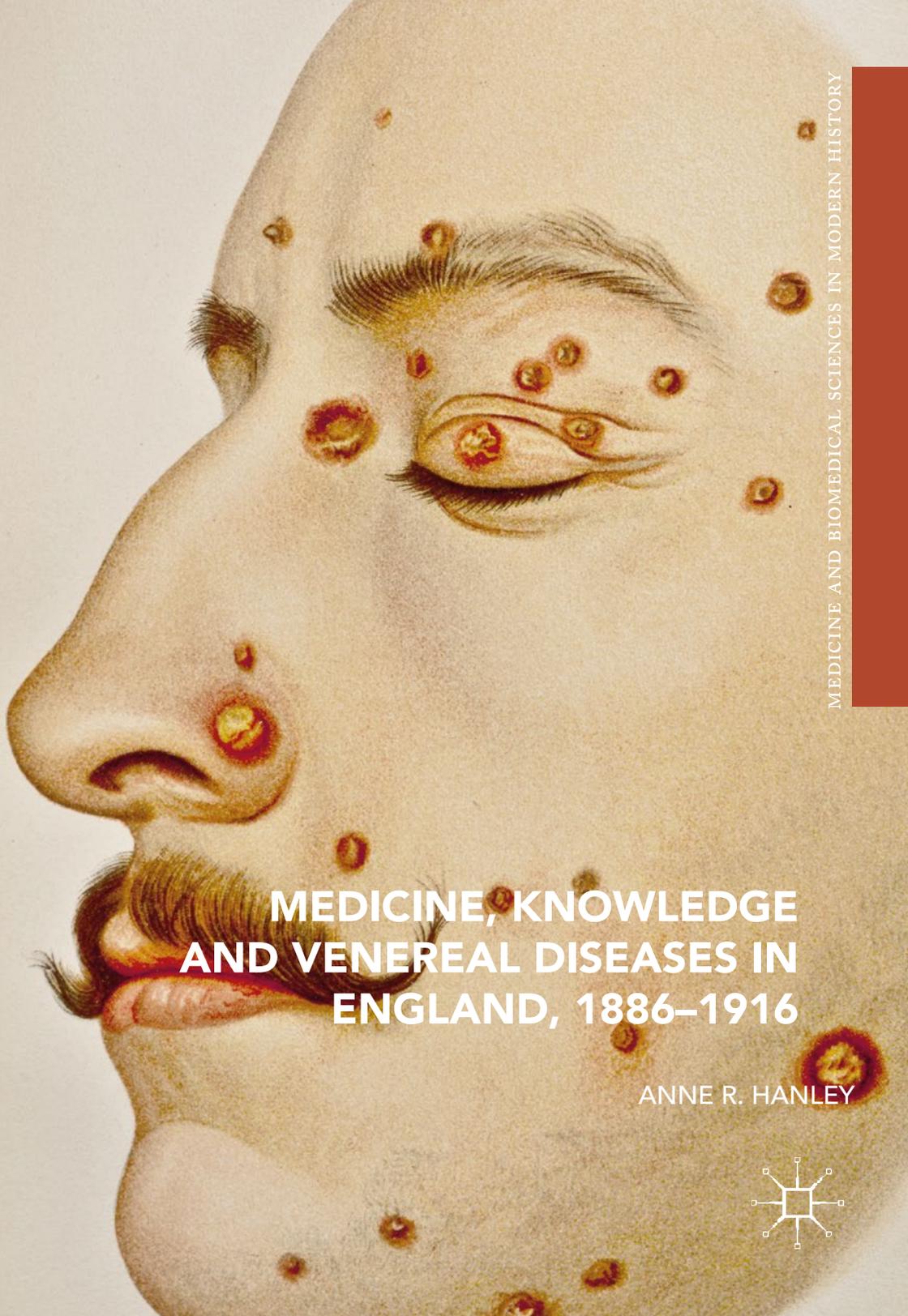


MEDICINE AND BIOMEDICAL SCIENCES IN MODERN HISTORY



**MEDICINE, KNOWLEDGE
AND VENEREAL DISEASES IN
ENGLAND, 1886–1916**

ANNE R. HANLEY



Medicine and Biomedical Sciences
in Modern History

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The aim of this series is to illuminate the development and impact of medicine and the biomedical sciences in the modern era. The series was founded by the late Professor John Pickstone, and its ambitions reflect his commitment to the integrated study of medicine, science and technology in their contexts. He repeatedly commented that it was a pity that the foundation discipline of the field, for which he popularized the acronym 'HSTM' (History of Science, Technology and Medicine) had been the history of science rather than the history of medicine. His point was that historians of science had too often focused just on scientific ideas and institutions, while historians of medicine always had to consider the understanding, management and meanings of diseases in their socio-economic, cultural, technological and political contexts. In the event, most of the books in the series dealt with medicine and the biomedical sciences, and the changed series title reflects this. However, as the new editors we share Professor Pickstone's enthusiasm for the integrated study of medicine, science and technology, encouraging studies on biomedical science, translational medicine, clinical practice, disease histories, medical technologies, medical specialisms and health policies. The books in this series will present medicine and biomedical science as crucial features of modern culture, analysing their economic, social and political aspects, while not neglecting their expert content and context. Our authors investigate the uses and consequences of technical knowledge, and how it shaped, and was shaped by, particular economic, social and political structures. In re-launching the Series, we hope to build on its strengths but extend its geographical range beyond Western Europe and North America. **Medicine and Biomedical Sciences in Modern History** is intended to supply analysis and stimulate debate. All books are based on searching historical study of topics which are important, not least because they cut across conventional academic boundaries. They should appeal not just to historians, nor just to medical practitioners, scientists and engineers, but to all who are interested in the place of medicine and biomedical sciences in modern history.

