald, Human Remains, p. 33.
1077 MacDonald, Human Remains, pp. 30-32.
treatment of the deceased. To what extent this clause was enforced, however, is questionable. Medical students were renowned for their pranks with anatomical parts, and “it was no uncommon thing to see a regular battle among the students [in the dissecting room], parts of the human body forming their weapons.”

There was, however, a vast difference between the flippant tomfoolery of the students, and the uncaring, casual disregard for the dignity of bodies that had little social value during life, and even less after death.

These corpses, those gleaned from hospital morgues and workhouse dead-rooms, the bodies of those who had been of a low social status during life, were treated with a corresponding lack of decorum and decency after death. As these bodies had gone unclaimed, hospital and workhouse authorities reasoned that there would be no relatives who may become distressed by the thought or sight of their mutilation. Knott’s statistics (cited above) regarding the proportion of relatives who could not afford to claim their loved ones’ bodies but nonetheless attended parish ceremonies, would seem to contradict such assumptions. Parts were routinely removed from these cadavers, and were often preserved as specimens for the edification of medical students. If a corpse was to be presented to relatives, the parts might be replaced to ensure the body appeared as normal as possible (skulls, for example, may have been substituted

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1079 This legislation was passed in the 1880s (MacDonald, ‘The Anatomy Inspector’, p. 40.2).
1080 Knott, ‘Popular Attitudes to Death’, p. 16.
with plaster casts or abdominal organs), although careless handling of the cadaver may have inadvertently altered their appearance.\footnote{For example, if bodies were roughly handled they may become marked, or if a head was left hanging over the end of a dissecting table blood may collect here, altering the appearance of the face (‘Bodies for Dissection in Dublin in 1818’, p. 74; MacDonald, ‘The Anatomy Inspector’, p. 40.6).}

A dread of dissection, of mutilation after death, was widely considered to be an entirely natural sentiment.\footnote{Ironically, the public enthusiastically attended anatomy museums; contrary to the desecration of dissection, such spectacles of anatomy were considered to be “an interesting and acceptable activity” (Bates, “Indecent and Demoralising Representations”, p. 1; Knott, ‘Popular Attitudes to Death’, p. 7).} In the early nineteenth century, death was still the province of religion, rather than medicine.\footnote{T. Walter, ‘Historical and Cultural Variants on the Good Death’, \textit{British Medical Journal}, 327 (2003), p. 218.} An intricate maze of beliefs, fears, and customs about the specific point at which a person was actually dead, about burial and the proper handling of a corpse, about resurrection and afterlife, informed understandings of what was considered acceptable – and what was emphatically rejected as unacceptable.\footnote{Knott, ‘Popular Attitudes to Death’, p. 13.} As a challenge to the cohesiveness and stability of society, it was crucial that death could be ‘managed’. Death was acceptable when it tallied with the predictable and customary role of the dying – this was ‘the good death’, where prescribed roles were understood, accepted, and adhered to by both the dying and those in the surrounding community.\footnote{F. Toscani, C. Borreani, P. Boeri and G. Miccinesi, ‘Life at the End of Life: Beliefs About Individual Life After Death and “Good Death” Models – A Qualitative Study’, \textit{Health and Quality of Life Outcomes}, 1 (2003), at \url{http://www.ncbi.nlm.nih.gov/pmc/articles/PMC280703/} accessed 4 August 2010.} Working-class families were content to live around the dead body of a loved one for several days while funds were raised for its burial\footnote{A. Clark-Kennedy, \textit{The London: A Study in the Voluntary Hospital System} (vol. 2, Pitman Medical, London, 1963), p. 2.} – this form of death was not alien and frightening; it was simply another part of life.
The frequent attendance of grieving relatives at religious ceremonies to mark the passing of their loved ones hints at the depth of this influence in shaping perceptions of dissection.\footnote{R. Houlbrooke, \textit{Death, Religion, and the Family in England, 1480-1790} (Oxford University Press, Oxford, 2000), p. 191.} These understandings were based upon a complex blend of Christian and semi-pagan traditions in which death was widely considered to be a gradual process, occurring over a series of stages during which the soul slowly exited the body.\footnote{Richardson, \textit{Death, Dissection and the Destitute}, p. 7; Knott, ‘Popular Attitudes to Death’, p. 13; Karskens, ‘Death was in his Face’, p. 27-28.} Dissection abruptly dislocated this natural process, disrupting the traditional pace of grieving and the ability of relatives to handle the body in a traditional manner.\footnote{Knott, ‘Popular Attitudes to Death’, p. 14.} Accepted and understood practices of mourning and burial were disturbed, transforming death into something unknown, and therefore frightening.\footnote{Karskens, ‘Death was in his Face’, p. 23.}

The burial of body parts or of corpses missing limbs, organs, or heads was similarly feared. It was widely believed that the souls of such incomplete bodies would be unable to find rest, and would return to torment the living for their irreverent treatment of the deceased.\footnote{Karskens, ‘Death was in his Face’, p. 31.} Catholics, in particular, were disturbed by the potential of dissection to interfere with the “future repose of the soul,” as they held that the body belonged to God and should not be violated even after death.\footnote{Richardson, \textit{Death, Dissection and the Destitute}, p. 17; R. Porter, ‘Medical Science’ in Porter (ed.), \textit{Cambridge Illustrated History of Medicine}, p. 154.} The mutilation or desecration of a body could therefore jeopardise its resurrection, potentially stranding the unfortunate deceased with no means to rise again when Christ returned.\footnote{Stanley, \textit{For Fear of Pain}, p. 33.} Compounding this dilemma was the ease with which parts of a body could be removed (and the removal concealed) and distributed. The Anatomy Act did not encompass the regulation of the distribution of body parts, only whole corpses.\footnote{MacDonald, ‘Procuring Corpses’, pp. 388-389.} Essentially, dismembered body parts lay outside the remit of the Act, meaning that illegally obtained corpses (those
acquired without permission, or in cases where the relatives or subject had been opposed to
dissection) could simply be cut up and distributed without retribution. Here, dissection was a
brusque, violent process with potentially devastating eternal consequences.\textsuperscript{1099}

\textit{Dissection and Anatomy Laws in the Colonies}

The fears which fuelled public horror and disgust about dissection in Britain were transplanted
to Van Diemen’s Land.\textsuperscript{1100} However, the smaller settlements and the absence, for many decades,
of medical schools did mean that the threat of dissection was somewhat mitigated.\textsuperscript{1101} Colonial
medical practitioners were nonetheless keen to be part of the scientific advances being
undertaken in Britain and other centres.\textsuperscript{1102} There remained, however, strong demand among
surgeons for the small number of bodies executed each year as punishment for misdeeds
committed in the colony by repeat offenders. The fate of these bodies clearly played on the
minds of those facing death in the Australian colony, whether due to the effects of disease or as
a result of punishment, demonstrating the extent to which the strong spiritual beliefs which
structured responses to illness and death in Britain had also become an unquestioned part of
culture in the colonies.

One Vandemonian convict eloquently and succinctly expressed the exigency of belief in the
afterlife at his trial in Hobart Town in 1841.\textsuperscript{1103} Patrick Minnighan was part of a gang of fifteen

\textsuperscript{1099} A Correspondent, ‘Bodies for Dissection’, p. 379.
\textsuperscript{1100} Karskens, ‘Death was in his Face’, p. 22, p. 28.
\textsuperscript{1101} Kaskens, ‘Death was in his Face’, p. 35.
men “of the very worst character” confined to the Port Arthur settlement.\textsuperscript{1104} The group was kept under constant close supervision, chained to an iron cable while performing the monotonous, gruelling task of breaking stone. Despite this surveillance, the gang concocted an escape plan. A file was secured with which their chains would be broken, but at the crucial moment their plan was exposed. Minnighan settled on James Travis, “a mere lad,” as the culprit and became increasingly more threatening towards the boy as the day wore on.\textsuperscript{1105} In the late afternoon, Minnighan was released from his chains. Grasping a stone hammer, he went towards Travis and as the boy stooped down Minnighan struck him violently on the head. Travis collapsed, unconscious and bleeding profusely from wounds to his face and scalp.

Travis was rushed to the Port Arthur hospital. Dr Brownell cleaned the two wounds on his head – one ran above his right eyebrow, “extending to the upper portion of the eyelid, and penetrating to the bone, a portion of which was detached, and lay forward on the wound,” the second exposing the fractured bone over his right temple.\textsuperscript{1106} After the bleeding ceased, Travis appeared to be recovering. He spoke sensibly, and was even able to provide a lucid account of his assault. On the fourth day, however, he was struck by fever and within the day he had died from an abscess caused by the bone penetrating the brain over his right temple.

Minnighan’s poor record sealed his death sentence. As the judge intoned his verdict – “return to the place from whence you came, and from that to the place of execution, where you will be hung by the neck till you be dead; that after, your body be dissected and anatomized, and may God have mercy on your soul” – Minnighan, chewing on a piece of tobacco, spat derisively over

\textsuperscript{1104} Indeed, Minnighan’s judge decried the sentence which had freed the prisoner just six months earlier for a “case of the same description [while] your fellow companion suffered on the scaffold” (Decisions of the Nineteenth Century Tasmanian Superior Courts: R. v. Minnighan, accessed 25 May 2010).
the rail of the box.\textsuperscript{1107} He ground his teeth, swung himself from the dock, and shouted defiantly to the judge and his attendants, “Yes, you may dissect my body, but thank God, you can’t my soul!”\textsuperscript{1108}

As in Britain, the gallows were the only legal source of corpses available to Vandemonian anatomists until the passing of the Anatomy Act. Despite existing within a markedly smaller population, there existed a strong rivalry among colonial surgeons and their medical students, all keen to secure the remains of criminals hung for secondary offences. While not endorsed by law, colonial surgeons were able to obtain and open the bodies of unclaimed patients who died in government hospitals and asylums. As these institutions were state run, the bodies of patients who died whilst under treatment were often retained by the institution, and their surgeons permitted to make use of these corpses without fear of reprisal. This inadvertently prompted an uncomfortable comparison between the bodies of executed prisoners and those of unclaimed patients – upon death, the state retained control over the fate (in both a physical sense, in terms of burial, and also in a spiritual sense) of both groups.\textsuperscript{1109}

The practice of dissection in Van Diemen’s Land first became regulated in 1869, with an Act which essentially mirrored its British counterpart.\textsuperscript{1110} This legislation made legal the use of unclaimed bodies as material for dissection by licensed practitioners operating on licensed premises.\textsuperscript{1111} As in Britain, these surgeons were under no obligation to warn either the patients or their relatives that, upon death, they were likely to be dissected. However, while British

\textsuperscript{1110} Van Diemen’s Land and South Australia were the only two Australian colonies with Anatomy Acts. Later in the nineteenth century, however, with the growth of Australian medical schools, some states (South Australia, Victoria and New South Wales) made changes to, or created, anatomy laws which allowed anatomists to make use of unclaimed bodies just twelve hours after the patient had died (MacDonald, ‘The Anatomy Inspector’, p. 40.2, p. 40.13).
\textsuperscript{1111} MacDonald, Human Remains, p. 180.
relatives had forty-eight hours to collect the body of their loved one, bereaved Vandemonians had just twenty-four hours to become aware that their family member had died, raise the funds for an appropriate burial, and claim the body.¹¹¹²

Until an Anatomy Bill was passed, however, there was no legislation which protected inmates.¹¹¹³ Colonial medical men were thus free to use both the information and the body parts they gathered for their own purposes, such as augmenting a personal anatomy collection or that of a benefactor.¹¹¹⁴ This use of anatomical specimens as gifts or commodities – the objectification and exchange of body parts in an economy consisting of a turbulent mix of scientific advances, medical progress, and social bargaining for position and reputation – was a common means of strengthening ties (both academic and personal) between surgeons in the colonies and their colleagues in Britain.¹¹¹⁵

Thus, unclaimed colonial bodies were at just as much risk of unwanted post-mortem examinations as those which lay in British dead-rooms. In both Van Diemen’s Land and Bermuda, horrified convicts told scandalous tales of routine dissection of patients’ bodies. Four Bermudian prisoners undertaking burial duty were shocked to discover the body of a fellow convict, Patrick McGee, who had died the previous day aboard the Tenedos hospital hulk.¹¹¹⁶ McGee’s corpse lay naked in a rough wooden coffin, an old shirt thrown carelessly over the mutilated remains of his body. The dissection of McGee’s body had occurred immediately after his death, with his corpse indecorously dumped into the coffin awaiting burial and his internal organs hastily buried nearby in a shallow pit dug in the sand.

¹¹¹² MacDonald, Human Remains, p. 181.
¹¹¹⁵ Karskens, ‘Death was in his Face’, p. 35; MacDonald, Human Remains, p. 165.
Vandemonian convicts received similar treatment upon death in a colonial hospital, according to American convict Linus Miller. He described how, “when a prisoner dies, his remains were dissected, [and] put into a rough coffin in a state of perfect nudity.” 1117 Robert Marsh, another American convict, also recalled with horror a coffin containing “a part of three or four prisoners” being casually thrown into a shallow grave. 1118 A friend of Marsh’s, James William, had died in a colonial hospital, and his remains were allegedly distributed amongst medical students, with some possibly sent back to England. 1119 Other convicts were forced to collect the dismembered pieces of human corpses which lay in a grisly jumble on the dissection room table in the colonial hospital, and inter them, nameless and unmarked, “in a stranger’s grave, among felons.” 1120 Despite convicts’ low social status, society was nonetheless clearly shocked when the irreverent treatment of these patients’ bodies was exposed, and their gruesome mutilations made public.

The Process of Dissection

Thirty hours passed between the time Ben Goodman ceased to breathe, and the moment Dr Edward Latham Ormerod picked up his dissecting knife. Examination of the head was considered the most difficult part of a dissection, but it was here that Ormerod began. After incising the skin and peeling it away, using a small sharp lancet in small sweeping movements to release the connective tissues, he set about opening Goodman’s skull. If Ormerod was in a

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1120 According to this narrative, the convicts who were forced to gather up the human remains discovered that they knew the identity of the corpse; tragically, they had “no alternative” but to bury their friend, mutilated as he was (Pybus and Maxwell-Stewart, American Citizens, British Slaves, p. 180).
hurry, he may have used a small hammer to open the cranium just above his ear. When time permitted the surgeon to proceed at a more leisurely pace, he may have used a saw to break the outer part of the bone, swapping this for a chisel and mallet to sever the inner layer. By levering the chisel into the opening made by the saw, and pushing sharply downwards, Ben Goodman’s skull was abruptly and noisily separated from his brain.\footnote{R. Hodges, \emph{Practical Dissections} (John Bartlett, Cambridge, 1858), p. 13.}

Ormerod bent over and examined the exposed organ lying before him in the light streaming in from the windows nearby. The outermost cerebral membrane, the dura mater, was left rough where it was suddenly shorn away from its bony covering. Having cut through this fibrous covering with scissors, the smooth arachnoid coat gleamed murkily at Ormerod from the remnants of Goodman’s skull. This second layer of membrane held “a large quantity of serum,” which ran out over the scrubbed wood of the dissecting table as he sliced through the covering to expose the brain itself. Ormerod did not spend long examining the organ. He noted that that the “convolutions of the brain were unusually distinct and prominent,” but nonetheless “quite healthy.”\footnote{SBHAM, \emph{SBH: Case Notes of Ben Goodman} (MR 16/6/65).} Without replacing Goodman’s skull or its contents, Ormerod moved on to the abdomen of his subject (who, only hours earlier, had still been his patient).

With a small sharp knife, the surgeon made a steady cut down the centre of Goodman’s torso, from the base of the neck to the pubis, exposing the complex tangle of organs within. At first enlarging the aperture with forceps, then laying down the instrument and sliding his fingers into the opening, he eased the skin back slowly, drawing it away from the incision.\footnote{Ormerod would have employed his sense of touch during such procedures. With no barrier (such as gloves) between his probing fingers and the tissues and organs of Goodman’s body, the surgeon could feel, as well as see, any abnormalities.} Keeping his knife close to Goodman’s ribs, Ormerod set about dividing both sides of the costal cartilages
and intercostal muscles. Once the layers of muscular fibres were separated, he sawed through
the sternum and pulled apart the ribcage as stagnant air whistled from Goodman’s collapsing
right lung. The left, marked with disease and adherent in several spots, made no sound. After
a meticulous examination of both lungs, Ormerod inspected Goodman’s stomach. Finding that
organ healthy, he traced the length of the small intestine. Dissecting the layers of the organ –
first the peritoneal coat, followed by the muscular fibres and lastly the mucous membrane – he
found that most of this organ was also healthy, “except for the last few inches of the ileum,”
which were marked by several “roundish ulcers” and dusky, greyish brown patches.

Next, Ormerod removed Goodman’s kidneys, stripping back the covering layers of fat and
cellular tissues and tracing the ureter to the organs lying on either side of the spine. Instead of
a healthy, smooth deep red, Goodman’s kidneys were “mottled and set with numerous cysts…
one at the lower end of the organ being bigger than a duck’s egg.” Ormerod also found that
although Goodman’s spleen was healthy, his liver was a pasty yellow rather than a rich reddish
brown.

Ormerod does not mention retaining any parts of Goodman’s body as preparations. His
subject’s brain was probably returned to his skull, his lungs, kidneys and spleen to his abdomen.
He may have been roughly sewn back together with catgut, leaving a thick, bumpy wound on his
cold, mottled skin. In death as in life, Benjamin Goodman represented the multitude of
unclaimed patients lying in numerous hospital and workhouse dead rooms throughout Britain
and its colonies. To die in an institution was often a final declaration of desperation. Only those
who had no friends or relatives willing or able to tend to them through illness would be prepared

1125 Hodges, *Practical Dissections*, p. 175.
to accept the total sacrifice – temporary or permanent – of independence and dignity which accompanied workhouse or hospital admission. Some even preferred to die alone on the streets rather than acknowledge the bleakness of their circumstances by seeking assistance at a public institution.

Not all patients, however, were subjected to an examination the same as Goodman’s. A few were not examined, occasionally because they had successfully asserted their right to oppose dissection, others because their cause of death was obvious and uninteresting. New Norfolk surgeon Dr Brock elected not to open the body of one of his patients who died from scrofula, as his body was so completely beset with ulcers that his cause of death was plainly visible from the exterior of the corpse. Some patients underwent just a brief post-mortem examination, entailing little more than the opening of the body to confirm or ascertain the cause of death. Robert Dugley, a New Norfolk patient suffering from paralysis, died from bronchitis after just three days under treatment. Although Dugley’s brain and abdomen were both opened, Brock’s examination of his patient’s organs were merely perfunctory – hardly surprising when the surgeon had waited three days, with Dugley’s body putrefying rapidly in the mid-January heat, before commencing the post-mortem.

Some patients, such as Goodman, were subject to a detailed examination in which organs were taken out, measured, weighed, and their contents analysed. James Fleaver, for example, another Vandemonian patient who was admitted with (and eventually died from the effects of) chronic ulcers, had his lungs, liver and kidneys removed and dissected. Indeed, most hospital patients

1127 Karskens, ‘Death was in his Face’, pp. 25-26.
1128 TAHO, RDH: [Ebony] (HSD 246/6/111).
1129 TAHO, RDH: Robert Dugley (HSD 246/6/128).
1130 TAHO, RDH: James Fleaver (HSD 246/1/84).
who died whilst under treatment would have undergone some form of internal inspection.\textsuperscript{1131}

Many surgeons did not feel that these cursory examinations required patients’ or relatives’ permission, particularly in times of epidemic, such as during cholera outbreaks in Britain in the early 1830s.\textsuperscript{1132} In the midst of epidemics such as these, amid the chaos of terrifying illness and the social disorder it brought, scandalous rumours spread of patients murdered in their hospital beds to allow their bodies to be used as anatomical subjects. The public’s constant fear of hospital admission intensified to the point that riots occurred around institutions, with mistrust of surgeons escalating to near-hysteria.\textsuperscript{1133}

A small group of patients, having undergone a straight-forward ‘opening’ of the body, were then forwarded to anatomy students to be used as material for complete dissections.\textsuperscript{1134} This lengthy process involved the total stripping down of the corpse to explore the connection between various parts of the body.\textsuperscript{1135} After a simple post-mortem such as Goodman’s, the body remained relatively whole, if visibly altered.\textsuperscript{1136} After dissection, however, the body was reduced to little more than gruesome mounds of muscle and organs, puddles of blood, and a pile of scraped bones. Students would begin with the abdominal viscera, the parts which would first begin to reek of decomposition, the stench of which clung pervasively to the skin and clothing of the medical men long after they left the dissecting table. Each organ would be meticulously isolated and removed, and often preserved in glass jars full of arsenic or glycerine topped with

\textsuperscript{1133} See, for example, Burrell and Gill, ‘The Liverpool Cholera Epidemic’.
\textsuperscript{1134} MacDonald, ‘Procuring Corpses’, p. 392.
\textsuperscript{1135} MacDonald, ‘The Anatomy Inspector’, p. 40. 6.
\textsuperscript{1136} MacDonald, ‘The Anatomy Inspector’, p. 40.3.
lead and a seal of pig’s bladder to enable continued study long after exposed flesh would have rotted away.1137

Next, the muscles, nerves and arteries were examined. Each artery was gently held aloft with tiny metal hooks, their lengths traced as they dwindled into infinitesimal vessels. These networks of arteries and veins were often injected with resin or wax, tinted a variety of brilliant hues, to produce dramatic models of the human vascular system.1138 Each group of muscles was meticulously examined and separated, with medical students testing the effects of contracting and releasing the fibres. Francis Burrows, a forty-year-old painter, was admitted to St Bartholomew’s Hospital with violent chorea, a severe headache across his forehead, and a disabling hand-drop. After just five days in hospital Burrows died, and his body was taken for dissection. Ormerod found that Burrows’ right extensor communis digitorum was colourless, “contrasting strongly” with the healthy hues of the extensor carpi radialis and ulnaris which lay on either side. Ormerod took a sample of this diseased muscle and examined it under a microscope, finding it to be “in a state of fatty degeneration, [while] the properly coloured muscle by the side of it shewed no such changes.”1139 By opening his patient’s body, Ormerod had been able to find physical evidence of the muscular condition which had afflicted him during life.