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and Venereal Diseases
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For my parents

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ABBREVIATIONS

<i>BJN</i>	<i>British Journal of Nursing</i>
BMA	British Medical Association
<i>BMJ</i>	<i>British Medical Journal</i>
CD Acts	Contagious Diseases Acts
CMB	Central Midwives Board
CPL	London County Council's Pathological Laboratory at Claybury Asylum
DCMA	Departmental Committee to Consider the Working of the Midwives Act
DCSBC	Departmental Committee on Sickness Benefit Claims Under the National Insurance Act
DCSPW	Departmental Committee on Nursing the Sick Poor in Workhouses
DPH	Diploma in Public Health
GMC	General Medical Council
GPI	General Paralysis of the Insane
IDNA	Infectious Disease (Notification) Act
LCC	London County Council
LGB	Local Government Board
LPC	London Postgraduate Course
LSA	Local Supervising Authority
LSTM	London School of Tropical Medicine
MGC	Medical Graduates' College and Polyclinic
MOH	Medical Officer of Health
NCCVD	National Council for Combatting Venereal Diseases
NHI	National Health Insurance Act
PDC	Interdepartmental Committee on Physical Deterioration
RAMC	Royal Army Medical Corps

xii ABBREVIATIONS

RCBDD	Royal Commission on the Blind, the Deaf and Dumb
RCPL	Royal Commission on the Poor Laws and Relief of Distress
RCUEL	Royal Commission on University Education in London
RCVD	Royal Commission on Venereal Diseases
SCMH	Select Committee on Metropolitan Hospitals, Provident and other Public Dispensaries and Charitable Institutions for Sick Poor
WLH	West London Hospital Postgraduate College

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Introduction

Late one evening an anxious Sir Francis Norton knocked at the door of Dr Horace Selby, a specialist with a ‘European reputation’. Selby had a large practice on Scudamore Lane. It was a secluded location for so prominent a medical man but in his particular field patients did not always see this as a disadvantage. Norton was shown into a spacious and well-appointed consulting room. On a table lay copies of the five books that Selby had written on the subject with which his name had become particularly associated.

Selby was a large man with an imposing presence but he had sympathetic eyes that could elicit his patients’ most shameful secrets. Those same patients found his bulk and dignity reassuring as if somehow hinting at past victories over disease and promising equal success in future cases. Before proceeding far with his examination, Selby enquired of his patient whether he could account for his current ill health. After much earnest protest from Norton, Selby continued his examination, starting with the serpiginous on the shin and moving up to the eyes and teeth. Selby became increasingly fascinated by his patient’s characteristic symptoms. He was writing a monograph on the subject and found it gratifyingly singular that Norton presented so well-marked a case. Selby had become so absorbed by the singularity of the case that he had all but forgotten the person standing before him. He soon collected himself when Norton asked for his medical opinion. However, Selby deemed it unnecessary to go into great clinical detail because he believed Norton would be none the wiser if

told that he had interstitial keratitis or showed signs of strumous diathesis. Selby would say only that Norton had ‘a constitutional and hereditary taint’.¹ Faced with social disgrace, Norton threw himself under the wheels of a dray shortly after leaving Selby’s consulting room.

Arthur Conan Doyle’s short story *Third Generation* is one of the few pieces of English fiction that drew upon the provocative subject of venereal diseases. Moreover, it is unique in its attention to the role of doctors in treating venereally diseased patients. Norton’s predicament and Selby’s clinical examination may have been fictional, but they were nonetheless grounded in real medical practices, ideas, debates and uncertainties that characterised English venereology around the turn of the twentieth century. The ‘hereditary taint’ to which Selby referred was the congenital transmission of syphilis. Norton demonstrated the interstitial keratitis, notched teeth and visual impairment that was characteristic of inherited syphilis. However, his case was unusual because, for Selby, it seemingly confirmed the contested theory of third-generation congenital infection. This was just one of many questions that surrounded the aetiology, diagnosis and treatment of venereal diseases around the turn of the twentieth century. As a doctor with a special interest in venereal diseases, Selby was professionally and intellectually intrigued by a unique example of a disease to which he had devoted his medical career.

The subject of venereal diseases in England, especially in the nineteenth and early twentieth centuries, is one that has preoccupied historians for many decades.² It encompasses important questions regarding medical knowledge and practice, public health policy, morality, eugenics, gender and sexuality. Historians have examined developments in venereological knowledge,³ critiqued cultural and moral reactions to venereal diseases,⁴ and assessed the effects of state and medical intervention upon the health and sexual practices of men and women of different social classes.⁵ The breadth and richness of existing scholarship makes attempting any fresh contribution particularly challenging. Yet there is one area that has received little attention and it is this area with which *Medicine, Knowledge and Venereal Diseases* is concerned: the development and circulation of knowledge claims, clinical practices and technologies among different groups of medical professionals.

Historians have offered increasingly sophisticated interpretations of venereal diseases as a social, as well as an epidemiological, problem.⁶ This approach allows us to appreciate the porous boundaries between science, medicine and society. However, it has sometimes contributed to a

reductive and arbitrary view of scientific, biological and clinical influences upon the development of venereological knowledge and its application in clinical practice. Doctors were unquestionably products of their social, moral and ideological milieu but a more judicious focus is needed. We must consider the combined professional and scientific forces that also influenced the development, circulation and application of venereological knowledge. Such an approach can best contextualise the study and clinical practice of medical professionals within a variety of interconnected professional and institutional frameworks to show how knowledge of venereal diseases was built up and how that knowledge was circulated.

Medicine, Knowledge and Venereal Diseases is bookended by two of the most significant moments in English venereology: the repeal of the Contagious Diseases (CD) Acts in 1886 and the conclusion of the Royal Commission on Venereal Diseases (RCVD) in 1916. These events represented important shifts in government policy and in the trajectory of English venereology. The intervening decades may well have been marked by an absence of government intervention but doctors, nurses and midwives continued to develop their venereological knowledge. This included the aetiological links between venereal diseases and a range of associated conditions, the development and adoption of new diagnostic and therapeutic technologies and the growing centrality of laboratory-based medicine. Investigatory committees and medical congresses also gave health officials and doctors opportunities to raise concerns over infection rates, inadequate sanitary and hospital provisions and the exclusion of venereal diseases from statutory notification. Despite an apparent ubiquity of references by historians to venereological knowledge among medical professionals, the precise content and modes of circulating this knowledge have been addressed neither systematically nor in detail. Rather, the contemporary historiography rests on a great deal of assumption.