While on paper the differences between a cursory post-mortem and a detailed dissection seem clear, in most hospital morgues there were no clear boundaries between the two.1140 Some surgeons, such as Brock, routinely made extensive examinations of the brains of their subjects, while others, such as Huston, did not even open the skull. Each medical man would have had

1138 Moore, The Knife Man, pp. 122-123.
1139 SBHAM, SBH: Case Notes of Francis Burrows (MR 16/6/164a).
his own procedure, and each would vary in its depth of detail and the extent of its examination. What was acceptable scientific curiosity to one practitioner may have been mutilation to another.

In the eyes of the public, also, the line between dissection and post-mortem examination was blurred.\textsuperscript{1141} Both bore the taint of anatomical examination as punishment, and many patients were just as horrified by the thought of a brief post-mortem examination as a complete dissection. The Anatomy Acts in both Britain and Van Diemen’s Land were intended to regulate the distribution of corpses for any form of anatomical study, whether a meticulous dissection or a cursory inspection. By controlling who could legitimately possess bodies and stipulating what could be done with them, it was hoped that this deeply-entrenched public fear of dissection would be soothed by the application of scientific facts rather than aggravated by embellished rumours and hearsay. Despite constant emphasis on the great medical advances made in anatomy and pathology, the working classes remained deeply sceptical of the use made of corpses by medical men and their students. According to an article in the \textit{Courier}, this fear and uncertainty were further heightened by the use of patients’ bodies for anatomical examinations, as it added to existing fears of hospitals and surgeons.\textsuperscript{1142} Although the Anatomy Act succeeded in relieving the intensity of terror associated with grave-robbing, fears of post-mortem examination remained widespread.\textsuperscript{1143}

The complexity of the beliefs and emotions surrounding death and the afterlife informed these fears. By eliminating the hope of a ‘good death’, by removing the psychological frameworks and social role-playing which made the uncertain inevitability of death tolerable, dissection was

\textsuperscript{1141} Karskens, ‘Death was in his Face’, p. 28.
\textsuperscript{1142} Cited in Davis, \textit{The Tasmanian Gallows}, p. 42.
\textsuperscript{1143} Stanley, \textit{For Fear of Pain}, pp. 34-35.
perceived as the “ultimate invasion” of both the soul and the body.\footnote{1144} Whatever distinctiveness and individuality possessed by a patient or prisoner during their lifetime was isolated and removed by the surgeon’s scalpel.

It was the use of this same scalpel, however, which allowed doctors to map the uniform progression of diseases in vast numbers of hospital and workhouse patients, to identify their pathological markers in the dead and use these to describe their accompanying symptoms in the living.\footnote{1145} It was these post-mortem, however distasteful and frightening, which allowed surgeons to peer inside the human body, to identify and label its parts, to demystify and objectify its sicknesses. Matthew Baillie stated that such a detailed understanding of “anatomy cannot be learnt without the employment of the knife upon the dead body, that great basis on which we are to build the knowledge that is to guide us in distributing life and health to fellow creatures.”\footnote{1146} These discoveries transformed the discipline of medicine. No longer was each patient’s disease a unique manifestation of their humoural imbalances, no longer did the patient’s personal retelling of their symptoms form the foundation of the doctor’s diagnosis. The emotional was replaced by the scientific, the subjective by the objective.

This process of examination enabled surgeons and their students to become familiar with the human body to a degree not possible through external examination, no matter how methodical or meticulous.\footnote{1147} The progression of diseases, the damage wrought on patients’ bodies both internally and externally, and the intricate links between the two, could only be traced by

abandoning social rules about the treatment of the dead and opening the corpse. As London surgeon John Abernethy declared to his discomfited students in the lecture theatre of St Bartholomew’s Hospital, it was only by becoming “companions with the dead,” by looking, touching, smelling, and listening, that order could be made of the chaos that was the human body, in illness and in health.\footnote{J. South, Notes Taken on Lectures given by John Abernethy on Natural and Morbid Anatomy and Physiology delivered by John Abernethy Esq FRS in the Anatomical Theatre at St Bartholomew’s Hospital in the Year 1819 & 1820 (vol. 1, Library of the Royal College of Surgeons, London, entry for 2 October 1819); MacDonald, Human Remains, p. 12.} Better that medical students learnt their trade upon the bodies of the dead, than risk mangling the bodies of the living.\footnote{A. Cooper, cited in Stanley, For Fear of Pain, p. 50.}
Chapter Eight

Conclusion

Among the thousands of patients admitted to British hospitals throughout the nineteenth century were three middle-aged men; Solomon Soames, James Britton, and John Pert. While separated by hundreds of kilometres and the passing of years, all three men suffered from the same aching pains of rheumatism. The experiences of each of these three men were captured in their hospital case notes. These records of the day-to-day practice of hospital medicine upon the bodies of these patients, and almost a thousand others like them, has formed the basis of this research through the comparison of the medical treatment provided in hospitals specialising in the care of the sick poor (particularly at St Bartholomew’s Hospital), convict patients (at New Norfolk Hospital and the Royal Naval Hospital in Bermuda), and of naval and military inmates (also at Bermuda). Despite their limitations, the sets of data from these three hospitals have provided a rich source of information from which a number of valuable conclusions have been drawn. The similarities between records – such as those belonging to Soames, Britton, and Pert, discussed below – demonstrate a far-reaching medicalisation which occurred throughout
nineteenth-century society. The differences between the three sets of information, however, can be equally as telling. Throughout this period in medical history – particularly the 1830s and 1840s – the practice and theory of medicine underwent a series of complex shifts. These changes utterly transformed the role of the patient, as can be illustrated by examining the language used to describe these three men upon their admission to hospital.

Soames, a forty-two-year-old convict, was transferred from the *Weymouth* hulk to the Royal Naval Hospital in Bermuda at the end of July, 1833. His brief case notes record the “pain [which] seized upon all parts of the body,” but specify few other symptoms. Dr Alexander P. Stiven, colonial surgeon aboard the *Weymouth*, dosed Soames with drastic purgatives and diaphoretics, and prescribed mercury and opium mixed with chalk. The medicines, however, produced only “temporary benefit;” with Soames’ “Bowels…still unhealthy” and his “mouth slightly affected with the Mercury,” Stiven transferred his patient to the land-based naval hospital.

Britton was admitted directly to New Norfolk Hospital in 1845 from his master’s property, where he was employed as a farm labourer. A forty-eight-year-old convict from Essex, Britton was received complaining of “pain in the Lumbar region.” His surgeon, Dr Brock, took a detailed history in which he noted that Britton had “Enjoyed good health in his native country, has been four years in this Colony where his health continued good until about eight days ago when he felt a slight pain in his Back which did not prevent him from working but on the following day was unable to remain out.” Brock also recorded that his patient had self-
treated before seeking hospital attention by taking “some Turpentine and [applying] a Blister to
the lumbar region.” After taking Britton’s history, Brock conducted a thorough physical
examination. Britton’s pulse was noted as “72 hard,” his tongue was “clean,” his “skin natural”
in colour and temperature, and his bowels were “confined.” The surgeon also noted that his
patient bore “the marks of having been vaccinated.”

Pert was received at St Bartholomew’s Hospital in March 1846. Aged thirty-six, he had been
employed as a type founder when he found himself struck by repeated attacks of rheumatism.
Upon his admission to St Bartholomew’s, Pert’s urine was analysed even before his body was
examined. Records of this examination were curt and emotionless, with Pert’s symptoms
abbreviated into a succinct medical checklist: “Pale pasty face, bloodless eyes. P[ulse]. 108 small
soft. Skin warm and moist. T[ongue] flabby with a thin white pasty fur. Skin warm and
and swelling flying to the different points during the last 5 weeks. No anasarca.” Pert’s
surgeon, Dr Ormerod, also took a history of his patient’s earlier encounters with the medical
profession. Pert appears in these notes, but merely as the system within which diseases were
located: “Has a blue ring on his gums. Had lead colic 8 years ago: from this time has been liable
to attacks of rheumatism, during which his joints become red, painful, and swelled.”

These three cases bear evidence of the steady push towards the depersonalisation of medicine.
While in the 1830s Soames’s own experiences lay at the very centre of what it was to be a
hospital patient, when Britton and Pert were experiencing treatment during the 1840s – just ten

1155 TAHO, RDH: James Britton (HSD 246/1/149).
1156 St Bartholomew’s Hospital Archives and Museum, St Bartholomew’s Hospital, Medical and Surgical Case Notes of
Edward Latham Ormerod, Diseases of the Central Nervous System, Kidneys, Abdominal and Infectious Skin Diseases: John Pert
(MR 16/6/250).
1157 Anasarca is a type of swelling of bodily tissues; for full explanation of terms see Glossary of Terminology and
Glossary of Diseases and Conditions (SBHAM, SBH, Medical and Surgical Case Notes: John Pert [MR 16/6/250]).
1158 SBHAM, SBH, Medical and Surgical Case Notes: John Pert (MR 16/6/250).
or fifteen years later – they found themselves excluded from the processes and recording of their own diagnosis and treatment.

Patient case notes offer valuable opportunities to examine and explore hospital treatment and perceptions of medical care. They provide glimpses into the patient’s own experiences of institutional medical treatment, and also reveal wider patterns of changes and continuities in the practice and discourse surrounding nineteenth-century healthcare. Although it is crucial that these records are contextualised with contemporary sources, the small number of detailed hospital case notes still in existence renders it difficult to obtain comparative samples. Accordingly, the tantalising opportunities afforded by patient case notes can be rare and fraught with challenges.

Upon examination of the records from the New Norfolk Hospital, the Royal Naval Hospital in Bermuda, and St Bartholomew’s Hospital, the diversity of the patient profile between the institutions became immediately apparent. While every effort was made to utilise records which were comparable to New Norfolk’s depth of detail and specific time frame, the Vandemonian hospital had few if any parallels in terms of the type of institution and the nature of its records. The peculiar nature of the convict system forced authorities to care for its penal charges in a way not generally adopted elsewhere until the twentieth century creation of the welfare state. The level of innovation observed in the Vandemonian institution through its meticulous records is all but unprecedented, and is not observed in the notes of the other two institutions. This finding dispels the notion that advancement and improvement in medical care and knowledge originated at large metropolitan centres of learning and only slowly filtered out to colonial peripheries. Indeed, of the three institutions examined in this research, New Norfolk Hospital appears to be the more innovative and inventive. Less constricted than St Bartholomew’s by its close

proximity to the meddlesome pens of hospital governors and more free to experiment than their ship-bound Bermudan colleagues, the Vandemonian practitioners were able to implement changes at a speed which belies the large distances that separated them from the metropolitan centre.

New Norfolk also benefited from its reception of patients exhibiting a wider range of diseases than other intuitions. Where St Bartholomew’s was bound by restrictive admission criteria, and accordingly refused entry to many patients (such as those suffering infectious or venereal diseases, or those whose conditions were chronic or fatal), New Norfolk did not have the luxury of selecting its inmates.\textsuperscript{1160} While St Bartholomew’s sought to admit only acute (treatable) and emergency cases, the colonial hospital admitted all patients deemed by surgeons to be in need of hospital care – the elderly, the uninteresting, the infectious, and the incurable – and frequently received cases transferred from other hospitals around Van Diemen’s Land.

Patients who were not progressing favourably or quickly at the Colonial Hospital in Hobart Town, for example, were routinely sent on to New Norfolk to ‘try a change of air’, meaning that New Norfolk accumulated chronic and incurable cases from around the colony. Inmates were often moved in groups from one institution to another; William Ashdown, a forty-eight-year-old convict suffering chronic rheumatism was transferred with a number of other invalids from the Hobart Town institution.\textsuperscript{1161} Other patients came individually, such as John Brown, who was received from the Broadmarsh Probation Station where he had been admitted suffering from ophthalmia three months earlier.\textsuperscript{1162} Although his symptoms were diminishing whilst under

\textsuperscript{1160} See Chapter two for detail on admission procedures.
\textsuperscript{1161} TAHO, RDH: William Ashdown (HSD 246/1/104- HSD 246/1/105).
\textsuperscript{1162} TAHO, RDH: John Brown (HSD 246/1/225- HSD 246/1/231).
treatment at the station, surgeon John McDowell had “no doubt that he [would] benefit by change of air.”

In Van Diemen’s Land, as the age of transported convicts increased, the faltering colonial healthcare system was burdened with rising numbers of chronically ill and aging convicts. These men required both active and palliative care, but their medical demands and the detrimental effects upon the cure rates of Hobart Town’s Hospital demanded an alternative solution. New Norfolk Hospital was enlisted to fill the growing gap between the primary Colonial Hospital and the invalid depots such as Impression Bay. By consolidating the care of these invalid patients at New Norfolk, space was freed in other colonial institutions for the treatment of the type of acute cases admitted at St Bartholomew’s. In this manner, the Colonial Hospital in Hobart Town successfully distanced itself from the high mortality rates associated with caring for those patients who held little hope of recovery. As discussed in Chapter Seven, the impact of this strategy is clearly evident in the mortality rates at New Norfolk Hospital when contrasted with an institution such as St Bartholomew’s, where the dying were routinely refused admission.

Patients were not, however, deposited at New Norfolk and forgotten about. Surgeons at this institution showed a remarkably high level of care and interest in their patients’ physical and emotional wellbeing which is less evident at St Bartholomew’s and the Royal Naval Hospital in Bermuda. This is one manifestation of a unique relationship which appears to have existed between colonial surgeons and convicts, begun on the voyage to Australia when prisoners found themselves under the care and control of a surgeon-superintendent. This somewhat paternalistic attention, in which discipline and restraint had to be awkwardly balanced with the prevention and cure of disease, regular exercise, and moral guidance, enhanced the surgeon’s benevolent authority. As Andrews comments, this rendered the practitioner, “whose commands were

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1163 TAHO, RDH: John Brown (HSD 246/1/225- HSD 246/1/231).
supposed to seem irresistible, yet favours and indulgences appear to flow from him,” as an approachable figure of authority.\textsuperscript{1164} Practitioners were often called upon to support convicts’ petitions, and feature in a favourable light in some prisoners’ accounts. This association may have been fostered by long-term stays in hospital.

Over-crowding and constant bed shortages, compounded by the ever-present need to provide evidence of high rates of cures to inquisitive subscribers and hospital administrators, forced the staff at St Bartholomew’s to focus on rapid patient turnover. The sheer number of cases hindered the establishment of a relationship between doctor and patient, while the smaller numbers in colonial hospitals allowed personal connections – however transitory – to be made between staff and inmates. There was little effort (and probably little time) in lager institutions to obtain or take note of previous medical histories, and personal details such as age, occupation, or marital status were recorded only in relation to current health complaints.

Meticulous note-taking and regular visits from the attending doctor were routine features of every patient’s experience at New Norfolk Hospital. Any alteration in an inmate’s condition was carefully recorded, and any changes in diet or treatment noted. Convalescent patients were enlisted to check on seriously ill inmates, and duly notified nurses or doctors if a fellow patient experienced any unexpected deterioration. When Francis Hartwell “became insensible and fell down” during a sudden seizure, it was a fellow patient who ran for the doctor and relayed the details of Hartwell’s attack.\textsuperscript{1165} Surgeons even occasionally sat by the side of dying patients; when Henry Bavin lay dying of \textit{morbus cordis}, Brock visited him five times before his death at midnight, four days after admission.\textsuperscript{1166}

\textsuperscript{1164} Andrews, ‘Case Notes’, p. 272.
\textsuperscript{1165} TAHO, RDH: Francis Hartwell (HSD 246/1/81).
\textsuperscript{1166} \textit{Morbus cordis} is a form of heart disease; for explanation of terms, see Glossary of Terminology and Glossary of Diseases and Conditions (TAHO, RDH: Henry Bavin [HSD 246/1/219]).
At St Bartholomew’s Hospital, the same level of attention to detail is evident in patient notes – but this was generally confined to the period surrounding the patients’ admission. If the case resolved rapidly – either in the alleviation of symptoms, cure, or death – the notes were comprehensive from beginning to end, with particularly scrupulous details of post-mortem findings (in some cases, the case notes taken while the patient was under treatment were incomplete to the point of nonexistence – they appear to feature merely as a “preliminary to autopsy”). If, however, the patient failed to show either speedy improvement or deterioration, surgeons tended to lose interest in the case. The swift and unceasing turnover of patients, and the vast number of sick clamouring each week for admission, meant that there were always new and interesting cases awaiting inspection. Any patients who showed little alteration in their condition tended to be abandoned as uninteresting (generally because they were either convalescent or incurably ill) and neglected until they were eventually discharged or died. Doctors often reacted with surprise when a patient suddenly died after an extended period of hospitalisation, simply because they did not observe the gradual decline in strength and vitality.

The sense of community and companionship which appears to be such a distinctive feature of the wards at New Norfolk Hospital is also present in the faded, spidery writing of this institution’s case notes. Within these reports, Vandemonian patients retain something more of their individuality – their chaotic and disordered humanness – when contrasted with those of the St Bartholomew patients, who are expressed more as methodical case studies than people. The boredom, the isolation, the discomfort and pain – the unpredictable emotive sensations and sentiments which vary so greatly between individuals – were often stifled in the records of St Bartholomew’s, neatened and compressed in the predetermined categories of scientific medicine. Here, illness became less about human experience and more about objectified notions of ideal clinical pathways.

The notes from the New Norfolk Hospital, on the other hand, regularly document the moods and feelings of their inmates, frequently in the patients’ own words. A sense of defensive bravado infiltrates the narratives of some patients, such as eighteen-year-old Thomas Smith, who brashly proclaimed his perfect health, asserting that he “never was ill in his life” until his admission to hospital. John Riley, too, had a fortuitously blank medical history; he advised Brock that he had “never had an hours’ illness until about two years ago when he fell in a hold of water whilst labouring under the effects of drink and remained there for one hour when he was taken out and put to Bed with his wet shirt on.” A certain joviality is present in some cases notes. James Upperton, for example, told his surgeon that he self-treated his venereal disease with powders and an ointment, but “does not know what they were, [he] got them from a mate.” Francis Witham declared to his surgeon that “he felt gladsome,” and much improved since he arrived at the hospital.

Records from the Royal Naval Hospital in Bermuda also reveal more personal aspects of patients’ experiences, and highlight the difficulties of treating patients aboard ship in comparison to the more spacious and better equipped land based hospitals. John Brooks, for example, was transferred to hospital to escape the noisy and overcrowded sick bay aboard ship. Suffering from symptoms of insanity brought on by overwhelming grief at the loss of his parent from cholera, aboard ship Brooks was “deprived of so many requisite comforts and remedies” which could be provided on shore. Samuel Gardiner, a convict from the Dromedary hulk, was admitted with some urgency after suffering a haemorrhage from “an old ulcer in the left leg [of] nearly 5 years standing.” As Gardiner refused to remain quiet and still enough for treatment

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1169 TAHO, RDH: Thomas Smith (HSD 246/4/118).
1170 TAHO, RDH: John Riley (HSD 246/1/248).
1171 TAHO, RDH: James Upperton (HSD 246/4/147).
1172 TAHO, RDH: Francis Witham (HSD 246/4/128).
1173 NA, Case Book, Royal Naval Hospital, Bermuda: John Brooks (ADM 104/98, p. 00040).
1174 NA, Case Book, Royal Naval Hospital, Bermuda: Samuel Gardiner (ADM 104/98, p. 00030).
to take effect, the sore on his leg festered while his surgeon lamented that he was powerless to prevent Gardiner exercising on board the hulk and aggravating the ulcer. A number of Bermudian patients were described as “perfectly worn out,” their bodies prematurely wearied by constant physical labour and the ravages of untreatable diseases.\textsuperscript{1175}

The considerable variation in the style of case note between institutions is largely due to the dramatically different roles played by patients in each of the three hospitals. St Bartholomew’s patients appear in the hospital’s case notes as teaching material, nothing more and nothing less, whether under treatment or under the dissection knife. Through this exchange of knowledge and instruction, authors sought to expand and perfect their own and others’ medical skills and knowledge.\textsuperscript{1176} In such a didactic setting, emotive language and sentimental vignettes were dismissed as subjective and therefore inappropriate.\textsuperscript{1177} Such details related to the human person in which the disease was manifest; this person had to be stripped away before the disease could be objectively exposed. Here, bodily systems and “organs assumed centre stage, and patients’ views were retained as prefatory material.”\textsuperscript{1178} Details recorded in the case notes were related not to the patient, but to the progression of disease or the intervention of medical or physical treatments – the patient existed as merely a “negative element,” the system in and around which symptoms were exhibited.\textsuperscript{1179}

Great emphasis was placed on accurate and specific medical detail, relayed in factual scientific language fit for a professional medical audience. Small changes in the patient’s condition were disregarded as trivial, but great care was taken to rationalise and validate diagnoses and treatment

\textsuperscript{1175} NA, \textit{Case Book, Royal Naval Hospital, Bermuda: Peter Cowen} (ADM 104/98, p. 00020).
\textsuperscript{1176} Andrews, ‘Case Notes’, p. 259, pp. 273-274.
\textsuperscript{1178} Nowell-Smith, ‘Nineteenth-Century Narrative’, p. 52.
regimes, both during the inmate’s life and upon their death. Many surgeons published details of their cases – journal articles, lectures notes, and medical manuals were all based on patients’ notes – and patient records were the ideal opportunity to highlight the successful use of a new treatment, to support the existence of a new medical ‘fact’, or to attribute an unsuccessful case to a discreditable remedy. Accordingly, these records were written with attention to the important facts and physical evidence supporting their understandings of each patient’s disease; doctors learnt to justify their opinions using this palpable evidence as part of their note-taking well before opinions were made public.

Surgeons at New Norfolk Hospital and the Royal Naval Hospital in Bermuda were similarly aware that their actions would be scrutinised, but for very different purposes. While the colonial practitioners were also undoubtedly eager to circulate the details of any curious cases under their care, meticulous note-taking was demanded not by publishers but by colonial and British authorities. The unusually high levels of care and record-keeping experienced by convict patients can be largely attributed to the unusual status of these inmates. These unfree patients were part of the primary workforce of the colonies; unlike St Bartholomew’s patients, who were drawn from the vast mass of the urban poor, many of the colonial patients were part of a relatively small pool of useful and economically valuable labourers.

Each man who could not work due to illness or disability was a burden upon the colonial and imperial purse, a drain rather than a support to his colony. As Nicholas emphasises, a prisoner was of little use as a worker if he was starved, mistreated, or weakened by being denied medical

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To protect their investment in good quality healthcare, authorities extended multifaceted surveillance over prisoners whilst they underwent treatment in hospital. Detailed note-taking supported this scrutiny through the constant monitoring of patients – both at proximity, under the gaze of fellow patients and medical staff, and at a distance, via the copious case records and letters which travelled between colonial medical authorities and government officials.

Despite the inclusion of descriptions of patients’ emotional state and the detailed fragments of patient narrative, it remains clear that the notes from the colonial institutions were still primarily medical records, not anecdotes of pain and suffering, or their alleviation. While lacking the dispassion evident in records from large teaching institutions such as St Bartholomew’s Hospital, conscious effort was made by colonial surgeons to expunge the subjective accounts provided by patients, rearticulating them in objective scientific terminology. Practitioners were repeatedly urged to clarify their reports, to note every visit, to observe every change in condition, diet, and medicine, and to provide continuous and exhaustive observations of the physical and psychological conditions of the prisoners under their care.

The ten to fifteen year difference between the records of the Naval hospital (written between 1832 and 1836) and those from the New Norfolk Hospital (from 1842 to 1848) is, however, significant. The Vandemonian notes are markedly more scientific and precise in their clinical descriptions than the Bermudian records, which provide less factual detail and rely more heavily upon patients’ understanding of their own illnesses. For example, in mid-September, 1832,

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1185 Foucault, Birth of the Clinic, p. 83.
Joseph Phillips was admitted into the sick bay aboard the *Coromandel*.\(^{1187}\) The twenty-four-year-old convict was suffering from diarrhoea and general, griping pains across the abdomen. No specific details of the site of the pain were recorded – a common occurrence in the Bermudian records, where the precise anatomical location of pain or injury is rarely noted. This contrasts with the New Norfolk and St Bartholomew’s records, both of which habitually describe in detail specific sites of disease on and within patients’ bodies. Thomas Batley, a tallow chandler from Cambridgeshire, was admitted to the Vandemonian institution in 1845, having been afflicted with pain “attacking various parts of his Body at different times.”\(^{1188}\) Brock records that Batley was admitted complaining of “pain in the right and left hypochondriac and epigastric regions increased on pressure.”\(^{1189}\) These statements, and the manner in which they describe the same situation in such different language, reveals the pressure placed on surgeons to convert patients’ descriptions of their symptoms into more scientifically objective terminology.

Without the insight gained through an examination of the case notes, it is easy to dismiss the New Norfolk Hospital as a second-class dumping ground for incurable and elderly convicts. Records from the three hospitals, however, support the assertion that the colonial institution did in fact provide medical treatment which was generally as good or better than that received by the other sample groups. The use of new medicines, instruments, and practices as described in the patient notes from New Norfolk Hospital provide clear evidence of the transferral and implementation of medical and scientific advances from Britain and around the world to the Australian colony.

By the 1840s, the stethoscope has been accepted by the British medical profession for around a decade. The instrument was frequently employed at the New Norfolk Hospital, and appears in

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1188 TAHO, *RDH: Thomas Batley* (HSD 246/1/63- HSD 246/1/64).
1189 TAHO, *RDH: Thomas Batley* (HSD 246/1/63- HSD 246/1/64).
the case notes of twenty-six patients, including those of John Bentley, who had suffered from “a pectoral affection since he was 17 years of age.” Examination with the stethoscope elicited “the sibilant sound combined with mucous rale in every part” of Bentley’s chest. Interestingly, the stethoscope features in records only twice at St Bartholomew’s Hospital and twice at the Bermudian institutions. Its lack of use in Bermuda is relatively unsurprising as during the 1830s the instrument was not as widely utilised as it was during the 1840s. At the London institution, it is possible that the stethoscope does not appear more frequently in case notes due to a lack of use, although it is perhaps more likely that the instrument was employed regularly, thus normalising its use and rendering it unremarkable (and accordingly not necessitating a mention in patients’ notes).

The routine practice of dissection provided another arena in which the colonial surgeons in Van Diemen’s Land could advance their knowledge, and demonstrate this to their British colleagues through publications or private correspondence. Although no instances of examination after death are present in the notes from the Bermudian institution, almost all the patients who died in the New Norfolk Hospital underwent some form of post-mortem examination or dissection. In contrast, surgeons at St Bartholomew’s – a progressive teaching hospital – were granted authority to dissect only a small proportion of those who died on the wards, the remainder being claimed by relatives before examination was permitted to commence. Vandemonian colonial surgeons wielded much greater control over the bodies of their patients – dead or alive – than their metropolitan counterparts. The medicalisation evident in the patient case notes was fuelled by the desire of medical men to demystify and decipher the functioning and malfunctioning of the human body. By increasing their understanding, by labelling and describing what was once hidden and obscure, practitioners considered their knowledge to be superior to that of their patients.

1190 TAHO, RDH: James Britton (HSD 246/4-6/69).
1191 TAHO, RDH: James Britton (HSD 246/4-6/69).
The aspiration of colonial surgeons to expand their knowledge and increase their skills was not limited to anatomy and pathology. Many medical men keenly sought native botanic remedies to replace or use in conjunction with tradition British treatments. Colonial surgeons also clearly participated in the advances being made in the field of chemistry. The experimental use of ether at the New Norfolk Hospital is perhaps the most remarkable implementation of a very new concept in mid-nineteenth-century medicine. Its usage in Van Diemen’s Land demonstrates that news of American and British medical innovations travelled swiftly to the Australian colonies, and that practitioners stationed in the outpost were not isolated from their colleagues by geographical distance.

While the wealthy resorted to self-treatment in the absence of private physicians, and the destitute went untended for sheer lack of any other option, convicts remained secure in the knowledge that the British government – from necessity and obligation – had to make provision for their health. Accordingly, convicts were able to access medical care that in Britain would have been far beyond their financial means. They were also provided with superior clothing, more nutritious food, and better accommodation than many of their free counterparts who remained in their homelands.

Colonial surgeons were keen to experiment with the same innovations available to their international counterparts, and to participate in the advancement of the diverse facets of medical science – anatomy and pathology, for example, through the ample availability of material for dissection, or chemistry through experimentation with new medicines derived from local botanic

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1193 C. Bowden, ‘The Blind, the Paralytic, the Aged and the Destitute’: The New Norfolk Colonial Hospital in Van Diemen’s Land (unpublished Bachelor of Arts (Honours) Thesis, Department of History, University of Tasmania, Hobart, 2007), see particularly Chapter three.

resources, or new uses of existing drugs (such as ether). The speed and eagerness with which these doctors participated in the wider international medical discipline demonstrates that to be a colonial surgeon in Van Diemen’s Land was not to be removed from the advancement of science. It was merely one way to be part of it.
### Appendix One - Glossary of Terminology

<table>
<thead>
<tr>
<th>Term</th>
<th>Abbreviation</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ad deliquium animi</td>
<td>Ad. deliq.</td>
<td>‘To the point of fainting’ – a patient has been bled until fainting or syncope resulted.</td>
</tr>
<tr>
<td>Adjuvant</td>
<td>-</td>
<td>Usually a medicine which is used to assist the operation of the principal ingredient; can also refer to any means to assist the prevention of disease.</td>
</tr>
<tr>
<td>Aetatis</td>
<td>Aet.</td>
<td>Latin ‘of age’ (eg. the patient may be referred to as being Aet 37, or 37 years old).</td>
</tr>
<tr>
<td>Amplus</td>
<td>Amp.</td>
<td>Large.</td>
</tr>
<tr>
<td>Anchylisis Anchylosed</td>
<td>-</td>
<td>A condition which causes difficulty in movement of a joint, usually causing it to remain flexed.</td>
</tr>
<tr>
<td>Anodyne</td>
<td>-</td>
<td>Pain relieving medicine (eg. opium).</td>
</tr>
<tr>
<td>Antacids</td>
<td>-</td>
<td>Medicines which neutralize acidity in the stomach.</td>
</tr>
<tr>
<td>Anthelmintics</td>
<td>-</td>
<td>Medicines which expel worms.</td>
</tr>
<tr>
<td>Antiblennorrhagic</td>
<td>-</td>
<td>Medicine which reduces mucous discharge.</td>
</tr>
<tr>
<td>Antiphlogistic</td>
<td>-</td>
<td>A medicine or plan of treatment which decreases inflammation.</td>
</tr>
<tr>
<td>Antispasmodics</td>
<td>-</td>
<td>Drugs which relieve pain and muscular spasm.</td>
</tr>
</tbody>
</table>

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1195 These definitions refer to the usage and meaning held by these terms in the nineteenth century, and are taken from nineteenth century texts.  
1200 Dunglison, *Medical Lexicon*, p. 50.  
<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aortic semilunar valves</td>
<td>Also known as sigmoid valves, these are three folds at the base of the pulmonary artery and the aorta which prevent the blood from returning to the heart after it has flowed through the ventricles.</td>
</tr>
<tr>
<td>Arachnoid coat</td>
<td>A thin membrane covering the brain, situated between the dura mater and the pia mater.</td>
</tr>
<tr>
<td>Arachnoid mater</td>
<td></td>
</tr>
<tr>
<td>Ascarides</td>
<td>A type of intestinal worm.</td>
</tr>
<tr>
<td>Astragalus</td>
<td>The bone of the ankle.</td>
</tr>
<tr>
<td>Astringents</td>
<td>Medicines which contract relaxed parts of the body, restoring tone and density.</td>
</tr>
<tr>
<td>Atheroma</td>
<td>A tumous containing pus or pap.</td>
</tr>
<tr>
<td>Auris</td>
<td>Ear.</td>
</tr>
<tr>
<td>Axilla</td>
<td>The underarm.</td>
</tr>
<tr>
<td>Bolus</td>
<td>Usually refers to a large pill-shaped medicinal preparation to be swallowed.</td>
</tr>
<tr>
<td>Bougie</td>
<td>A flexible cylindrical object (made of wax, catgut, plaster, etc) which is introduced into a contracted bladder to permit dilation (bougies could also be used in the oesophagus, rectum, and other passages).</td>
</tr>
<tr>
<td>Bowels</td>
<td>The bowels.</td>
</tr>
<tr>
<td>Bronchii</td>
<td>The two tubes from the trachea which carry air to the lungs.</td>
</tr>
<tr>
<td>Bruit</td>
<td>A sound heard in the chest upon percussion. There are a large number of specific bruits (including the Bruit de Frottement, which refers to the sounds made as the lungs rub against the chest wall).</td>
</tr>
<tr>
<td>Buffed</td>
<td>Refers to a colour or texture of a patient’s blood upon venesection. Different diseases (fevers, for example) result</td>
</tr>
</tbody>
</table>

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1206 Dunglison, Medical Lexicon, p. 683.
1207 Dunglison, Medical Lexicon, p. 66.
1209 Dunglison, Medical Lexicon, p. 81.
1210 Dunglison, Medical Lexicon, p. 84.
1211 Dunglison, Medical Lexicon, p. 108.
1212 Dunglison, Medical Lexicon, p. 110.
1213 Dunglison, Medical Lexicon, p. 114.
1214 Dunglison, Medical Lexicon, pp. 115-116.
<table>
<thead>
<tr>
<th>Term</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Buffy coat</td>
<td>In a different appearance of the blood. A ‘buffy coat’ on the cupped blood refers to a pale coating which forms upon coagulation.</td>
</tr>
<tr>
<td>Burking</td>
<td>Murdering with the intention of selling the victim’s body or pieces of the body to an anatomist or anatomy school.</td>
</tr>
<tr>
<td>Cachexy</td>
<td>Cachectic patients lack energy and strength, and have poor digestion. Women of phlegmatic temperament are particularly prone to cachexy. Treatment aims to correct the imbalanced fluids in the body and invigorate the patient.</td>
</tr>
<tr>
<td>Cachectic</td>
<td></td>
</tr>
<tr>
<td>Caecum</td>
<td>Part of the large intestine, connecting the ilium with the ascending colon.</td>
</tr>
<tr>
<td>Calcareous</td>
<td>From, or containing, lime.</td>
</tr>
<tr>
<td>Calvarium</td>
<td>Skull.</td>
</tr>
<tr>
<td>Camification</td>
<td>A diseased appearance of the lung, a result of compression of the organ.</td>
</tr>
<tr>
<td>Capital operation</td>
<td>‘A capital’ operation was one which placed the patient’s life in danger due to the magnitude of the procedure. It usually referred to a major amputation, as operations with the body’s abdominal and thoracic cavities were exceptionally risky and, thus, exceptionally rare.</td>
</tr>
<tr>
<td>Caput</td>
<td>The head.</td>
</tr>
<tr>
<td>Cardiac orifice</td>
<td>The junction between the oesophagus and the stomach.</td>
</tr>
<tr>
<td>Carminatives</td>
<td>Medicines (usually aromatics) which relieve pain and cause the expulsion of excess gas from (or prevent its formation within) the gastrointestinal system.</td>
</tr>
<tr>
<td>Carnea columnae</td>
<td>Muscular projections in the cavities of the heart.</td>
</tr>
<tr>
<td>Carnify</td>
<td>To turn into flesh (carnification).</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cathartics (^{1227})</td>
<td>Medicines which produce purging from the bowels.</td>
</tr>
<tr>
<td>Cavernous sinus (^{1228})</td>
<td>A cavity in the <em>dura mater</em> of the brain, created by the grouping of a large number of veins.</td>
</tr>
<tr>
<td>Cell</td>
<td>Small patient rooms were called ‘cells’.</td>
</tr>
<tr>
<td>Chemosis (^{1229})</td>
<td>Swelling of the conjunctiva of the eye.</td>
</tr>
<tr>
<td>Chicken-breasted (^{1230})</td>
<td>Used to refer to a patient with a narrow chest which projects forward, compressing the lungs.</td>
</tr>
<tr>
<td>Cholesterin (^{1231})</td>
<td>White scales which form as part of biliary calculi.</td>
</tr>
<tr>
<td>Chordae tendinae (^{1232})</td>
<td>The tendons which connect the heart’s ventricles to the valves (colloquially known as ‘heart strings’), and prevent the valves being swept back and everted.</td>
</tr>
<tr>
<td>Cicatrix (^{1233})</td>
<td>The healed surface over a wound, varying in thickness and colour.</td>
</tr>
<tr>
<td>Circle of Willis (^{1234})</td>
<td>A ring of arteries which supplies blood to the brain.</td>
</tr>
<tr>
<td>Cochlea (^{1235})</td>
<td>Spoonful.</td>
</tr>
<tr>
<td>Collyrium (^{1236})</td>
<td>A medicinal application to the eye (sometimes known as an <em>eyewater</em>), which can be in a liquid or dry form.</td>
</tr>
<tr>
<td>Compositus (^{1237}) Comp.</td>
<td>A medicine comprised of several different ingredients in a single pill or solution.</td>
</tr>
<tr>
<td>Condyle (^{1238})</td>
<td>Rounded joint at the end of a bone.</td>
</tr>
<tr>
<td>Continuentur (^{1239})</td>
<td>Continue.</td>
</tr>
<tr>
<td>Corpora arantii (^{1240})</td>
<td>Fibrous nodules on the edges of the valves of the aorta and pulmonary arteries.</td>
</tr>
</tbody>
</table>


\(^{1228}\) Dunglison, *Medical Lexicon*, pp. 147-148.


\(^{1231}\) Dunglison, *Medical Lexicon*, p. 162.

\(^{1232}\) Dunglison, *Medical Lexicon*, p. 163.

\(^{1233}\) Dunglison, *Medical Lexicon*, p. 166.


\(^{1236}\) Dunglison, *Medical Lexicon*, p. 183.