This book offers a far more nuanced account of how medical professionals acquired, developed and applied their knowledge of venereal diseases. It is a study based upon surviving collections taken from royal commissions and departmental inquiries, medical texts and periodicals, hospital administrative records, teaching materials, examination papers and patient case notes. These sources represent only the tip of an indeterminate large iceberg of clinical work, research and professional debate surrounding venereal diseases in England between 1886 and 1916, the records for which have not survived. The sources used are those that best represent the development and circulation of venereological knowledge

among different groups of medical professionals and the application of this knowledge in their professional practice. It is a selective study, examining key channels through which they were able to develop their knowledge and skill. These were not the only educational and professional channels but they are the ones for which archival material has survived in the greatest quantity.

VENEREOLOGICAL KNOWLEDGE

Although *Medicine, Knowledge and Venereal Diseases* focuses on the work of medical professionals following the repeal of the CD Acts, it does acknowledge the ongoing influence of this legislation, especially in the attitudes of doctors towards clinical examinations and the aetiology and epidemiology of venereal diseases. By the time that the CD Acts were repealed, the English medical profession had answered a number of important questions regarding the pathology of syphilis and gonorrhoea. Gonorrhoea was increasingly acknowledged as a serious threat to the health and fertility of both men and women. Syphilis increasingly represented a serious threat to national efficiency and, through congenital transmission, the health of future generations. However, there was still much uncertainty, especially regarding modes of transmission, effective diagnostic and therapeutic practices and the aetiology of conditions such as tabes dorsalis and ophthalmia neonatorum.⁷ A growing awareness of the serious implications of gonorrhoea for women generated concern over the limitations of available treatments.⁸ By the 1880s and 1890s doctors also understood that mercurial treatments were limited in their efficacy against syphilis and even dangerous if given too frequently or in too high a concentration.⁹

Throughout the latter half of the nineteenth century, medical professionals relied upon the presence of well-defined and characteristic symptoms to diagnose cases of syphilis and gonorrhoea. In cases of gonorrhoea, doctors looked for discharge, urethritis and painful urination. Chancres, rashes, stricture, discharges, genital sores and the Hutchinsonian triad of interstitial keratitis, notched teeth and middle-ear deafness were among the common symptoms of acquired and congenital syphilis. Reliance upon such observable collections of symptoms was problematic, especially in asymptomatic or latent cases. The more ambiguous manifestations of syphilis, such as tertiary-stage neurological dysfunction, were difficult to accurately diagnose and aetiologically link to an underlying syphilitic infection. The asymptomatic presence of gonorrhoea, especially among

women, also meant that infection frequently went unregarded or was misdiagnosed until it became acute, potentially resulting in infertility and necessitating surgical intervention.

Medical professionals found themselves in a difficult ideological and legislative predicament. Changing knowledge of the transmissibility, aetiology and pathology of venereal diseases made them increasingly aware that, although regulationism had proven ineffective, some form of centralised medical intervention was necessary. Yet the measures implemented under the CD Acts had been stigmatising in their identification of venereally diseased persons as socially and morally deviant. *Medicine, Knowledge and Venereal Diseases* charts how a growing class of public health officials and medical professionals negotiated competing concerns for placating liberal sensibilities while implementing and consolidating more effective methods of diagnosis, treatment and prevention.

With developing epidemiological knowledge of syphilis and gonorrhoea, doctors became increasingly critical of what they saw as the cursory clinical practices employed under the auspices of the CD Acts. James Ernest Lane, surgeon to the London Lock Hospital, was among a growing number to concede that the process of compulsory inspection and treatment had been fundamentally flawed.¹⁰ These earlier empirical practices had not taken adequate account of the possibility that the patient had entered a latent stage of infection or that their symptoms were so obscure as to be overlooked. Complete reliance upon empirical diagnoses in the absence of serological or bacteriological testing risked periods of latency being misinterpreted as progress towards recovery. Sections of the medical profession therefore attempted to avoid what they viewed as an unscientific process by placing increasing emphasis on laboratory-based diagnostic and therapeutic practices.