\(^{1240}\) Dunglison, *Medical Lexicon*, p. 518.
<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Noduli arantii</td>
<td>- Masses of grey and white nerve fibres, located in front of the thalamus in each hemisphere of the brain.</td>
</tr>
<tr>
<td>Corpus striatum</td>
<td>- Small bodies found in the blood, connected with the nerves in the palms of the hands, soles of the feet, and occasionally in other areas. Purpose unknown.</td>
</tr>
<tr>
<td>Corpuscle</td>
<td>- The symptoms of nasal congestion.</td>
</tr>
<tr>
<td>Costal cartilages</td>
<td>- Unossified parts of the ribs.</td>
</tr>
<tr>
<td>Crepitus</td>
<td>- Grating sound or sensation of a broken or fractured bone.</td>
</tr>
<tr>
<td>Cruorine</td>
<td>- A substance or state of the blood; the coagulum or coloured part of the blood.</td>
</tr>
<tr>
<td>Haematine</td>
<td>- The act of swallowing.</td>
</tr>
<tr>
<td>Demulcents</td>
<td>- Medicines which protect the body from the action of acidic or stimulatory matter.</td>
</tr>
<tr>
<td>Desquamation</td>
<td>- Exfoliation of the skin as a consequence of disease.</td>
</tr>
<tr>
<td>Dextra</td>
<td>- Latin, referring to the right side.</td>
</tr>
<tr>
<td>Diaphoretics</td>
<td>- Medicines which promote gentle perspiration.</td>
</tr>
<tr>
<td>Diluents</td>
<td>- Medicines which dilute the blood by increasing its fluidity.</td>
</tr>
<tr>
<td>Diuretics</td>
<td>- Medicines which increase discharge of urine.</td>
</tr>
<tr>
<td>Diverticulum</td>
<td>- The development of a small pocket bulging from an organ, usually the intestines.</td>
</tr>
</tbody>
</table>

1254 Dunglison, *Medical Lexicon*, p. 256.
<table>
<thead>
<tr>
<th><strong>Dolens</strong>&lt;sup&gt;1255&lt;/sup&gt;</th>
<th>-</th>
<th>Pain, or painful.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Donec alvus bis dijiciatur</strong>&lt;sup&gt;1256&lt;/sup&gt;</td>
<td><em>Don. alv. bis dej.</em></td>
<td><em>'Until the bowels have been twice emptied.'</em></td>
</tr>
<tr>
<td><strong>Drachm</strong>&lt;sup&gt;1257&lt;/sup&gt;</td>
<td><em>Dr.</em></td>
<td>A unit of measurement used by apothecaries and doctors, equivalent to 60 grains or 4 grams.</td>
</tr>
<tr>
<td><strong>Drachma</strong></td>
<td>-</td>
<td><em>Dura mater</em>&lt;sup&gt;1258&lt;/sup&gt;</td>
</tr>
<tr>
<td><strong>Dyspnea</strong>&lt;sup&gt;1259&lt;/sup&gt;</td>
<td>-</td>
<td>Difficulty breathing and shortness of breath; commonly associated with lung or heart diseases.</td>
</tr>
<tr>
<td><strong>Dysuria</strong>&lt;sup&gt;1260&lt;/sup&gt;</td>
<td>-</td>
<td>Difficulty of voiding the urine, with pain and heat.</td>
</tr>
<tr>
<td><strong>Ecchymosis</strong>&lt;sup&gt;1261&lt;/sup&gt;</td>
<td>-</td>
<td>The effusion of blood into tissue, sometimes caused by an injury. Also known as <em>sugillation</em>.</td>
</tr>
<tr>
<td><strong>Electuary</strong>&lt;sup&gt;1262&lt;/sup&gt;</td>
<td>-</td>
<td>Soft medicines, made from syrups, powders, extracts of pulps, thicker in consistency than honey.</td>
</tr>
<tr>
<td><strong>Emancipist</strong></td>
<td>-</td>
<td>Pardoned convict.</td>
</tr>
<tr>
<td><strong>Emetic</strong>&lt;sup&gt;1263&lt;/sup&gt;</td>
<td>-</td>
<td>Medicines which produce vomiting.</td>
</tr>
<tr>
<td><strong>Emollients</strong>&lt;sup&gt;1264&lt;/sup&gt;</td>
<td>-</td>
<td>Medicines which relax muscular fibres of the body.</td>
</tr>
<tr>
<td><strong>Entropion</strong>&lt;sup&gt;1265&lt;/sup&gt;</td>
<td>-</td>
<td>A condition in which they eyelash grow inwards, causing irritation to the eye, treated by reducing the swelling and inflammation, removing the lashes and cauterizing their roots, or removing small portions of skin from the lids.</td>
</tr>
<tr>
<td><strong>Enuresis</strong>&lt;sup&gt;1266&lt;/sup&gt;</td>
<td>-</td>
<td>The voiding of urine in bed, caused by a range of factors including injury, paralysis, irritability of the bladder, etc. Often self-resolves over time.</td>
</tr>
<tr>
<td><strong>Epiphora</strong>&lt;sup&gt;1267&lt;/sup&gt;</td>
<td>-</td>
<td>Watering eyes.</td>
</tr>
</tbody>
</table>

<sup>1258</sup> Dunglison, *Medical Lexicon*, p. 262.  
<sup>1259</sup> Dunglison, *Medical Lexicon*, p. 264.  
<sup>1260</sup> Dunglison, *Medical Lexicon*, p. 265.  
<sup>1261</sup> Dunglison, *Medical Lexicon*, p. 281.  
<sup>1262</sup> Dunglison, *Medical Lexicon*, p. 271.  
<sup>1265</sup> Dunglison, *Medical Lexicon*, p. 285.  
<sup>1266</sup> Dunglison, *Medical Lexicon*, p. 286.  
<table>
<thead>
<tr>
<th><strong>Epispastics</strong></th>
<th></th>
<th>See <em>Rubefacients</em>.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Epistaxis</strong>&lt;sup&gt;1268&lt;/sup&gt;</td>
<td></td>
<td>Nosebleed; a common occurrence caused by strenuous nose-blowing, coughing or exercise, particularly around the time of puberty.</td>
</tr>
<tr>
<td><strong>Errhines</strong>&lt;sup&gt;1269&lt;/sup&gt;</td>
<td></td>
<td>Medicines which increase secretions from the nose.</td>
</tr>
<tr>
<td><strong>Escharotics</strong>&lt;sup&gt;1270&lt;/sup&gt;</td>
<td></td>
<td>Medicines which destroy the tissues (used to create ulcers or change their form) to varying depths.</td>
</tr>
<tr>
<td><strong>Eversion</strong></td>
<td></td>
<td>To turn inside out. Can apply to the eyelid, or a movement of the foot which turns the sole outward.</td>
</tr>
<tr>
<td><strong>Excrucence</strong>&lt;sup&gt;1271&lt;/sup&gt;</td>
<td></td>
<td>A fleshy growth or tumour which occurs on internal organs or the skin (such as a wart or haemorrhoid).</td>
</tr>
<tr>
<td><strong>Expectorants</strong>&lt;sup&gt;1272&lt;/sup&gt;</td>
<td></td>
<td>Medicines which assist in the rejection of matter from the lungs and trachea.</td>
</tr>
<tr>
<td><strong>Extensor carpi radialis</strong>&lt;sup&gt;1273&lt;/sup&gt;</td>
<td></td>
<td>A muscle of the forearm, which controls movement at the wrist.</td>
</tr>
<tr>
<td><strong>Extensor carpi ulnaris</strong>&lt;sup&gt;1274&lt;/sup&gt;</td>
<td></td>
<td>A muscle of the forearm, which acts to extend and adduct the wrist.</td>
</tr>
<tr>
<td><strong>Extensor communis digitorum</strong>&lt;sup&gt;1275&lt;/sup&gt;</td>
<td></td>
<td>A muscle of the forearm, extending from the muscles of the fingers and hand.</td>
</tr>
<tr>
<td><strong>External auditorius meatus</strong>&lt;sup&gt;1276&lt;/sup&gt;</td>
<td></td>
<td>The external auditory canal, extending from the middle ear to the outer ear.</td>
</tr>
<tr>
<td><strong>Extract</strong>&lt;sup&gt;1277&lt;/sup&gt;</td>
<td>Ext.</td>
<td>A medicine is powdered, then evaporated in alcohol to produce an extract of the drug.</td>
</tr>
<tr>
<td><strong>Extractum</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Extravasation</strong>&lt;sup&gt;1278&lt;/sup&gt;</td>
<td></td>
<td>The leakage of fluids from an organ or vessel, and the effusion of the fluid into the surrounding tissue.</td>
</tr>
</tbody>
</table>

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<sup>1268</sup> Duglison, *Medical Lexicon*, p. 291.
<sup>1270</sup> Murray, *A System of Materia Medica and Pharmacy*, p. 482.
<sup>1271</sup> Duglison, *Medical Lexicon*, p. 300.
<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Falx</td>
<td>Part of the <em>dura mater</em>.</td>
</tr>
<tr>
<td>Falx cerebri</td>
<td>A thick, curved fold of the <em>dura mater</em> which descends between the hemispheres of the brain.</td>
</tr>
<tr>
<td>Farinaceous diet</td>
<td>A diet based on grain and its derivatives, highly valued both medicinally and nutritionally.</td>
</tr>
<tr>
<td>Fauces</td>
<td>Throat.</td>
</tr>
<tr>
<td>Feculent</td>
<td>Generally refers foul bowel movements, but can more widely refer to an impure substance with sediment.</td>
</tr>
<tr>
<td>Fibrin</td>
<td>An elastic, white substance formed in the muscles and found in bodily membranes, cavities and blood.</td>
</tr>
<tr>
<td>Fissure Sylvi</td>
<td>Part of the brain which divides the parietal and frontal lobes from the temporal lobe.</td>
</tr>
<tr>
<td>Lateral sulcus</td>
<td>Blood-letting instrument with a small, sharp, right-angled blade.</td>
</tr>
<tr>
<td>Foramen of Winslow</td>
<td>An aperture in the omentum.</td>
</tr>
<tr>
<td>Foramina of Monro</td>
<td>Channels connecting the lateral ventricles of the brain.</td>
</tr>
<tr>
<td>Formication</td>
<td>A sensation of pain, something like the feeling of ants crawling on the skin.</td>
</tr>
<tr>
<td>Fornix</td>
<td>An arch-shaped part of the brain.</td>
</tr>
<tr>
<td>Friable</td>
<td>Easily crumbled or damaged. Often used in postmortem reports to refer to diseased organs.</td>
</tr>
<tr>
<td>Galvanism</td>
<td>The electrical stimulation of nerves. Usually, this is done by placing two plates comprised of different metals on parts of the body, connected with a wire.</td>
</tr>
</tbody>
</table>

1280 Dunglison, *Medical Lexicon*, p. 312.
1283 Dunglison, *Medical Lexicon*, pp. 315-316.
<table>
<thead>
<tr>
<th>Term</th>
<th>Abbreviation</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grain</td>
<td>Gr.</td>
<td>A unit of measurement used by apothecaries and doctors, equivalent to 65 milligrams.</td>
</tr>
<tr>
<td>Gutta</td>
<td>Gutt.</td>
<td>Medicine given in drops (liquid form).</td>
</tr>
<tr>
<td>Habeat</td>
<td>Habt.</td>
<td>‘Let him have’ a particular medicine or treatment.</td>
</tr>
<tr>
<td>Haematosis</td>
<td></td>
<td>Formation of the blood (or, more particularly, the process of changing venous blood into arterial blood).</td>
</tr>
<tr>
<td>Hand-drop</td>
<td></td>
<td>Muscular paralysis of wrist and fingers which causes the hand to ‘drop’.</td>
</tr>
<tr>
<td>Hepatic</td>
<td></td>
<td>Referring to the liver.</td>
</tr>
<tr>
<td>Hepatization</td>
<td></td>
<td>Transformation of tissue into a liver-like matter as a result of inflammation (often used referring to the lungs when they become impervious to air).</td>
</tr>
<tr>
<td>Hirudo</td>
<td>Hirud.</td>
<td>Leech (to apply leeches to a patient’s skin to remove blood).</td>
</tr>
<tr>
<td>Hobnail liver</td>
<td></td>
<td>A lumpy appearance of the liver, with nodules distorting the natural texture. Usually connected to overconsumption of alcohol.</td>
</tr>
<tr>
<td>Hora</td>
<td></td>
<td>An hour.</td>
</tr>
<tr>
<td>Hora ad affectum</td>
<td></td>
<td>Patient is to be given a medication every hour while affected.</td>
</tr>
<tr>
<td>Hora somni</td>
<td>H.S.</td>
<td>Patient is to be given a medication ‘on retiring to rest’.</td>
</tr>
<tr>
<td>Hove down</td>
<td></td>
<td>A ship laid on its side to be repaired on land in ports which have no docks or insufficient facilities.</td>
</tr>
<tr>
<td>Hypertrophy</td>
<td></td>
<td>Excessive nutrition of an organ or part (such as the heart or liver) which then becomes enlarged.</td>
</tr>
</tbody>
</table>

1293 Bryant, et. al., *Pharmacology for Health Professionals*, p. 19.
1296 Dunglison, *Medical Lexicon*, p. 121.
1297 Dunglison, *Medical Lexicon*, p. 375.
<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ichorous</td>
<td>A thin discharge, often from a wound.</td>
</tr>
<tr>
<td>Iliacus muscles</td>
<td>A triangular shaped muscle in the hip, which terminates in a thick tendon which is also the endpoint of the psoas muscle.</td>
</tr>
<tr>
<td>Ilium</td>
<td>The longest part of the small intestine, extending from the jejunum to the caecum.</td>
</tr>
<tr>
<td>In articulo mortis</td>
<td>At the point of death.</td>
</tr>
<tr>
<td>Induration</td>
<td>Abnormal hardness arising from inflammation.</td>
</tr>
<tr>
<td>Indurated</td>
<td>Medicine ‘to be rubbed in’ to the affected part of the body.</td>
</tr>
<tr>
<td>Infundibulum</td>
<td>A depression in the middle ventricle of the brain, located above the pituitary gland.</td>
</tr>
<tr>
<td>Injiciatur</td>
<td>Inj. enem. <em>Injiciatur enema</em> prescribes a patient to be given an enema.</td>
</tr>
<tr>
<td>Inspissated bile</td>
<td>Bile which has thickened sufficiently to cause blockages in organs.</td>
</tr>
<tr>
<td>Integuments</td>
<td>Covering membranes of the body (eg. skin).</td>
</tr>
<tr>
<td>Interlamellar</td>
<td>Probably the space between thin, flat bones.</td>
</tr>
<tr>
<td>Intussusception</td>
<td>A dangerous condition, in which one part of the intestinal canal moves inside another part.</td>
</tr>
<tr>
<td>Jactitation</td>
<td>Extreme anxiety and restlessness in the seriously ill.</td>
</tr>
<tr>
<td>Kindly</td>
<td>Wounds are often referred to as “healing kindly,” or naturally and effectively.</td>
</tr>
<tr>
<td>Lachryma</td>
<td>Tears (watery discharge from the eyes).</td>
</tr>
<tr>
<td>Levator palpebrae</td>
<td>Muscle responsible for opening the eyelid.</td>
</tr>
</tbody>
</table>

1306 Dunglison, *Medical Lexicon*, p. 401.
1311 Tooth, *Humane and Heroic*, p. 182.
1313 Dunglison, *Medical Lexicon*, p. 421.
<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lithic acid calculus</td>
<td>Uric acid calculi.</td>
</tr>
<tr>
<td>Lithontriptics</td>
<td>Medicines which dissolve urinary calculi.</td>
</tr>
<tr>
<td>Lotion</td>
<td>A liquid medicine, externally applied to the body by using it to dampen a cloth and then binding it over the affected area.</td>
</tr>
<tr>
<td>Lymph</td>
<td>Clear, watery blood plasma (used in early vaccination procedures to protect against smallpox).</td>
</tr>
<tr>
<td>Malleolus</td>
<td>The protruding bones at the ankle; the inner being the tibia, the outer the fibula.</td>
</tr>
<tr>
<td>Malleus</td>
<td>The largest and most outermost bone of the ear.</td>
</tr>
<tr>
<td>Maranta</td>
<td>Arrowroot.</td>
</tr>
<tr>
<td>Meatus auditorius internus</td>
<td>The internal auditory canal in the temporal bone, which carries nerves from the brain to the ear.</td>
</tr>
<tr>
<td>Mediastinum</td>
<td>A membrane which extends from the spine to the sternum, dividing the chest into two sides (left and right).</td>
</tr>
<tr>
<td>Medulla oblongatus</td>
<td>The continuation of the substance of the brain, which narrows as it descends to the spinal cavity.</td>
</tr>
<tr>
<td>Membrana tympani</td>
<td>A thin septum which covers the inner end of the Meatus auditorius internus.</td>
</tr>
<tr>
<td>Meningeal artery</td>
<td>The largest branch of the internal maxillary artery, which supplied blood to the dura mater.</td>
</tr>
<tr>
<td>Mesenteric glands</td>
<td>Lymphatic glands in the mesentery, the purpose of which is unknown.</td>
</tr>
<tr>
<td>Metastasis</td>
<td>The development of secondary disease in another organ (or another part of the original organ) separate to the</td>
</tr>
</tbody>
</table>

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1318 Dunglison, *Medical Lexicon*, p. 455.
1325 Bell and Bell, *The Anatomy and Physiology of the Human Body*, p. 441.
1328 Dunglison, *Medical Lexicon*, p. 482.
original seat of disease.

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mitral valves</td>
<td>The two triangular-shaped valves between the left auricle and the left ventricle of the heart which permit blood to flow from the auricle to the ventricle but not return.</td>
</tr>
<tr>
<td>More dicto</td>
<td>Latin, meaning a treatment should be given ‘in the manner directed.’</td>
</tr>
<tr>
<td>Muscular coat</td>
<td>Smooth muscular membrane.</td>
</tr>
<tr>
<td>Nares</td>
<td>Nostril</td>
</tr>
<tr>
<td>Nutmeg</td>
<td>A term used to describe the appearance of internal organs (most commonly the liver) upon post-mortem. The organ is much paler than usual (often a yellowish brown colour), and speckled like a nutmeg kernel.</td>
</tr>
<tr>
<td>Occiput</td>
<td>The back of the head (formed from the occipital bone).</td>
</tr>
<tr>
<td>Omittatur pilulae ut supra</td>
<td>‘Omit pill immediately’ – doctor directs that the patient is no longer to be given a particular medicine.</td>
</tr>
<tr>
<td>Omni manе</td>
<td>Every morning.</td>
</tr>
<tr>
<td>Opisthotonous</td>
<td>The muscles of the body spasm violently and cause the patient to bend backwards in an arched position. Seen in conditions such as tetanus.</td>
</tr>
<tr>
<td>Orbicular palpebrarum</td>
<td>Sphincter muscle surrounding the eye, controlling the movement of the eyelid.</td>
</tr>
<tr>
<td>Orbicularis oculi</td>
<td>Muscle responsible for closing the eyelid.</td>
</tr>
<tr>
<td>Orthopnoea</td>
<td>A patient suffering orthopnoea cannot breath when lying down, and must be upright to allow respiration to continue.</td>
</tr>
<tr>
<td>Os sacrum</td>
<td>The large, wedge-shaped bone at the base of the spine and the back of the pelvis.</td>
</tr>
</tbody>
</table>

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<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ossicula auditus</td>
<td>The four small bones of the middle ear, which are arranged in a chain to pass sounds through the ear.</td>
</tr>
<tr>
<td>Ossification</td>
<td>The formation of bone.</td>
</tr>
<tr>
<td>Ounce</td>
<td>Apothecary's ounce, equivalent to 31 grams. A unit of measurement used by apothecaries and doctors.</td>
</tr>
<tr>
<td>Ovariotomy</td>
<td>The removal of ovarian cysts, which, if untreated often burst with fatal results.</td>
</tr>
<tr>
<td>Pacchionian glands</td>
<td>Small, fatty glands situated in the dura mater.</td>
</tr>
<tr>
<td>Pacchionian bodies</td>
<td></td>
</tr>
<tr>
<td>Palpebral</td>
<td>Relating to the eyelid.</td>
</tr>
<tr>
<td>Papilla</td>
<td>Usually refers to a nipple-like structure; however, the lacrimal papilla exists in the conjunctiva of the eye (near the medial angle), with the opening of the lacrimal (tear) duct in the centre.</td>
</tr>
<tr>
<td>Pauperised</td>
<td>Those made into paupers.</td>
</tr>
<tr>
<td>Pectoriloquy</td>
<td>The appearance of a patient's voice coming from their chest. Found particularly in patients with consumption, as their voices resound in the cavities produced by tubercles and suppuration.</td>
</tr>
<tr>
<td>Pergo</td>
<td>'To continue' or proceed with a patient's treatment.</td>
</tr>
<tr>
<td>Pericardium</td>
<td>Thin membrane surrounding the heart.</td>
</tr>
<tr>
<td>Pericranium</td>
<td>The periosteum covering the skull (see periosteum).</td>
</tr>
<tr>
<td>Peritoneal coat</td>
<td>Smooth peritoneal membrane.</td>
</tr>
<tr>
<td>Periosteum</td>
<td>A fibrous, white membrane which covers the exterior surface of bones (see pericardium), except the teeth and the cartilage of joints.</td>
</tr>
</tbody>
</table>

1340 Dunglison, Medical Lexicon, p. 540.
1341 Dunglison, Medical Lexicon, p. 540.
1342 Bryant, et. al., Pharmacology for Health Professionals, p. 19.
1345 Dunglison, Medical Lexicon, p. 548.
1346 Dunglison, Medical Lexicon, p. 561.
1347 Tooth, Humane and Heroic, p. 183.
1348 Dunglison, Medical Lexicon, p. 565.
1349 Dunglison, Medical Lexicon, p. 566.
<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Petechiae</td>
<td>Small spots which occur over the skin in cases of severe fever.</td>
</tr>
<tr>
<td>Peyer's glands</td>
<td>Small glands which lie in clusters in the intestines, particularly in the ileum. Their structure and purpose is not understood.</td>
</tr>
<tr>
<td>Peyer's patches</td>
<td></td>
</tr>
<tr>
<td>Pharynx</td>
<td>Part of the throat extending from the mouth and nose to the larynx.</td>
</tr>
<tr>
<td>Pia mater</td>
<td>The delicate membrane which covers the brain and spinal medulla.</td>
</tr>
<tr>
<td>Pilulae</td>
<td>Medicine/s, usually combined with excipients (substances which allow the pills to maintain their shape), to be taken internally.</td>
</tr>
<tr>
<td>Pleura costalis</td>
<td>The membrane lining the inner side of the ribs (from costa, meaning rib).</td>
</tr>
<tr>
<td>Pleura pulmonalis</td>
<td>Visceral pleura, the serous membrane of the lungs.</td>
</tr>
<tr>
<td>Plexus chooroideus</td>
<td>Two folds of the pia mater in the brain.</td>
</tr>
<tr>
<td>Pone</td>
<td>Behind.</td>
</tr>
<tr>
<td>Pound</td>
<td>A unit of measurement used by apothecaries and doctors, equivalent to 454 grams.</td>
</tr>
<tr>
<td>Protinus</td>
<td>Immediately.</td>
</tr>
<tr>
<td>Psoas muscles</td>
<td>A muscle extending from the lower back to the thigh, ending in a tendon which is also the endpoint of the iliacus muscle.</td>
</tr>
<tr>
<td>Ptosis</td>
<td>A wound in the cornea, causing a prolapse of the iris, visible as a dark-coloured tubercule on the eye.</td>
</tr>
</tbody>
</table>