The broad clinical and bacteriological developments that marked the final decades of the nineteenth century and the first decade of the twentieth century are well documented.¹¹ Historians have privileged continental developments, focusing on what J.E.R. McDonagh, surgeon to the London Lock Hospital, described as the ‘German syphilitic trinity’.¹² Albert Neisser had identified the *gonococcus* as the causative microorganism of gonorrhoea in 1879, while Fritz Schaudinn and Erich Hoffmann identified the *spirochæate pallida* as the causative microorganism of syphilis in 1905. In 1906 August Paul von Wassermann developed a complement-fixation test that would be widely adopted as a diagnostic test for syphilis. Between 1909 and 1912, Paul Ehrlich and Hideyo Noguchi developed

the arsphenamine compounds, salvarsan and neo-salvarsan (606 and 914, respectively), which were quickly adopted, first in combination with mercury and then as replacements for mercurial treatments.¹³ Considerable attention has been given to the place of the laboratory within a wider context of scientific medicine.¹⁴ However, only a handful of historians have considered how technologies like vaccine therapy, salvarsan and the serodiagnostic Wassermann reaction were integrated (or not integrated) into English medical education and clinical practice among wider circles of doctors, or how these technologies helped to augment their knowledge of venereal diseases.¹⁵

Historians have implicitly looked upon such continental developments as examples of a universal venereological knowledge, within which the nuances of study and treatment among English medical professionals have been unhelpfully subsumed. In order fully to appreciate the complex state of knowledge and clinical practice in England, we must focus instead on ongoing processes of knowledge development and circulation. England may have lagged behind its continental neighbours in terms of groundbreaking discoveries but it does not follow that English venereology was stagnating. There may have been a relative lack of government intervention following the repeal of the CD Acts but medical professionals nonetheless remained receptive to new ideas and appropriated knowledge of venereal diseases in unique ways. Indeed, the privileging of distinct national medical cultures (with idiosyncratic educational practices, professional publications and institutional structures), and the simultaneous identification of reciprocal knowledge exchange between these cultures helps to conceptualise the complexity of English venereology and its place within an international medical community.

The study of venereal diseases never constituted a single cohesive body of knowledge developed and circulated by a community of doctors with shared professional interests and equal levels of knowledge. Instead, it formed part of larger bodies of medical and scientific knowledge that were themselves constantly in flux and defined in any given period by the internal contradictions within specific localised clinical and research communities.¹⁶ Some historians have undertaken important localised studies of the medical ideas surrounding specific conditions such as hereditary syphilis, general paralysis of the insane (GPI), and gonorrhoeal infection among women and children.¹⁷ Most, however, have overlooked the nuanced layers of debate, uncertainty and inconsistency that characterised the wider study of venereal diseases.

Medicine, Knowledge and Venereal Diseases redresses these historiographical gaps by demonstrating that knowledge claims were formulated and debated by medical professionals who possessed diverse interests, varying levels of knowledge and different attitudes towards new ideas and technologies. Some, such as Jonathan Hutchinson, devoted much of their professional lives to the study of venereal diseases. In some ways, Selby, the fictional character with whom we began, represented someone very much like Hutchinson, England's foremost authority on venereal diseases. Yet, unlike Hutchinson, Selby specialised exclusively in this single field. Nineteenth- and early twentieth-century doctors would typically have been generalists with interests in one or more specialisms. They would have encountered and developed knowledge of venereal diseases simply in the course of their general practice, or in the pursuit of other specialisms such as dermatology or ophthalmology.

The adoption of new knowledge claims and clinical practices was never a smooth or universal process. Methods of knowledge production were many and varied, including clinical observation and laboratory research. Likewise, circulating this knowledge among medical professionals relied upon complementing didactic practices that included lectures, demonstrations, clinical work, publications and professional debate. It is difficult to draw conclusions about the quality of venereological practice among the silent majority of medical professionals, and to determine who, apart from those who wrote or lectured on the subject, were actively engaged in the study, diagnosis and treatment of venereal diseases. This book demonstrates that different ideas were held by different groups or individuals. The acquisition of new knowledge was heavily determined by the age, professional circumstances and personal motivations of individual medical professionals. Some may have been motivated by the prospect of professional advancement to remain abreast of new medical ideas and practices, but many were also reluctant to abandon established knowledge claims in favour of new developments.¹⁸ An understanding of this great variation in professional interests and skill is essential to appreciate the complex landscape of English venereology around the turn of the twentieth century.