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1351 Dunglison, Medical Lexicon, p. 570.  
1352 Dunglison, Medical Lexicon, pp. 572-573.  
1353 Robinson, Cunningham's Text-Book of Anatomy, p. 673.  
1355 Dunglison, Medical Lexicon, p. 590; p. 205.  
1356 Dunglison, Medical Lexicon, p. 590.  
1358 Bryant, et. al., Pharmacology for Health Professionals, p. 19.  
1360 Dunglison, Medical Lexicon, p. 624.  
1361 Dunglison, Medical Lexicon, p. 626.
<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ptyalysm</td>
<td>Excessive salivation, often a side-effect of mercury treatment.</td>
</tr>
<tr>
<td>Ptyalism</td>
<td>Convict serving sentence while performing labour on public buildings, roads, etc.</td>
</tr>
<tr>
<td>Pulse</td>
<td>Pulse (referring to not only the number of beats per minute, but also the rhythm and intensity of the beats).</td>
</tr>
<tr>
<td>Pultaceous</td>
<td>Pulpy or slough-like.</td>
</tr>
<tr>
<td>Pulveris</td>
<td>Various types of medicines reduced to powders, which can then be formed into pills or made into solutions.</td>
</tr>
<tr>
<td>Puriform</td>
<td>That which has the appearance or form of pus.</td>
</tr>
<tr>
<td>Purpura</td>
<td>A group of conditions in which the patient develops purple spots on the skin, lethargy and pains in the limbs.</td>
</tr>
<tr>
<td>Pylorus</td>
<td>The lower orifice of the stomach, which uses a muscular ring to close the organ during digestion.</td>
</tr>
<tr>
<td>Quag hora</td>
<td>Every hour.</td>
</tr>
<tr>
<td>Quater</td>
<td>Four.</td>
</tr>
<tr>
<td>Quotidie</td>
<td>Daily.</td>
</tr>
<tr>
<td>Rale</td>
<td>Bubbling sound which can be heard in the bronchi of patients with particular lung diseases.</td>
</tr>
<tr>
<td>Recrudescence</td>
<td>A resurgence of disease after a period of temporary abatement of symptoms.</td>
</tr>
<tr>
<td>Refrigerants</td>
<td>Medicines which decrease heat and circulation in the body.</td>
</tr>
<tr>
<td>Repetatur</td>
<td>‘Let it be repeated’, or continued.</td>
</tr>
</tbody>
</table>

1364 Dunglison, *Medical Lexicon*, p. 635.
1366 Dunglison, *Medical Lexicon*, p. 634.
1367 Dunglison, *Medical Lexicon*, p. 634.
1368 Dunglison, *Medical Lexicon*, p. 635.
<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reticulated</td>
<td>A net-like structure.</td>
</tr>
<tr>
<td>Retractor</td>
<td>A rectangular strip of linen (broader than the width of the wound) between eighteen to twenty-four inches long, with a slit halfway along one side. During an amputation, the exposed bone is positioned in the slit of the retractor and the ends are drawn upwards on each side of the stump. This protects the flesh while the saw is used on the bone.</td>
</tr>
<tr>
<td>Rubifacient</td>
<td>A medicine which causes reddening and heat when applied to the skin. Known as an <em>epispastic</em> when it causes a puriform discharge.</td>
</tr>
<tr>
<td>Rx.</td>
<td>Take.</td>
</tr>
<tr>
<td>Sanies</td>
<td>A thin discharge consisting of serum, pus and blood, commonly exuded by ulcers.</td>
</tr>
<tr>
<td>Sanious</td>
<td>Also known as the pituitary membrane, this is the covering of the nasal cavities.</td>
</tr>
<tr>
<td>Scleratic coat</td>
<td>A white, fibrous membrane over the eyeball.</td>
</tr>
<tr>
<td>Scrobicus cordis</td>
<td>The pit of the stomach.</td>
</tr>
<tr>
<td>Epigastric fossa</td>
<td></td>
</tr>
<tr>
<td>Scruple</td>
<td>A unit of measurement used by apothecaries and doctors, equivalent to 20 grains or 1.3 grams.</td>
</tr>
<tr>
<td>Scrupulum</td>
<td></td>
</tr>
<tr>
<td>Scybalas</td>
<td>Hard, round lumps of faecal matter.</td>
</tr>
<tr>
<td>Secundus</td>
<td>Two.</td>
</tr>
<tr>
<td>Septimana</td>
<td>Week.</td>
</tr>
<tr>
<td>Septum lucidum</td>
<td>The soft substance separating the two lateral ventricles of</td>
</tr>
</tbody>
</table>

1384 Bryant, et. al., *Pharmacology for Health Professionals*, p. 19.
<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sextus</td>
<td>Six.</td>
</tr>
<tr>
<td>Sialagogues</td>
<td>Medicines which encourage salivation.</td>
</tr>
<tr>
<td>Sibilant rattle</td>
<td>A whistling or hissing sound heard in the chest using a stethoscope, caused by the sound of air passing through thin mucus in the small passages of the bronchi.</td>
</tr>
<tr>
<td>Sinister</td>
<td>Latin, referring to the left side.</td>
</tr>
<tr>
<td>Sinus</td>
<td>Any cavity in which the interior is larger than the opening (eg. in anatomy, commonly refers to cavities in bones; in surgery, often refers to a long hollow space leading from an abscess).</td>
</tr>
<tr>
<td>Sordes</td>
<td>Deposits on the teeth from the secretions of the mouth, particularly seen in cases of fever.</td>
</tr>
<tr>
<td>Spicula</td>
<td>A small spike.</td>
</tr>
<tr>
<td>Squamous suture</td>
<td>The suture which joins the temporal and parietal bones (of the skull).</td>
</tr>
<tr>
<td>Staphyloma</td>
<td>A tumour on the eyeball.</td>
</tr>
<tr>
<td>Statim sumendum</td>
<td>‘At once to be taken’. For medicines to be administered immediately upon prescription.</td>
</tr>
<tr>
<td>Strabismus</td>
<td>Eye condition in which one eye involuntarily turns when the other moves. The patient cannot look at an object with both eyes, unless the sound eye is covered.</td>
</tr>
<tr>
<td>Sudorific</td>
<td>A medicine which promotes copious perspiration.</td>
</tr>
<tr>
<td>Sugillation</td>
<td>See Ecchymosis.</td>
</tr>
</tbody>
</table>

---

<table>
<thead>
<tr>
<th>Term</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Sugillation</td>
<td>Effusion of blood in the body’s tissue. Similar to ecchymosis; however, sugillation occurs from internal causes and is generally used when describing the dead.</td>
</tr>
<tr>
<td>Syncope</td>
<td>Complete loss of sensation and motion (consciousness), and decrease in pulse and respiration. Commonly induced by venesection due to the sudden drop in blood pressure. Usually resolves rapidly without treatment or long-term ill effect.</td>
</tr>
<tr>
<td>Tale-bearer</td>
<td>Liar.</td>
</tr>
<tr>
<td>Tempore dextro</td>
<td>To the right temple.</td>
</tr>
<tr>
<td>Tenesmus</td>
<td>Frequent forceful urge to evacuate the bowels without passing stools.</td>
</tr>
<tr>
<td>Tentorium</td>
<td>Part of the dura mater which separates the cerebrum from the cerebellum, and supports the occipital lobes of the brain.</td>
</tr>
<tr>
<td>Tertius</td>
<td>Three.</td>
</tr>
<tr>
<td>Testa</td>
<td>In botany, refers to the seed coat.</td>
</tr>
<tr>
<td>Tinctura</td>
<td>An alcoholic or hydro-alcoholic solution prepared from vegetable or chemical substances.</td>
</tr>
<tr>
<td>Tongue</td>
<td>Tongue.</td>
</tr>
<tr>
<td>Tormenta</td>
<td>Acute griping pains of the abdomen, often seen in cases of dysentery.</td>
</tr>
<tr>
<td>Torpor</td>
<td>Numb, sluggish or lethargic; can refer to a part of the body or a patient’s demeanor.</td>
</tr>
<tr>
<td>Trachea</td>
<td>Tube connecting with the bronchi.</td>
</tr>
<tr>
<td>Trepanning</td>
<td>An instrument called a trepan is used to remove, or to drill</td>
</tr>
</tbody>
</table>

1401 Taylor, Medical Jurisprudence, p. 247.
1402 If syncope is a result of extreme blood-letting, brandy or ether may be required to restore consciousness (G. Gregory, Elements of the Theory and Practice of Physic (4th ed.), (Baldwin and Craddock, London, 1835), pp. 457-459; Dunglison, Medical Lexicon, p. 726).
1404 Dunglison, Medical Lexicon, p. 735.
1405 Dunglison, Medical Lexicon, p. 736.
1407 Petersen, Materia Medica: Part I, p. 4, p. 6
1408 Dunglison, Medical Lexicon, p. 753.
1409 Dunglison, Medical Lexicon, p. 753.
1410 Dunglison, Medical Lexicon, p. 754.
<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trephining</td>
<td>holes in, pieces of bone. It is most common used in cases of depressed compound fracture of the skull, to relieve pressure in cases of swelling of the brain.</td>
</tr>
<tr>
<td>Trochanter</td>
<td>Part of the upper end of the femur bone to which attaches the thigh’s rotator muscles.</td>
</tr>
<tr>
<td>Tubercle</td>
<td>A tumour which grows in an organ (usually the lungs or abdominal organs). A small number can be borne with no ill effects, but if numerous, they cause serious disease.</td>
</tr>
<tr>
<td>Tumefactio</td>
<td>Tumefaction, or swelling.</td>
</tr>
<tr>
<td>Tumid</td>
<td>Swollen.</td>
</tr>
<tr>
<td>Tympanitic</td>
<td>A condition where the abdomen (intestines or peritoneum) is swollen with air. From the Latin for ‘drum’, as the abdomen has a hollow sound when tapped.</td>
</tr>
<tr>
<td>Unguent</td>
<td>Ointment</td>
</tr>
<tr>
<td>Unus</td>
<td>One.</td>
</tr>
<tr>
<td>Vertex</td>
<td>Top of the head.</td>
</tr>
<tr>
<td>Vesicant</td>
<td>An agent which causes blisters when applied to the skin.</td>
</tr>
<tr>
<td>Vesper</td>
<td>Evening (usually recorded before a patient case note written late in the day).</td>
</tr>
<tr>
<td>Viscera</td>
<td>Internal organs.</td>
</tr>
</tbody>
</table>

---

Appendix Two - Glossary of Diseases and Conditions

<table>
<thead>
<tr>
<th>Complaint (Latin/Scientific)</th>
<th>Complaint (Common)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abscess&lt;sup&gt;1421&lt;/sup&gt;</td>
<td>Abscess</td>
<td>A cavity in which pus collects as the result of “morbid process.”</td>
</tr>
<tr>
<td>Amaurosis&lt;sup&gt;1422&lt;/sup&gt;</td>
<td>Amaurosis</td>
<td>Partial or complete loss of sight without any apparent organic cause, which is often considered incurable.</td>
</tr>
<tr>
<td>Ambustio</td>
<td>Burn</td>
<td>Injury produced by intense heat.</td>
</tr>
<tr>
<td>Anasarca&lt;sup&gt;1423&lt;/sup&gt;</td>
<td>Dropsy</td>
<td>Characterised initially by swelling of the ankles, progressing up the legs until the abdomen and thorax, and even the face, are oedematous.</td>
</tr>
<tr>
<td>Anasarca&lt;sup&gt;1423&lt;/sup&gt;</td>
<td>Oedema</td>
<td></td>
</tr>
<tr>
<td>Angina&lt;sup&gt;1424&lt;/sup&gt;</td>
<td>Sore throat</td>
<td>Inflammation and pain in the supra-diaphragmatic part of the alimentary canal and associated airways.</td>
</tr>
<tr>
<td>Angina Pectoris&lt;sup&gt;1425&lt;/sup&gt;</td>
<td>Chest pain</td>
<td>Acute pain in the region of the heart, attended with palpitations, a feeling of suffocation and a sense of anxiety.</td>
</tr>
<tr>
<td>Anthrax&lt;sup&gt;1426&lt;/sup&gt;</td>
<td>Malignant boil</td>
<td>A gangrenous inflammation of skin and cellular tissue, controversially believed to arise from contact with animals that died with similar skin complaints.</td>
</tr>
<tr>
<td>Apoplexia&lt;sup&gt;1427&lt;/sup&gt;</td>
<td>Apoplexy</td>
<td>Refers to haemorrhage of or pressure on an organ, usually the brain, heart or lungs. Formerly used to describe a fatal condition preceded by unconsciousness (such as aneurysm, stroke, etc).</td>
</tr>
<tr>
<td>Arachnitis&lt;sup&gt;1428&lt;/sup&gt;</td>
<td>Brain fever</td>
<td>A type of phrenitis or meningitis. Inflammation of the arachnoid of the brain, characterised by high fever, delirium,</td>
</tr>
</tbody>
</table>

<sup>1420</sup> The information given in this table is consistent with nineteenth-century understanding of the origins, progression and treatment of diseases.
<sup>1422</sup> Dunglison, *Medical Lexicon*, p. 37.
<sup>1423</sup> Dunglison, *Medical Lexicon*, p. 43.
<sup>1424</sup> Dunglison, *Medical Lexicon*, p. 47.
<sup>1426</sup> Dunglison, *Medical Lexicon*, p. 53.
<sup>1427</sup> Dunglison, *Medical Lexicon*, p.62.
<sup>1428</sup> Dunglison, *Medical Lexicon*, p. 576.
pain in the head and intolerance of light and sound.

<table>
<thead>
<tr>
<th>Disorder</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ascites</strong></td>
<td>The accumulation of serous fluid in the abdomen, causing swelling.</td>
</tr>
<tr>
<td><strong>Asthma</strong></td>
<td>Characterised by a sense of suffocation and difficulty breathing. Wheezing is common and the cough expectorates a viscid mucous.</td>
</tr>
<tr>
<td><strong>Bronchitis</strong></td>
<td>Acute: Severe inflammation of the bronchial tubes (large air passages to the lungs), often attributed to changes in the weather or becoming suddenly cold.</td>
</tr>
<tr>
<td></td>
<td>Chronic: The inflammation of the trachea and the bronchi becomes chronic after a long period of neglecting to treat acute bronchitis, or finishing treatment too rapidly. The cough becomes “troublesome” and hacking, and causes exhaustion.</td>
</tr>
<tr>
<td><strong>Catalepsia</strong></td>
<td>A condition in which the patient retains their position and is unable to move due to “a sudden suspension of the senses and of volition.”</td>
</tr>
<tr>
<td><strong>Catarrh</strong></td>
<td>Inflammation of mucous membranes accompanied by mucus discharge. Understood to be due to being exposed to damp or cold, or bad weather.</td>
</tr>
<tr>
<td><strong>Catarrh Vesica</strong></td>
<td>Inflammation of the bladder Vesica is defined as a hollow sac filled with serous fluid; this is usually the bladder or urinary tract. <em>Catarrh vesica</em> refers to the inflammation of the bladder and urinary tract.</td>
</tr>
<tr>
<td><strong>Cephalgia</strong></td>
<td>Headache Could be linked to weather (especially intense sun or cold). Generally symptomatic of an underlying disease, but usually treated as an illness in itself. Dubbed “a malingerers [sic] complaint.”</td>
</tr>
</tbody>
</table>

1429 Dunglison, *Medical Lexicon*, p. 78.
1433 Dunglison, *Medical Lexicon*, p. 142.
1435 MacFie and Bonet, *Convict Health*, p. 35.
<table>
<thead>
<tr>
<th>Term</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cholera</td>
<td>A frightening disease characterised by violent and uncontrollable diarrhoea and vomiting, which can prove fatal through dehydration in as little as a few hours.</td>
</tr>
<tr>
<td>Colic</td>
<td>There exist a large number of different types of colic, but all are characterised by pain in the region of the colon.</td>
</tr>
<tr>
<td>Colitis</td>
<td>Inflammation of the colon. See Enteritis.</td>
</tr>
<tr>
<td>Condyloma</td>
<td>Soft, indolent growths which appear on the genitals and, occasionally, on the fingers. Caused by the syphilitic virus.</td>
</tr>
<tr>
<td>Contusion</td>
<td>Bleeding below the skin due to trauma, usually without laceration of the skin (contused wound).</td>
</tr>
<tr>
<td>Convulsive fits</td>
<td>Violent, uncontrolled spasms of the muscles.</td>
</tr>
<tr>
<td>Cynanthe maligna</td>
<td>Characterised by sloughing, mucous-coated ulceration of the fauces. Highly contagious, and often associated with scarlet fever or typhus.</td>
</tr>
<tr>
<td>Delirium tremens</td>
<td>A state of agitation and delirium occurring in people addicted to alcohol (or, less often, opium or tobacco).</td>
</tr>
<tr>
<td>Diarrhoea</td>
<td>Characterised by frequent, loose stools. Almost universally attributable to one of many underlying illnesses (infections, foods such as unripe fruits, gastroenteritis, etc). Enemas are often given to encourage the purging of “morbid matter.”</td>
</tr>
<tr>
<td>Dyscoae</td>
<td>A condition of the ears and hearing (the term dyscophosis means “difficulty with hearing”).</td>
</tr>
<tr>
<td>Dysentery</td>
<td>Inflammation of the large intestine characterised by abdominal pain and diarrhoea, often stained with blood.</td>
</tr>
</tbody>
</table>

1437 Dunglison, *Medical Lexicon*, p. 182.
| **Dyspepsia** | Indigestion, characterised by nausea, vomiting, flatulence, abdominal pain and bloating. Due to inflammation of the intestines and an increase in secretions, preventing normal digestion. |
| **Dysphemia** | Stuttering |
| **Endocarditis** | Inflammation of the lining of the heart. The lining membranes of the hearts are inflamed, causing the action of the heart to be excited and forceful. |
| **Enteritis** | Colitis. Characterised by intense abdominal pain, vomiting and fever (can also be attended with either diarrhoea or constipation, depending on the type of enteritis). |
| **Epilepsia** | Epilepsy. A disease of the brain which caused unpredictable convulsive fits at irregular intervals, sometime preceded by symptoms such as stupor or vertigo, or a sensation of cold vapour rising through the body which, when it reaches the brain, causes a fit. |
| **Erysipelas** | A disease causing pain, heat, swelling and redness of the skin, and general fever. |
| **Fever** | General. Described as one of “the most frequent and dangerous affections to which the body is liable.” The patient is attacked by rigors, following by hot skin, rapid pulse and lassitude. |
| | Intermittent. The fever has distinct paroxysms, with periods of respite from symptoms between attacks. Usually progresses through the cold stage, the hot stage and the sweating stage. |
| | Continuing. The fever proceeds with no interruptions or stages in its course. |
| | Remittent. The fever becomes moderately worse then better, but does not return to normal as in intermittent fever. |

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1455 Dunglison, *Medical Lexicon*, p. 647.
| **Fracture** | Break in a bone. The main categories of fracture include simple, compound (bone protrudes through the skin), comminuted (bone broken into several fragments) and complicated (involving other serious injury in addition to the fracture). |
| **Gastroenteritis** | Inflammation of the stomach and small intestine. |
| **Gonorrhea** | An infectious venereal disease generally caused by “impure connexion” but also believed to occur spontaneously. Sometime known as ‘gleet’, which also refers to the discharge caused by the condition. |
| **Gout** | Inflammation of the ligaments in the joints, somewhat difficult to distinguish from arthritis and rheumatism. The affected joint is swollen, red and acutely painful. |
| **Haematemesis** | A condition which causes the patient to vomit blood. No considered dangerous or worrying, unless parts of the abdominal viscera are expelled along with the blood. |
| **Haemoptysis** | Haemorrhage of the lungs, causing the patient to spit frothy red blood. Attributed to over-use of the lungs through activities such as playing wind instruments or speaking loudly. Haemoptysis can also attend constitutional diseases arising from an organic affection of the lungs; this is a separate condition. |
| **Hemiplegia** | Paralysis of one half of the body, usually affecting the extremities and the face. |
| **Hepatitis** | Inflammation of the liver. |
| **Hernia** | Protrusion of a part of the viscera from its cavity. Usually referring to abdominal hernias, in which the intestine protrudes through the abdominal wall (the most common types being umbilical or inguinal), but can also refer to hernias of the brain or thorax. |

---

<table>
<thead>
<tr>
<th>Reference</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>1459</td>
<td>Dunglison, <em>Medical Lexicon</em>, pp. 357-358</td>
</tr>
<tr>
<td>Disease/Condition</td>
<td>Synonym(s)</td>
</tr>
<tr>
<td>-------------------</td>
<td>------------</td>
</tr>
<tr>
<td>Herpes zoster</td>
<td>Shingles</td>
</tr>
<tr>
<td>Hydrothorax (^{1466})</td>
<td>Dropsy of the chest Pleural effusion</td>
</tr>
<tr>
<td>Influenza</td>
<td>Influenza (^{1467})</td>
</tr>
<tr>
<td></td>
<td>Common cold</td>
</tr>
<tr>
<td>Leprosy (^{1468})</td>
<td>Lepra</td>
</tr>
<tr>
<td>Lumbago (^{1469})</td>
<td>Rheumatism</td>
</tr>
<tr>
<td>Mania (^{1470})</td>
<td>Melancholy Insanity</td>
</tr>
<tr>
<td>Morbus cordis (^{1471})</td>
<td>Heart attack</td>
</tr>
<tr>
<td>Myelitis (^{1472})</td>
<td></td>
</tr>
<tr>
<td>Nephritis (^{1473})</td>
<td>Kidney disease</td>
</tr>
<tr>
<td>Obturatio (^{1474})</td>
<td>Obstruction Enphraxis</td>
</tr>
<tr>
<td>Oedema</td>
<td>Anasarca</td>
</tr>
</tbody>
</table>

\(^{1465}\) Dunglison, \textit{Medical Lexicon}, p. 379.  
\(^{1466}\) Dunglison, \textit{Medical Lexicon}, p. 392.  
\(^{1467}\) Dunglison, \textit{Medical Lexicon}, p. 407.  
\(^{1469}\) Dunglison, \textit{Medical Lexicon}, p. 456.  
\(^{1470}\) Dunglison, \textit{Medical Lexicon}, p. 466.  
\(^{1471}\) J. Purtscher (ed), \textit{Deaths at General Hobart Hospital: January 1864-1884} (self-published, Mt Stuart, 1999), p. 3; Walton, Barondess and Lock, \textit{The Oxford Medical Companion}, p. 609.  
\(^{1472}\) Dunglison, \textit{Medical Lexicon}, p. 502.  
\(^{1473}\) Walton, Barondess and Lock, \textit{The Oxford Medical Companion}, p. 620.  
\(^{1474}\) Dunglison, \textit{Medical Lexicon}, p. 276 and p. 274.
<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ophthalmia</strong></td>
<td>Eye inflammation. Eyes become inflamed and painful. Ophthalmia can rapidly lead to blindness if left untreated. Often labelled as a malingerer's complaint as eyes were easily self-harmed.</td>
</tr>
<tr>
<td><strong>Phthisis</strong></td>
<td>Tuberculosis. Usually refers to a pulmonary condition more commonly seen in temperate regions, causing the eruption of tubercules in the lungs. These &quot;usually cause serious mischief&quot; when they are numerous enough to impede natural action of the organs. Treatment usually only beneficial in the early stages.</td>
</tr>
<tr>
<td><strong>Paralysis</strong></td>
<td>Palsy. Loss of muscular control and functionality sometime accompanied by loss of sensation. Often symptomatic of brain disease or apoplexy.</td>
</tr>
<tr>
<td><strong>Paralysis agitans</strong></td>
<td>Shaking palsy. A tremor in which the muscles constantly contract and relax, causing a shaking. In the mid-1860s the condition became known as Parkinson's disease.</td>
</tr>
<tr>
<td><strong>Paraphimosis</strong></td>
<td>Paraphimosis. Strangulation of the penis by the prepuce (foreskin).</td>
</tr>
<tr>
<td><strong>Paronychia</strong></td>
<td>Any tumour or inflammation located near the fingernail, or sometimes anywhere on the hand. Often acutely painful.</td>
</tr>
<tr>
<td><strong>Phagedenic ulcer</strong></td>
<td>Ulcer characterised by the corrosion of the skin surrounding the sore.</td>
</tr>
<tr>
<td><strong>Phlegmasia</strong></td>
<td>Phlegmasia. Acute inflammation accompanied by fever.</td>
</tr>
<tr>
<td><strong>Phlegmon</strong></td>
<td>Inflammation. Inflammation of tissues, leading to ulcers or abscess.</td>
</tr>
<tr>
<td><strong>Pleuritis</strong></td>
<td>Pleurisy. A respiratory condition causing pain, dyspnea and cough.</td>
</tr>
<tr>
<td><strong>Pleurodinia</strong></td>
<td>False pleurisy. Stitch. A spasmodic complaint of the muscles of the chest, aggravated by coughing, movement and pressure.</td>
</tr>
</tbody>
</table>

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1475 MacFie and Bonet, *Convict Health*, p. 36.
1476 Purtscher, *Deaths at General Hobart Hospital*, p. 3; Dunglison, *Medical Lexicon*, p. 577; p. 762.
1478 Dunglison, *Medical Lexicon*, p. 552.
1479 Dunglison, *Medical Lexicon*, p. 552.
<table>
<thead>
<tr>
<th><strong>Pneumonia</strong>&lt;sup&gt;1486&lt;/sup&gt;</th>
<th>Pneumonia</th>
<th>A respiratory condition causing cough with expectoration, difficulty breathing and a sense of pain and pressure on the chest. Often fatal if expectoration is difficult.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Priapitis</strong>&lt;sup&gt;1487&lt;/sup&gt;</td>
<td>Phallitis</td>
<td>Inflammation of the penis.</td>
</tr>
<tr>
<td><strong>Prolapsus ani</strong>&lt;sup&gt;1488&lt;/sup&gt;</td>
<td>Prolapsed anus</td>
<td>The rectum protrudes from the anus, caused by haemorrhoids, straining at stool, worms, or excessive relaxation of the muscles.</td>
</tr>
<tr>
<td><strong>Pyrosis</strong>&lt;sup&gt;1489&lt;/sup&gt;</td>
<td>Heartburn</td>
<td>A burning sensation in the stomach, characterised by the rising of acrid liquid up the oesophagus.</td>
</tr>
<tr>
<td><strong>Rheumatismus</strong>&lt;sup&gt;1490&lt;/sup&gt;</td>
<td>Rheumatism</td>
<td>Painful inflammation of the joints. Variably attributed to caused such as cold weather, old age, hard labour and accidents, and inclusive of other joint complaints such as arthritis.</td>
</tr>
<tr>
<td><strong>Scirrus</strong>&lt;sup&gt;1491&lt;/sup&gt;</td>
<td>Scirrus</td>
<td>A disease causing induration (hardness) and acute pains, mostly in glandular structures of the body. It is often considered to be the first stage of cancer. Surgical removal of the affected tissue is recommended.</td>
</tr>
<tr>
<td><strong>Scorbutus</strong>&lt;sup&gt;1492&lt;/sup&gt;</td>
<td>Scurvy</td>
<td>Nutritional deficiency disease caused by an overreliance on salt provisions and a lack fresh fruit and vegetables. The mouth and gums become tender and soft, and begin to bleed; old wounds eventually reopen and new ones develop; general debility.</td>
</tr>
<tr>
<td><strong>Scrofula</strong>&lt;sup&gt;1493&lt;/sup&gt;</td>
<td>Tuberculosis</td>
<td>Tuberculosis of the glands or skin, causing tumours to erupt, usually on the neck, which gradually suppurate into indolent ulcers. Often symptomatic of organic, internal disease and generally seen in those of sanguine temperament.</td>
</tr>
<tr>
<td><strong>Stremma</strong></td>
<td>Strain</td>
<td>The stretching or rupturing of the soft fibres around the joints, causing pain and inflammation.&lt;sup&gt;1494&lt;/sup&gt;</td>
</tr>
</tbody>
</table>

<sup>1486</sup> Dunglison, *Medical Lexicon*, pp. 593-594.
<sup>1487</sup> Dunglison, *Medical Lexicon*, p. 571.
<sup>1489</sup> Dunglison, *Medical Lexicon*, p. 637.
<sup>1490</sup> MacFie and Bonet, *Convict Health*, p. 36; Walton, Barondess and Lock, *The Oxford Medical Companion*, p. 863.
<sup>1491</sup> Dunglison, *Medical Lexicon*, p. 673.
<sup>1493</sup> Purtscher, *Deaths at General Hobart Hospital*, p. 3; Walton, Barondess and Lock, *The Oxford Medical Companion*, p. 886; Dunglison, *Medical Lexicon*, p. 675.
<sup>1494</sup> Dunglison, *Medical Lexicon*, pp. 703-704.
<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stricture</td>
<td>The contraction of a tube or duct. Usually referring to the urethra, which causes the retention of urine, requiring a catheter to be passed.</td>
</tr>
<tr>
<td>Syphilis</td>
<td>Venereal disease first characterised by the appearance of a chancre, which then gives way to a bubo, sore throat and generalised aching pain. Often treated with mercury.</td>
</tr>
<tr>
<td>Tertites</td>
<td>Inflammation of the testes, sometimes caused by injury but usually as a result of disease. The testicles at first are soft and swollen, but soon become hard and painful.</td>
</tr>
<tr>
<td>Tuberculosis</td>
<td>See Phthisis.</td>
</tr>
<tr>
<td>Ulcers</td>
<td>Characterised by open sores, often weeping pus. May be symptomatic of underlying illness (such as scurvy) or be caused by a previous injury.</td>
</tr>
<tr>
<td>Variola</td>
<td>An infectious disease which causes a raised, pustular skin rash and fever. Once the rash has healed, scarring (pockmarks) is left on the skin.</td>
</tr>
<tr>
<td>Vulnus</td>
<td>Often caused by accidents or fights.</td>
</tr>
</tbody>
</table>

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1495 Dunglison, *Medical Lexicon*, p. 710.
1499 MacFie and Bonet, *Convict Health*, p. 37.
1500 Dunglison, *Medical Lexicon*, p. 780.
Appendix Three - Glossary of Medicines and Treatments

<table>
<thead>
<tr>
<th>Scientific / Latin Name of Drug or Treatment</th>
<th>Common Name of Drug or Treatment</th>
<th>Administration Method / Form</th>
<th>Purpose / Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetatis plumbe</td>
<td>Lead acetate</td>
<td>Pill</td>
<td>Astringent. Used to treat skin complaints, bleeding, bronchitis, pneumonia, diarrhoea and heart complaints.</td>
</tr>
<tr>
<td>Plumbi subacet</td>
<td>Goulard’s extract (lead acetate and acetic acid)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plumbi acetas</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acetum cevadillae</td>
<td>Vinegar of sabadilla</td>
<td>Solution</td>
<td>Stimulating emetic and errhine. Usually used externally on wounds. Excites a violently emetic and purgative action, even when not used internally. Prompts and violent sneezing when used as an errhine.</td>
</tr>
<tr>
<td>Acidum muriatic</td>
<td>Hydrochloric acid</td>
<td>Solution</td>
<td>Antiseptic. Highly corrosive acid, used internally (after diluting with water) to treat fevers, tuberculosis and cancer of the stomach.</td>
</tr>
<tr>
<td>Acidum nitricum</td>
<td>Nitric acid</td>
<td>Solution</td>
<td>Tonic, often used to revive the system after treatment with</td>
</tr>
</tbody>
</table>

1502 This is not a glossary of all medicines and treatments used in the mid-nineteenth-century; it covers only those used in the three hospitals examined in this research. The information given in this table is consistent with nineteenth-century understanding of medicines and treatments.

1503 Pearn, Petrie and Petrie state that by 1826 this substance was used only externally; however, at New Norfolk Hospital it is clearly prescribed as a pill. Thus, it was either still being used internally, or the two substances are different (J. Pearn, A. Petrie and G. Petrie, ‘An Early Australian Pharmacopoeia: A Drug List and its Materia Medica for an Australian Convict Settlement’, The Medical Journal of Australia, 149 (1988), p. 632; R. Haines, Life and Death in the Age of Sail: The Passage to Australia (University of New South Wales Press, Sydney, 2003), pp. 238-9; S. Potter, A Compendium of Materia Medica, Therapeutics and Prescription Writing: Plumbum (P. Blakiston, Philadelphia, 1902), at <http://www.henriettesherbal.com/eclectic/potter-comp/plumbum.html> accessed 25 April 2006.


Spritis of nitre  
Aqua fortis  
mercurials. Strong nitric acid is applied to indolent ulcers. Diluted with water, it is given in cases of typhoid fever, syphilis and liver conditions.

**Acidum sulphuricum**²⁻⁰⁷

*Acid sulph aqua destillus*

Sulphuric acid  
Solution, ointment or liniment.  
Astringent. Used (diluted with water) internally for dyspepsia, venereal disease, fever, pneumonia and gallbladder stones. Used externally for sores, rheumatism, paralysis, as a stimulating liniment or to counteract the effects of mercury.

**Aloes**²⁻⁰⁸

*Extractum aloes*

Aloes  
Pill or tincture  
A purgative given in cases of disease which render the body debilitated (such as scrofula or chronic constipation).

**Ammonia acetatis**²⁻⁰⁹

*Acetate of ammonia*

Solution  
A stimulating diuretic and diaphoretic used in fevers and inflammatory diseases, particularly when opium is inadvisable.

**Ammonia carbonate**²⁻¹⁰

*Carbonate of ammonia*

Solution.  
Used as a stimulant, expectorant and diaphoretic. Ammonia (diluted in water) to treat coughs with ‘scanty expectorant’, such as bronchitis or pneumonia. (Ammonia carbonate distilled in alcohol is also known as sal. volatile, or more commonly as smelling salts)²⁻¹¹

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²⁻¹⁰ Petersen, *Materia Medica (Part I)*, p. 45.

<table>
<thead>
<tr>
<th><strong>Antimony potassium tartrate</strong>&lt;sup&gt;1512&lt;/sup&gt;</th>
<th>Tartar emetic</th>
<th>Draught</th>
<th>Pill</th>
<th>Ointment</th>
<th>A strong emetic. Used to relieve chest ‘dullness’ (accumulation of mucous when patient is unable to expectorate, such as pneumonia and cholera); when used externally can cause an ‘eruption’ on the skin. Also used to treat fever.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Antimonii tartarized</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Aqua calcis</strong>&lt;sup&gt;1513&lt;/sup&gt;</td>
<td>Limewater</td>
<td>Solution</td>
<td></td>
<td></td>
<td>Antacid; used to treat vomiting.</td>
</tr>
<tr>
<td><strong>Liquor calcis</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Aqua fontana</strong>&lt;sup&gt;1514&lt;/sup&gt;</td>
<td>Spring water</td>
<td>Solution</td>
<td></td>
<td></td>
<td>Used to dilute other medicines.</td>
</tr>
<tr>
<td><strong>Aqua menth pip</strong>&lt;sup&gt;1515&lt;/sup&gt;</td>
<td>Peppermint water</td>
<td>Infusion</td>
<td></td>
<td></td>
<td>Classified as a tonic, but served a multitude of purposes. Used to relieve nausea, stomach pains and colic, to cover the bad taste of or dilute other medicines, as an anaesthetic and to moderate the effects of purgatives.</td>
</tr>
<tr>
<td><strong>Mentheae piperita</strong></td>
<td></td>
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<td></td>
</tr>
<tr>
<td><strong>Argentum nitrate</strong>&lt;sup&gt;1516&lt;/sup&gt;</td>
<td>Nitrate argent</td>
<td>Pill or solution</td>
<td></td>
<td></td>
<td>An escharotic and tonic. Used to treat undefined pains (such as in rheumatism), restlessness (such as epilepsy and convulsions), paralysis and debility, and ophthalmia.</td>
</tr>
<tr>
<td><strong>Argent. nit</strong></td>
<td>Silver nitrate</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lunar caustic</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Armoracia</strong>&lt;sup&gt;1517&lt;/sup&gt;</td>
<td>Horseradish</td>
<td>Syrup or infusion</td>
<td></td>
<td></td>
<td>Stimulating sialogogue and diuretic when used in the form of a syrup; emetic when used as an infusion. Promotes secretions, particularly urinary.</td>
</tr>
</tbody>
</table>

<sup>1514</sup> Risse, *Hospital Life*, p. 375.
<table>
<thead>
<tr>
<th><strong>Arsenicum</strong>&lt;sup&gt;1518&lt;/sup&gt;</th>
<th>Arsenic</th>
<th>Solution</th>
<th>A tonic, used as a draught in fevers and headaches. Administration must cease if the medicine causes vomiting or abdominal pain. Highly toxic, particularly when applied to wounds.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Assafoetida</strong>&lt;sup&gt;1519&lt;/sup&gt;</td>
<td>Asafoetida</td>
<td>Pill</td>
<td>Antispasmodic. To relieve flatulence and gastrointestinal irritation, particularly if accompanied by hysterical symptoms, depression or nervous irritation.</td>
</tr>
<tr>
<td><em>Ferula Assafoetida</em></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Aurantii</strong>&lt;sup&gt;1520&lt;/sup&gt;</td>
<td>Tincture of orange peel</td>
<td>Tincture</td>
<td>A pleasant flavouring agent. Posesses no medicinal properties.</td>
</tr>
<tr>
<td><strong>Balsamum copaiba</strong>&lt;sup&gt;1521&lt;/sup&gt;</td>
<td>Balsam of Copaiba</td>
<td>Oleoresin</td>
<td>Cathartic and diuretic. Used as a mild stimulant in chronic mucous and genitor-urinary affections such as gonorrhea, bronchitis, dysentery and diarrhoea. Occasionally it is painted on the cheeks and temples to relieve ophthalmia.</td>
</tr>
<tr>
<td><em>Copaifere officinalis</em></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Belladonna</strong>&lt;sup&gt;1522&lt;/sup&gt;</td>
<td>Deadly nightshade</td>
<td>Extract or plaster</td>
<td>Used internally as an antispasmodic, diaphoretic and emetic for cancer, paralysis, mania, amaurosis, schirrus, gastric and cardiac complaints, and for asthma. Also used externally as a plaster for pain associated with abscesses, boils, neuralgia and rheumatism.</td>
</tr>
<tr>
<td><em>Atropa belladonna</em></td>
<td>Atropine</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Bluestone</strong></td>
<td></td>
<td></td>
<td>See <em>Cupri sulphas</em>.</td>
</tr>
</tbody>
</table>

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<table>
<thead>
<tr>
<th>Plant Name</th>
<th>Form</th>
<th>Uses</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Calumbae</strong>&lt;sup&gt;1523&lt;/sup&gt;</td>
<td>Tincture</td>
<td>Used as an astringent to reduce gastrointestinal secretions and</td>
</tr>
<tr>
<td><strong>Cocculus palmatus</strong></td>
<td>Tincture</td>
<td>stimulate the stomach.</td>
</tr>
<tr>
<td><strong>Cambogia</strong>&lt;sup&gt;1524&lt;/sup&gt;</td>
<td>Gamboge</td>
<td>Cathartic. Generally employed in combination with other medicines</td>
</tr>
<tr>
<td></td>
<td>Pill</td>
<td>as a purgative (used singly, its effect can be overly violent). Most</td>
</tr>
<tr>
<td></td>
<td></td>
<td>often used in cases of dropsy or tapeworm.</td>
</tr>
<tr>
<td><strong>Camphorae</strong>&lt;sup&gt;1525&lt;/sup&gt;</td>
<td>Camphor</td>
<td>Given internally as a stimulant and antispasmodic to treat cough,</td>
</tr>
<tr>
<td><strong>Extractum cinnamomum</strong></td>
<td>Oil</td>
<td>gastrointestinal complaints, and to relieve fever. Externally, used</td>
</tr>
<tr>
<td><strong>camphora</strong></td>
<td></td>
<td>to relieve spasm, pain and inflammation.</td>
</tr>
<tr>
<td><strong>Cantharides</strong>&lt;sup&gt;1526&lt;/sup&gt;</td>
<td>Spanish flies</td>
<td>Used to treat some venereal diseases, and urinary disorders. See</td>
</tr>
<tr>
<td></td>
<td>Tincture</td>
<td>also <em>Emplastrum lytta vesicatoria</em>.</td>
</tr>
<tr>
<td><strong>Capsicum annuum</strong>&lt;sup&gt;1527&lt;/sup&gt;</td>
<td>Capsicum</td>
<td>Powerful stimulanting tonic, given in cases of fever. Occasionally</td>
</tr>
<tr>
<td></td>
<td>Pill</td>
<td>used as a rubificient, also in cases of fever.</td>
</tr>
<tr>
<td><strong>Cataplasma lini</strong>&lt;sup&gt;1528&lt;/sup&gt;</td>
<td>Linseed cataplasm</td>
<td>Moist preparations applied externally in a thick paste to relieve</td>
</tr>
<tr>
<td></td>
<td>Thick paste</td>
<td>pain and inflammation of rheumatism and oedema.</td>
</tr>
<tr>
<td><strong>Cataplasma ulmi</strong>&lt;sup&gt;1529&lt;/sup&gt;</td>
<td>Elm cataplasm</td>
<td>Moist preparations applied externally in a thick paste applied to</td>
</tr>
</tbody>
</table>


<sup>1525</sup> Risse, *Hospital Life*, p. 370.


<table>
<thead>
<tr>
<th><strong>Catechu</strong>&lt;sup&gt;1530&lt;/sup&gt;</th>
<th>Catechu</th>
<th>Tincture</th>
<th>Powerful astringent. Reduces excess mucous discharge; relieves dysentery, catarrh and diarrhoea.</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Extractum acacia catechu</em></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Celosia</strong>&lt;sup&gt;1531&lt;/sup&gt;</th>
<th>Cockscomb</th>
<th>Decoction</th>
<th>Antiblennorrhagic. Used to reduce mucous discharge.</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th><strong>Cimicifugae resina</strong>&lt;sup&gt;1532&lt;/sup&gt;</th>
<th>Resin of black cohosh</th>
<th>Resin</th>
<th>Often used as a uterine tonic in female patients, but also used in cases of rheumatism, scrofula and fever.</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th><strong>Cinchona</strong>&lt;sup&gt;1533&lt;/sup&gt;</th>
<th>Jesuit’s bark</th>
<th>Powder</th>
<th>The dried, powdered bark of this tree contains quinine, a tonic. See <em>Quininae sulphas</em>, below.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Peruvian bark</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Citrullus colocynthis</strong>&lt;sup&gt;1534&lt;/sup&gt;</th>
<th>Bitter apple</th>
<th>Extract</th>
<th>Used (in conjunction with other cathartics to mitigate its violence) in cases of griping or colicky pains in the gastro-intestinal tract.</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th><strong>Colchicum</strong>&lt;sup&gt;1535&lt;/sup&gt;</th>
<th>Meadow saffron</th>
<th>Tincture or powder</th>
<th>A severe purgative. Used to relieve gout and rheumatism by removing ‘morbid matter’ from the body via secretions. &lt;sup&gt;1536&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Colchicum autumnale</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Cold water treatment</strong>&lt;sup&gt;1537&lt;/sup&gt;</th>
<th>Cold affusions</th>
<th>-</th>
<th>Used to treat fevers and rheumatism by cooling the body through cold affusions.</th>
</tr>
</thead>
</table>

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<sup>1534</sup> Dunglison, *Medical Lexicon*, p. 206.


Cold bathing

<table>
<thead>
<tr>
<th><strong>Confection aromat</strong>&lt;sup&gt;1538&lt;/sup&gt;</th>
<th>Aromatic</th>
<th>Sweet lozenge, pill, or tincture</th>
<th>Aromatic. Mixture of spices used to relieve gastrointestinal complaints in conjunction with other medicines – rarely used singly.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Confection sulphuris</strong>&lt;sup&gt;1539&lt;/sup&gt;</td>
<td>Confection of sulphur</td>
<td>Confection</td>
<td>Mild purgative, used to treat haemorrhoids. Comprised of sulphur, potassium bitartrate, syrup of orange-peel and tragacanth.</td>
</tr>
<tr>
<td><em>Electuarium sulphur</em></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Conii</strong>&lt;sup&gt;1540&lt;/sup&gt;</td>
<td>Conium</td>
<td>Extract or cataplasm</td>
<td>Used as an antispasmodic and to sedate in cases of hysteria or convulsive movement, and in cases of overexcitement of the heart. Easily toxic if dose is slightly too great. As a cataplasm, it was used to relives pain, especially in cases of cancer.</td>
</tr>
<tr>
<td><em>Hemlock</em></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Copper sulphate</strong></td>
<td></td>
<td></td>
<td>See <em>Cupri sulphas</em>.</td>
</tr>
<tr>
<td><strong>Creosoti carbonas</strong>&lt;sup&gt;1541&lt;/sup&gt;</td>
<td>Creosote</td>
<td>Solution or ointment</td>
<td>Antiseptic and expectorant. Applied to skin eruptions, and also used to treat continual vomiting and respiratory conditions. Used in carefully regulated doses to prevent poisoning.</td>
</tr>
</tbody>
</table>


<table>
<thead>
<tr>
<th><strong>Cucurbita citrullus</strong>&lt;sup&gt;1542&lt;/sup&gt;</th>
<th>Watermelon (seeds)</th>
<th>Powder or fluid extract</th>
<th>Diuretic. Used to relieve irritation and inflammation of the bladder, to relieve kidney pain and pain or burning on urination.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cucurbitula cruenta</strong>&lt;sup&gt;1543&lt;/sup&gt;</td>
<td>Cupping</td>
<td>-</td>
<td>A glass vessel is used to form a vacuum on the skin, which has been scarified to allow blood to be drawn out using the action of the vacuum.</td>
</tr>
<tr>
<td><strong>Cupri sulphas</strong>&lt;sup&gt;1544&lt;/sup&gt;</td>
<td>Blue vitriol</td>
<td>Solution</td>
<td>An emetic, commonly used in ophthalmia, dysentery, diarrhoea, pneumonia and venereal diseases until its toxicity was recognised and usage gradually ceased. Occasionally used in suicide attempts.</td>
</tr>
<tr>
<td>Copper sulphate</td>
<td>Bluestone</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Curcus purgans</strong>&lt;sup&gt;1545&lt;/sup&gt;</td>
<td>Purging nut</td>
<td>Pill or oil</td>
<td>Often used as a drastic cathartic, although the leaves are occasionally used as a rubifacent.</td>
</tr>
<tr>
<td><strong>Decocta hordei</strong>&lt;sup&gt;1546&lt;/sup&gt;</td>
<td>Decoction of barley</td>
<td>Liquid</td>
<td>Barley is boiled in water, and the liquid used as an easily digestible drink for cases with irritable gastrointestinal systems.</td>
</tr>
<tr>
<td><strong>Decocta sarsae</strong>&lt;sup&gt;1547&lt;/sup&gt;</td>
<td>Decoction of sarsaparilla</td>
<td>Solution</td>
<td>Diaphoretic and demulcent. Used in cases of syphilis, rheumatism, herpes and dropsy.</td>
</tr>
</tbody>
</table>
| **Desault splint**<sup>1548</sup> | Desault splint | - | A splint described as consisting of “two straight splints…one long enough to extend from the crest of the ilium to four inches beyond the foot, and the other from the perineum to the sole of the foot along the inner side of the limb; near the upper end of the long splint a hole

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was perforated for the attachment of the counter-extending band, and a notch was cut at the lower extremity, with a perforation just above it, for the securing of the extending strap. The rest of the apparatus consisted of...long pads filled with chaff, to equalize the pressure of the splints along the outer and inner faces of the limb; a counter-extending band, to pass between the pubis and the upper part of the thigh, and to be attached to the upper extremity of the long splint, and an extending band, for the purpose of firmly connecting the foot with the lower end of the same splint; lateral pressure was made by means of several strips of muslin, which drew the splints and the pads firmly against the limb on each side, while the thigh was enveloped in a bandage.”

<table>
<thead>
<tr>
<th><strong>Desander in balneum calidum</strong>&lt;sup&gt;1549&lt;/sup&gt;</th>
<th>Hot bath (37°-43°C)</th>
<th>-</th>
<th>Often given immediately upon admission, probably for hygiene reasons, although baths were considered to hold medicinal properties of their own.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Digitalis</strong>&lt;sup&gt;1550&lt;/sup&gt;</td>
<td>Foxglove</td>
<td>Tincture</td>
<td>A diuretic to remove fluid from the chest (dropsy), and stimulate the heart by increasing the efficiency of the cardiac and circulatory systems, particularly by causing the kidneys to secrete increased levels of fluid.&lt;sup&gt;1551&lt;/sup&gt;</td>
</tr>
<tr>
<td><strong>Digitalis purpurea</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Disulphate of quina</strong></td>
<td>Quinine</td>
<td>Powder</td>
<td>Tonic. The active component of Quinine (Peruvian bark).</td>
</tr>
<tr>
<td><strong>Elaterii</strong>&lt;sup&gt;1552&lt;/sup&gt;</td>
<td>Squirting cucumber</td>
<td>Powder, pills or solution</td>
<td>A powerful cathartic used to treat dropsy and cystitis.</td>
</tr>
</tbody>
</table>


<sup>1550</sup> Risse, Hospital Life, p. 374; Petersen, Materia Medica: Part I, pp. 74-75, Part IIa, p. 25; Pearn, Petrie and Petrie, ‘An Early Australian Pharmacopoeia’, p. 633.

<sup>1551</sup> Tooth, Human and Heroic, p. 20.

<table>
<thead>
<tr>
<th>Remedy</th>
<th>Type</th>
<th>Medication and Use</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Emplastrum adhaesivum elasticum</strong>&lt;sup&gt;1553&lt;/sup&gt;</td>
<td>Rubber adhesive plaster</td>
<td>India rubber and wool fat are combined with medicines and applied to wounds after being strained through muslin.</td>
</tr>
<tr>
<td><strong>Emplastrum lytta vesicatoria</strong>&lt;sup&gt;1554&lt;/sup&gt;</td>
<td>Plaster of Spanish fly</td>
<td>Rubefacient. Fly is dried and pulverised, and suspended in liquid/oil, or made into a plaster used to relieve rheumatism, phthisis, asthma and hepatitis.</td>
</tr>
<tr>
<td><strong>Emplastrum plumbi</strong>&lt;sup&gt;1555&lt;/sup&gt;</td>
<td>Lead plaster</td>
<td>Olive oil and oxide of lead are boiled together, and applied to protest wounds and irritated skin. Not in itself medicinal, but was often used as a base for other medicinal agents.</td>
</tr>
<tr>
<td><strong>Enema catharticum</strong>&lt;sup&gt;1556&lt;/sup&gt;</td>
<td>Cathartic enema</td>
<td>Cathartic, commonly given to relieve constipation or when speedy evacuation of the bowels is required. Comprising salt, olive oil, molasses and warm water.</td>
</tr>
<tr>
<td><strong>Enema foetidum</strong>&lt;sup&gt;1557&lt;/sup&gt;</td>
<td>Asafetida enema</td>
<td>Enema given by injection as an antispasmodic and anodyne to relieve flatulence.</td>
</tr>
</tbody>
</table>

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<table>
<thead>
<tr>
<th><strong>Enema opiates</strong>&lt;sup&gt;1558&lt;/sup&gt;</th>
<th>Enema of opium</th>
<th>Enema</th>
<th>Sedative anodyne. Used to treat diarrhoea and vomiting. Comprising salt, olive oil, warm water and opium.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Enema tabaci</strong>&lt;sup&gt;1559&lt;/sup&gt;</td>
<td>Tobacco enema</td>
<td>Enema</td>
<td>Emetic and antispasmodic. Used to produce nausea and muscular relaxation in sufferers of hernia and severe constipation.</td>
</tr>
<tr>
<td><strong>Extract colycynth comp</strong>&lt;sup&gt;1560&lt;/sup&gt;</td>
<td>Compound extract of colocynth</td>
<td>Extract</td>
<td>Powerful purgative/cathartic, and used to relieve gastrointestinal cramps such as dyspepsia and colic, and neuralgic pains.</td>
</tr>
<tr>
<td><em>Extractum citrullus colosynthus</em></td>
<td><em>Colocynthis</em></td>
<td><em>Extract</em></td>
<td></td>
</tr>
<tr>
<td><strong>Ferri carbonatis</strong>&lt;sup&gt;1561&lt;/sup&gt;</td>
<td>Carbonate of iron</td>
<td>Emmenagogue.</td>
<td></td>
</tr>
<tr>
<td><strong>Fomentation</strong>&lt;sup&gt;1562&lt;/sup&gt;</td>
<td>Poultice</td>
<td>Poultice</td>
<td>Cloths are dipped in hot water or liquid medicines, and used to keep a body part hot and moist. A dry fomentation can also be used (generally a hot brick or similar wrapped in flannel to retain warmth). Used to heal fractures.</td>
</tr>
<tr>
<td><strong>Fomentation fonticulus</strong>&lt;sup&gt;1563&lt;/sup&gt;</td>
<td>Warm application of ointment.</td>
<td>Poultice and ointment</td>
<td><em>Fonticulus</em> refers to an ointment used to keep blisters open.</td>
</tr>
<tr>
<td><strong>Fomentation oenothera</strong></td>
<td>Evening primrose fomentation</td>
<td>Poultice</td>
<td>Applied to ulcers and other skin conditions.</td>
</tr>
<tr>
<td><strong>Gargarism alumen</strong>&lt;sup&gt;1564&lt;/sup&gt;</td>
<td>Potassium aluminium</td>
<td>Solution</td>
<td>Astringent gargle used to treat ptyalism.</td>
</tr>
</tbody>
</table>

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<sup>1558</sup> Risse, *Hospital Life*, p. 374, p. 379.  
<sup>1562</sup> Dunglison, *Medical Lexion*, p. 385.  
<sup>1563</sup> Risse, *Hospital Life*, p. 375.
<table>
<thead>
<tr>
<th><strong>Super sulphas alumina et potassae</strong></th>
<th>sulfate</th>
<th>(mouthwash)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gargarism chlorid calcis</strong>&lt;sup&gt;1565&lt;/sup&gt;</td>
<td>Solution of chlorinated lime</td>
<td>Solution (mouthwash)</td>
</tr>
<tr>
<td><strong>Gentian</strong>&lt;sup&gt;1566&lt;/sup&gt;</td>
<td>Gentian</td>
<td>Infusion</td>
</tr>
<tr>
<td><em>Gentiana lutea</em></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Guaiacum lignum</strong>&lt;sup&gt;1567&lt;/sup&gt;</td>
<td>Guaiacum wood</td>
<td>Tincture</td>
</tr>
<tr>
<td><strong>Haustus anodyne</strong></td>
<td>Pain relief draught</td>
<td>Solution</td>
</tr>
<tr>
<td><strong>Haustus effervescentia</strong>&lt;sup&gt;1568&lt;/sup&gt;</td>
<td>Effervescing powders</td>
<td>Powder or solution</td>
</tr>
<tr>
<td><strong>Hydrargyri</strong>&lt;sup&gt;1569&lt;/sup&gt;</td>
<td>Mercury pill</td>
<td>Pill</td>
</tr>
</tbody>
</table>

---


<table>
<thead>
<tr>
<th><strong>Massae hydrargyri</strong></th>
<th>‘Blue pill’</th>
<th>of mercury mixed with confection of roses and liquorice root.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pilulae hydrargyri</strong></td>
<td>Quicksilver</td>
<td></td>
</tr>
<tr>
<td><strong>Hydrargyri bichloride</strong></td>
<td>Bichloride of mercury</td>
<td>Powder</td>
</tr>
<tr>
<td><strong>Hydrargyri chlorid</strong></td>
<td>Mercuric chloride</td>
<td>Ointment or pill</td>
</tr>
<tr>
<td><strong>Hydrargyrus muriatus corrosivus</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Hydrargyri oxymel</strong></td>
<td>Honey and mercury</td>
<td>Solution</td>
</tr>
<tr>
<td><strong>Hydrargyri submur</strong></td>
<td>Calomel</td>
<td>Pill or mixture</td>
</tr>
<tr>
<td><strong>Hydrargyrum cum creta</strong></td>
<td>Mercury with chalk</td>
<td>Pill or mixture</td>
</tr>
<tr>
<td><strong>Hyoscyamus</strong></td>
<td>Black henbane</td>
<td>Extract</td>
</tr>
</tbody>
</table>

---


1571 Risse, *Hospital Life*, p. 376.


and scarlet fever.

<table>
<thead>
<tr>
<th>Iodini&lt;sup&gt;1577&lt;/sup&gt;</th>
<th>Iodine</th>
<th>Tincture</th>
<th>Tonic stimulant of the lymphatic system.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ipecacuanha</strong></td>
<td>Ipecacuanha</td>
<td>Powder or pill</td>
<td>Generally used as an emetic, but depending on its dosage can also function as a diuretic or a diaphoretic in fever and inflammatory diseases.</td>
</tr>
<tr>
<td><strong>Pulveris ipecacuanhei compositus</strong>&lt;sup&gt;1578&lt;/sup&gt;</td>
<td>Compound powder of ipecacuanha</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td><strong>Issue</strong>&lt;sup&gt;1579&lt;/sup&gt;</td>
<td>Fonticulus</td>
<td>Pea issue</td>
<td>An incision is made in the skin, large enough to hold a pea or bean inserted to keep the wound open and allow free discharge.</td>
</tr>
<tr>
<td><strong>Jalapa</strong></td>
<td>Jalap</td>
<td>Powder</td>
<td>Common, fast-acting cathartic used to rid the entire body of ‘morbid matter’. Also used in combination with other medicines to increase the speed of their action (such as mercury). Comprised of Jalap, Potassium Bitartrate and sometimes ginger.</td>
</tr>
<tr>
<td><strong>Pulveris jalapae compositus</strong>&lt;sup&gt;1580&lt;/sup&gt;</td>
<td>Compound powder of jalap</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td><strong>Pulveris purgans</strong></td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td><strong>Liniment ammonii</strong>&lt;sup&gt;1581&lt;/sup&gt;</td>
<td>Olive oil and water solution of sodium hydroxide (caustic ammonia)</td>
<td>Ointment or gargle</td>
<td>Diaphoretic and rubifacient. Applied to chest as a vesicant; also used as a gargle for throat and mouth complaints.</td>
</tr>
<tr>
<td><strong>Oleum ammoniatum</strong></td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td><strong>Unguentum firenum</strong></td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
</tbody>
</table>
| **Liniment anodyne**<sup>1582</sup> | Liniment of opium | Ointment | Anodyne. Used to relieve pain of contusions, muscular injuries and

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<sup>1581</sup> Risse, *Hospital Life*, p. 368.
<table>
<thead>
<tr>
<th><strong>Liniment opii</strong></th>
<th>Rheumatism. Consisting of opium, camphor, wine, oil of rosemary and soap.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Liniment saponis</strong>&lt;sup&gt;1583&lt;/sup&gt;</td>
<td>Soap liniment</td>
</tr>
<tr>
<td><strong>Liniment stimulant</strong>&lt;sup&gt;1584&lt;/sup&gt;</td>
<td>Stimulating liniment</td>
</tr>
<tr>
<td><strong>Liquor ammonii anisatus</strong>&lt;sup&gt;1585&lt;/sup&gt;</td>
<td>Solution of oil of anise</td>
</tr>
<tr>
<td><strong>Anisated solution of ammonia</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Liquor potassae</strong>&lt;sup&gt;1586&lt;/sup&gt;</td>
<td>Solution of potassium</td>
</tr>
<tr>
<td><strong>Solution of potassa</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Lotio aceti</strong>&lt;sup&gt;1587&lt;/sup&gt;</td>
<td>Vinegar lotion</td>
</tr>
<tr>
<td><strong>Lotio evapora</strong>&lt;sup&gt;1588&lt;/sup&gt;</td>
<td>Evaporating lotion</td>
</tr>
</tbody>
</table>


<sup>1584</sup> Dunglison, *Medical Lexicon*, p. 708.


An alcohol based lotion which cools the skin as it evaporates.

<table>
<thead>
<tr>
<th>Product Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Lotio frigid</strong>&lt;sup&gt;1589&lt;/sup&gt;</td>
<td>Cooling lotion</td>
</tr>
<tr>
<td><strong>Lotio hydrargyri oxidum flavum</strong>&lt;sup&gt;1590&lt;/sup&gt;</td>
<td>Yellow oxide of mercury Lotion Mercurial. Used to treat syphilis and cases of ringworm.</td>
</tr>
<tr>
<td><strong>Lotio nigra</strong>&lt;sup&gt;1591&lt;/sup&gt;</td>
<td>Black lotion Black wash Lotion Composed of chloride of mercury, water and solution of lime, the black lotion was used to treat venereal disease.</td>
</tr>
<tr>
<td><strong>Magnese sulphat</strong>&lt;sup&gt;1592&lt;/sup&gt;</td>
<td>Sulphate of magnesia Magnesia Sulphate Solution or syrup A bitter tasting but mild cathartic, either alone or in combination with more violent purgatives to moderate their action. Increases natural secretions. Used to treat ophthalmia, dysentery and nephritis.</td>
</tr>
<tr>
<td><strong>Magnesium carbonate</strong>&lt;sup&gt;1593&lt;/sup&gt;</td>
<td>Magnesium carbonate Powder Used as a cathartic and antacid, and also combined in tinctures of other medicines.</td>
</tr>
<tr>
<td><strong>Magnolia</strong>&lt;sup&gt;1594&lt;/sup&gt;</td>
<td>Magnolia Pill Tonic. Used to treat dyspepsia, fever and rheumatism.</td>
</tr>
</tbody>
</table>

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| **Maranta**<sup>1595</sup> | Arrowroot | Powder made into a jelly | A gentle, non-irritating farinaceous food used for those convalescing from fever or gastrointestinal complaints. |
| **Mica panis**<sup>1596</sup> | Crumb of bread | Pill or poultice | Mixed with milk or hot water to make a poultice to treat phlegmon or to promote suppuration, or used to form pills. |
| **Mistura cathartica**<sup>1597</sup> | Epsom salts | Salt | Used as a diuretic, cathartic, anti-emetic and diaphoretic. |
| *Catharticus amarus* | Magnesia vitriolata | | |
| **Mistura cetacei**<sup>1598</sup> | Spermaceti | Powder | Demulcent. Combined with olive oil and powdered gum Arabic to form a cough medicine for children. |
| **Mistura creta comp**<sup>1599</sup> | Chalk compound | Powder | Antacid. Used to relieve diarrhoea. |
| *Calcium carbonate*<sup>1600</sup> | | | |
| **Morphine muriate**<sup>1601</sup> | Hydrochlorate of morphine | Solution | See Solution morphine acetate. |
| *Morphinae hydrochloridum* | | | |
| **Morrison’s Pills** | - | Pill | Purgative. Containing aloe, cream of tartar and colocynth. |
| **Mucilago gummi acacia**<sup>1602</sup> | Mucilage of gum arabic | Solution | Demulcent. Diluted mucilage given as a nutritious drink. Also used to provide adhesion in pills and to cause mixtures to become soluble. |
| *Acaciae gummi* | | | |

<sup>1595</sup> Felter and Lloyd, *King’s American Dispensatory: Maranta*, at <http://www.henriettesherbal.com/eclectic/kings/maranta.html> accessed 8 February 2010.<br>
<sup>1597</sup> Risse, *Hospital Life*, p. 378.<br>
<sup>1598</sup> Felter and Lloyd, *King’s American Dispensatory: Cetaceum*, at <http://www.henriettesherbal.com/eclectic/kings/cetaceum.html> accessed 8 November 2009.<br>
<sup>1600</sup> Tooth, *Humane and Heroic*, p. 182.<br>
<table>
<thead>
<tr>
<th><strong>Olei menthe pip</strong>&lt;sup&gt;1603&lt;/sup&gt;</th>
<th>Oil of peppermint</th>
<th>Oil or lozenge</th>
<th>Gastric stimulant, and an antiseptic.</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Olei menthae piperita</em></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Olei morrhuae</strong>&lt;sup&gt;1604&lt;/sup&gt;</th>
<th>Cod liver oil</th>
<th>Oil</th>
<th>A stimulant, used in chronic conditions (eg. rheumatism or scrofula).</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Olei morrhuae</em></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Olei ricini</strong>&lt;sup&gt;1605&lt;/sup&gt;</th>
<th>Oil of castor bean</th>
<th>Oil</th>
<th>Used as a purgative, and also to relieve abdominal pain.</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Ricinus communis</em></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Olei terebinthinae</strong>&lt;sup&gt;1606&lt;/sup&gt;</th>
<th>Oil of turpentine</th>
<th>Oil</th>
<th>Stimulant and diuretic. Used in an enema to relieve tympanitic swelling of the abdomen (when confined to the colon).</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Olei terebinthinae</em></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Olei tiglii</strong>&lt;sup&gt;1607&lt;/sup&gt;</th>
<th>Croton oil</th>
<th>Oil</th>
<th>A powerful and fast-acting cathartic.</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Croton tiglium</em></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Oxymel</strong>&lt;sup&gt;1608&lt;/sup&gt;</th>
<th>Honey syrup</th>
<th>Syrup</th>
<th>Generally used to combine with other medicinal ingredients (such as <em>Ipecacuanha</em> or mercury), but occasionally used as a demulcent, combined with acetic acid, distilled water and heated until syrupy.</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Scutellaria lateriflora</em></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Papaw</strong>&lt;sup&gt;1609&lt;/sup&gt;</th>
<th>Pawpaw / Papaya</th>
<th></th>
<th>Emetic, but also used to treat skin complaints, such as erysipelas,</th>
</tr>
</thead>
</table>

<sup>1602</sup> State Library of Tasmania, *Tasmanian Convict Department: Instructions for the Management of the Convict Hospitals* (Government Printers, Hobart, 1845), Appendix V.


<table>
<thead>
<tr>
<th>Substance</th>
<th>Active Ingredient</th>
<th>Form</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potasse bichromate¹⁶¹⁰</td>
<td>Potassium Bichromate</td>
<td>Powder</td>
<td>Used to treat bronchitis and coughs, particularly harsh rasping coughs or those with congestion in the larynx.</td>
</tr>
<tr>
<td>Potasse bitartras¹⁶¹¹</td>
<td>Bitartrate of potash</td>
<td>Powder</td>
<td>A relatively gentle, commonly used purgative, particularly in cases of fever or inflammatory diseases.</td>
</tr>
<tr>
<td>Potasse hydrargyri¹⁶¹²</td>
<td>Mercury and iodide of potassium</td>
<td>Pill</td>
<td>Mercurial. Experimental treatment for syphilis which by the early twentieth century had been discounted by most practitioners as ineffective.</td>
</tr>
<tr>
<td>Potasse iodides¹⁶¹³</td>
<td>Potassium iodide</td>
<td>Powder</td>
<td>Irritant diuretic. Used to treat a range of condition, from catarrh and tonsillitis to venereal disease to aneurisms.</td>
</tr>
<tr>
<td>Hydriodate of potassae</td>
<td></td>
<td>Solution</td>
<td></td>
</tr>
<tr>
<td>Potasse nitrate¹⁶¹⁴</td>
<td>Potassium nitrate</td>
<td>Solution</td>
<td>Used as a diaphoretic and diuretic, to rid the kidneys of excess fluid (eg. for nephritis) or as a sedative to relieve fevers. Also used to relieve neuralgic pains, such as in rheumatism.</td>
</tr>
<tr>
<td>Potasse supertartrate¹⁶¹⁵</td>
<td>Cream of tartar</td>
<td>Pill</td>
<td>A cathartic which cools the body; used to treat dropsies and febrile tubercles and eczema.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Medication</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pulveris carbonate</strong>&lt;sup&gt;1616&lt;/sup&gt;</td>
<td>Powdered charcoal Powder Used as an absorbent and antiseptic in phthisis and rheumatism to relieve expectorant cough and reduce sputa.</td>
</tr>
<tr>
<td><em>Pulvis carbonas ligni</em></td>
<td></td>
</tr>
<tr>
<td><strong>Pulveris Doveri</strong>&lt;sup&gt;1617&lt;/sup&gt;</td>
<td>Dover’s powder Powder or pill Used to treat rheumatism and other inflammations, cough, gastrointestinal complaints and to relieve pain, particularly in cases where opium cannot be used alone.</td>
</tr>
<tr>
<td><em>Pulveris ipecacuanhae et opii</em></td>
<td></td>
</tr>
<tr>
<td><strong>Pulveris opii et cretae</strong>&lt;sup&gt;1618&lt;/sup&gt;</td>
<td>Opium and chalk (calcium carbonate) Powder or pill Anodyne. To relieve pain, generally gastrointestinal.</td>
</tr>
<tr>
<td><em>Quassia</em>&lt;sup&gt;1619&lt;/sup&gt;</td>
<td>Infusion Tonic. Used in dyspepsia, debility and fevers, and to stimulate appetite.</td>
</tr>
<tr>
<td><em>Quininae sulphas</em>&lt;sup&gt;1620&lt;/sup&gt;</td>
<td>Sulphate of quinine Pill or solution Tonic. Given in fevers, especially intermittent and continuing</td>
</tr>
<tr>
<td><strong>Rhei</strong>&lt;sup&gt;1621&lt;/sup&gt;</td>
<td>Rhubarb Powder or pill Used as a mild cathartic and astringent acting on the gastrointestinal system. Used in diarrhoea, dysentery and constipation.</td>
</tr>
<tr>
<td><em>Extractum rheum officinalis</em></td>
<td></td>
</tr>
<tr>
<td><strong>Sacchari album</strong>&lt;sup&gt;1622&lt;/sup&gt;</td>
<td>White sugar Powder Made into a dentifrice (toothpaste) or an ointment for skin eruptions,</td>
</tr>
</tbody>
</table>

1616 Risse, *Hospital Life*, p. 371.
<table>
<thead>
<tr>
<th><strong>Loaf sugar</strong> or mixed into medicines to make them more palatable.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sassafras</strong>&lt;sup&gt;1623&lt;/sup&gt;</td>
</tr>
<tr>
<td><strong>Scammonium</strong>&lt;sup&gt;1624&lt;/sup&gt;</td>
</tr>
<tr>
<td><strong>Scarificatio</strong>&lt;sup&gt;1625&lt;/sup&gt;</td>
</tr>
<tr>
<td><strong>Scilla</strong>&lt;sup&gt;1626&lt;/sup&gt;</td>
</tr>
<tr>
<td><strong>Semicupium</strong>&lt;sup&gt;1627&lt;/sup&gt;</td>
</tr>
<tr>
<td><strong>Sennae</strong>&lt;sup&gt;1628&lt;/sup&gt;</td>
</tr>
</tbody>
</table>


<sup>1625</sup> Dunglison, *Medical Lexicon*, p. 671.


<table>
<thead>
<tr>
<th><strong>Setaceum</strong>&lt;sup&gt;1629&lt;/sup&gt;</th>
<th>Seton</th>
<th>-</th>
<th>A long strip of cotton or silk is threaded through a needle, which is passed through a fold in the skin. Each day the material is moved through the skin with the aim of keeping the wound open.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fonticus</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| **Sinapis album**<sup>1630</sup> |
|-------------------------------|-----------------|
| **Sinapis nigra**<sup>1631</sup> | White mustard  |
|                               | Black mustard  |
|                               | Powder, poultice, plaster or bath |
|                               | Used as a rubificient poultice or plaster to relieve inflammation or pain, or the seeds are swallowed (either whole or as a mixture) to promote purging of the bowels. |

| **Sodae carbonus**<sup>1632</sup> |
|----------------------------------|-----------------|
| **Sodii Carbonus**               | Carbonate of soda |
|                                 | Crystals or powder |
|                                 | Generally used to treat skin conditions, and to make bicarbonate of soda, but occasionally used internally as an irritating cathartic. |

<table>
<thead>
<tr>
<th><strong>Sodae et potassae tartras</strong>&lt;sup&gt;1633&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Tartrate of soda and potash</strong></td>
</tr>
<tr>
<td>Powder or solution</td>
</tr>
<tr>
<td>A mild cathartic, generally used as a draught to treat delicate or weakened patients (most commonly administered in the form of Seidlitz powders).</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Sodium sulphate</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Natrum sulph.</strong></td>
</tr>
<tr>
<td><strong>Pill</strong></td>
</tr>
<tr>
<td>Homeopathic treatment for asthma and headache.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Solution alumen saturate</strong>&lt;sup&gt;1634&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Saturated solution of alum</strong></td>
</tr>
<tr>
<td><strong>Solution</strong></td>
</tr>
<tr>
<td>Astringent. Used to control haemorrhage.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Solution morphine acetate</strong>&lt;sup&gt;1635&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Morphine salts</strong></td>
</tr>
<tr>
<td><strong>Solution</strong></td>
</tr>
<tr>
<td>Anodyne. To relieve pain and sedate, particularly for restless patients.</td>
</tr>
</tbody>
</table>

<sup>1629</sup> Dunglison, *Medical Lexicon*, p. 681; Cocks, *A Concise Treatment of Operative Surgery*, p. 23 (see illustration of the insertion of a seton on plate 3).


<table>
<thead>
<tr>
<th><strong>Solutionis potassae arsenum</strong>&lt;sup&gt;1636&lt;/sup&gt;</th>
<th>Fowler’s solution</th>
<th>Solution</th>
<th>Acts by irritating the mucous membranes of the gastrointestinal and bronchial systems. Small doses used to treat a wide range of complaints, including heart, respiratory, and gastrointestinal complaints, diabetes and fevers. Toxic in larger doses.</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th><strong>Spirit of wine</strong>&lt;sup&gt;1637&lt;/sup&gt;</th>
<th>Alcohol</th>
<th>Solution</th>
<th>Stimulant of the nervous system, used internally only in very small doses. Used to preserve anatomical preparations and as a solvent.</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th><strong>Spiritus aetheris nitrosi</strong>&lt;sup&gt;1638&lt;/sup&gt;</th>
<th>Spirit of nitrous ether</th>
<th>Solution</th>
<th>Diuretic. Lowers the pulse and temperature, and stimulates secretions from the skin and kidneys.</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th><strong>Spiritus aetheris sulphuricus</strong>&lt;sup&gt;1639&lt;/sup&gt;</th>
<th>Spirit of sulphuric ether</th>
<th>Solution (often inhaled)</th>
<th>Powerful stimulant, narcotic and antispasmodic. Used to treat cramps in the stomach and spasms of the respiratory system. Applied externally to relieve muscular pains and burns.</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th><strong>Spiritus ammoniae aromaticus</strong>&lt;sup&gt;1640&lt;/sup&gt;</th>
<th>Aromatic spirits of ammonia</th>
<th>Solution</th>
<th>Stimulant. Used in cases of great weakness, particularly when attended with symptoms of the heart or hysteria.</th>
</tr>
</thead>
</table>

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<thead>
<tr>
<th><strong>Spiritus juniperi compositus</strong>&lt;sup&gt;1641&lt;/sup&gt;</th>
<th>Compound spirit of Juniper</th>
<th>Solution</th>
<th>Used in cases of dropsy as a diuretic.</th>
</tr>
</thead>
</table>

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<sup>1639</sup> Murray, *A System of Materia Medica and Pharmacy*, p. 147.


<table>
<thead>
<tr>
<th><strong>Strychnina</strong>&lt;sup&gt;1642&lt;/sup&gt;</th>
<th>Strychnine</th>
<th>Powder or pill</th>
<th>Tonic. Used in very small doses in cases of paralysis, where increased blood flow to the spinal cord will assist recovery. Larger doses are fatal.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sulphur baths</strong>&lt;sup&gt;1643&lt;/sup&gt;</td>
<td>Sulfur bath</td>
<td>Bath</td>
<td>A warm water bath, to which has been added potassium sulphate. Used to treat skin conditions such as leprosy.</td>
</tr>
<tr>
<td><strong>Suma</strong>&lt;sup&gt;1643&lt;/sup&gt;</td>
<td>Brazilian ginseng</td>
<td>Tonic</td>
<td>Used as a tonic to energise and relieve debility.</td>
</tr>
<tr>
<td><em>Pfaffia paniculata</em></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Tinctura cardamomi composita</strong>&lt;sup&gt;1644&lt;/sup&gt;</td>
<td>Compound tincture of cardamom</td>
<td>Tincture</td>
<td>Carminative or aromatic. Used to treat gastric conditions such as colic and flatulence, or added as an aromatic to other medicines.</td>
</tr>
<tr>
<td><strong>Tinctura ferri muriatis</strong>&lt;sup&gt;1645&lt;/sup&gt;</td>
<td>Tincture of muriate of iron</td>
<td>Solution</td>
<td>Tonic, astringent and diuretic. Used to treat conditions of the urinary organs.</td>
</tr>
<tr>
<td><strong>Tinctura opii</strong>&lt;sup&gt;1646&lt;/sup&gt;</td>
<td>Opium</td>
<td>Tincture</td>
<td>Anodyne. Used to relieve pain and sedate.</td>
</tr>
<tr>
<td><strong>Tinctura opii ammoniata</strong>&lt;sup&gt;1647&lt;/sup&gt;</td>
<td>Ammoniated tincture of opium</td>
<td>Tincture</td>
<td>Anodyne. Used to treat coughs, diarrhoea, gastrointestinal pains and to encourage sleep.</td>
</tr>
</tbody>
</table>


<table>
<thead>
<tr>
<th><strong>Tolutani</strong>&lt;sup&gt;1648&lt;/sup&gt;</th>
<th>Balsam Tolu</th>
<th>Tincture or syrup</th>
<th>Stimulant - expectorant and antiseptic. Used in respiratory and bronchial conditions, and externally to treat wounds and skin conditions.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Unguenta adipis suilla et gum leaves</strong></td>
<td>Lard and gum leaves</td>
<td>Ointment</td>
<td>Used to heal chronic ulcers.</td>
</tr>
<tr>
<td><strong>Unguenta astringent</strong>&lt;sup&gt;1649&lt;/sup&gt;</td>
<td>Astringent ointment</td>
<td>Ointment</td>
<td>Astringent ointment which decreases secretions of the skin.</td>
</tr>
<tr>
<td><strong>Unguenta hydrargyri</strong>&lt;sup&gt;1650&lt;/sup&gt;</td>
<td>Blue ointment</td>
<td>Ointment</td>
<td>Used to treat skin diseases. Comprised of mercury, lard and suet.</td>
</tr>
<tr>
<td><strong>Unguenta hydrargyri nitrate</strong>&lt;sup&gt;1651&lt;/sup&gt;</td>
<td>Citrine ointment</td>
<td>Ointment</td>
<td>Used to treat skin diseases. Comprised of mercury, nitric acid and lard.</td>
</tr>
<tr>
<td><strong>Unguenta lapis calaminaris</strong>&lt;sup&gt;1652&lt;/sup&gt;</td>
<td>Calamine</td>
<td>Ointment</td>
<td>Tonic. Used to treat skin conditions.</td>
</tr>
<tr>
<td><strong>Unguenta oxidi zinci</strong>&lt;sup&gt;1653&lt;/sup&gt;</td>
<td>Ointment of oxide of zinc</td>
<td>Ointment</td>
<td>Used to relieve skin irritations. Comprised of oxide of zinc and petrolatum.</td>
</tr>
<tr>
<td><strong>Unguenta scilla et gum leaves</strong>&lt;sup&gt;1654&lt;/sup&gt;</td>
<td>Bulb of sea onion and gum leaves</td>
<td>Ointment</td>
<td>Applied to the chest to relieve ‘chest dullness’.</td>
</tr>
</tbody>
</table>

<sup>1652</sup> Dunglison, *Medical Lexicon*, p. 123.
<table>
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<tr>
<th><strong>Scillae and eucalyptus globulus</strong></th>
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</table>

| **Unguenta simplex**<sup>1655</sup> | Simple ointment | Ointment | Lard and yellow wax melted together, cooled and applied to ulcers, blisters and other skin conditions. |
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| **Unguenta tartarized antimonii et adipis squilla** | Ointment of tartar emetic and squilla | Ointment | See Antimonii tartarized. |
|----------------------------------|

| **Venesectio**<sup>1656</sup> | Blood-letting (phlebotomy) | - | Used to restore the balance of humors in the body by reducing inflammation through slowing the pulse and circulation. |
|----------------------------------|

| **Vinum colchici seminis**<sup>1657</sup> | Wine of Colchicum Seed | Solution | Stimulating diuretic. Used as part of the treatment for acute attacks of rheumatism, gout or other neuralgic pain. See also Colchici. |
|----------------------------------|

| **Vinum ferri**<sup>1658</sup> | Wine of iron | Solution | Tartarated iron dissolved in sherry. Used to treat diarrhoea and cases of worms, particularly in children. |
|----------------------------------|

| **Vinum ipecacuanhae**<sup>1659</sup> | Wine of Ipecac | Solution | Emetic. Sometimes preferred to Ipecacuanha for infants or the debilitated. See also Pulveris ipecacuanha comp. |
|----------------------------------|

| **Vinum opii**<sup>1660</sup> | Wine of opium Sydenham’s laudanum | Solution | Anodyne. Opium, cinnamon, cloves and white wine is combined and used to relieve pain. Also used to contract inflamed vessels in the |
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<table>
<thead>
<tr>
<th><strong>Vinum rhei</strong>&lt;sup&gt;1661&lt;/sup&gt;</th>
<th>Wine of rhubarb</th>
<th>Solution</th>
<th>A mild stimulative laxative.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Yellow soap and water</strong></td>
<td>Resin soap and water</td>
<td>Solution</td>
<td>Yellow soap contains resin, and is syringed into the ear to clean the canal.</td>
</tr>
<tr>
<td><strong>Zinci sulphas</strong>&lt;sup&gt;1662&lt;/sup&gt;</td>
<td>Sulphate of zinc</td>
<td>Solution</td>
<td>Astringent. Used externally in cases of ophthalmia and ulceration, and internally as a purgative in instances of poisoning, and for other conditions such as epilepsy, hysteria and dysentery.</td>
</tr>
<tr>
<td><strong>Zinziber</strong>&lt;sup&gt;1663&lt;/sup&gt;</td>
<td>Ginger</td>
<td>Powder, pill or tincture</td>
<td>Tonic. Used as a weak gastrointestinal remedy to relieve pain and stimulate.</td>
</tr>
</tbody>
</table>

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<sup>1661</sup> Dunglison, *Medical Lexicon*, p. 791.
<sup>1663</sup> Risse, *Hospital Life*, p. 384, p. 144.
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