While *Medicine, Knowledge and Venereal Diseases* does not seek to address the findings of the RCVD or the implementation of its recommendations, the testimony of its eighty-five expert witnesses does, importantly, demonstrate the diversity of interests and levels of knowledge held by different groups of medical professionals.¹⁹ The RCVD forms the spine of this book with collections of medical texts, articles, official

reports and archival sources from various institutions and organisations acting as supplementary material.²⁰ Its detailed testimony addressed a variety of important issues. These included the training of pupil midwives, nursing probationers and undergraduate medical students; private and institutional venereological practice; and public health policy. It presents historians with a wide variety of opinions on the state of venereological education and clinical practice at the time of the RCVD and the ways that this practice had changed over the preceding decades. This testimony articulated clinical and educational practices that were intuitive or under-defined in other sources. Witnesses were remarkably candid, providing information that is not available elsewhere. However, like many of the sources available to historians, the RCVD was dominated by elite medical professionals, such as Malcolm Morris and Frederick W. Mott. They were called to give evidence because they were conducting research into venereal diseases, or because their vast experience was thought to make them authorities on venereal diseases or related fields. Their evidence articulated specialist medical thought and outlined the policies and ideal standards of training and practice advocated on an institutional level.

Historians have traditionally focused on clinical work, research and professional exchanges among such medical elites—the result of a limited collection of sources written by a small group of men with specialist interests. It is particularly difficult to determine the nature of doctor–patient interactions in cases of venereal diseases where social and moral stigma made confidentiality imperative. Records for the majority of clinical encounters with general practitioners, nurses and midwives have not survived. But by focusing on the work of medical elites, historians have neglected the institutional mechanisms that facilitated the circulation of new technologies and knowledge claims, and their assimilation into everyday practice. Such a focus discounts the integral process of professional discussion, disagreement and error that facilitated knowledge production.²¹ It is easy to forget that medical professionals were, as Ludwik Fleck observed, members of larger medical communities and that medical developments were products of an ongoing process of study and knowledge exchange within those communities.²²

Medicine, Knowledge and Venereal Diseases aims (as far as possible) at a cross-sectional study of venereological practice and the means by which doctors, nurses and midwives attempted to improve their knowledge and clinical skill. It looks at the work of prominent medical men but contextualises that work within wider professional networks and educational

structures. At the same time, it examines how rank-and-file medical professionals utilised these frameworks to suit their own professional needs and interests. It examines how new ideas and technologies gained purchase and were incorporated into patient care. This process of knowledge production and circulation was not unique to venereal diseases. Yet the development of new ideas and technologies in the care of venereally diseased patients offers an important and interesting lens through which to consider wider shifts in medical education, professionalisation and patient care.

GENERALISM VERSUS SPECIALISM

Although venereal diseases appeared in various undergraduate and postgraduate courses, they did not constitute a theoretically coherent and contained specialism. The study of venereal diseases was usually compartmentalised within other medical disciplines, such as dermatology, ophthalmology and pathology, which were intended to develop the generalist knowledge and skills of students.²³ Students were expected to qualify with a sound generalist education that could be later augmented through additional study and clinical experience. Although postgraduate medical institutions were more receptive to specialist study, attempts at venereological education were nonetheless conducted on a small scale. These limitations have, however, been systematically overlooked by historians who (for the sake of historiographical simplicity) have preferred to assume that rank-and-file doctors possessed an adequate working knowledge of the symptoms of venereal diseases as well as the basic treatments available to patients. Comparatively little scholarly attention has been given to the particulars of the medical curriculum. Historians have tended to conceptualise medical education as part of a continuous progression towards modern pedagogy without considering the problems attendant upon that education or the challenges faced by students.²⁴ The emergence of specialisms has similarly been viewed within a framework of professionalisation that was marked by the consolidation of medical authority, the increasing exclusivity of knowledge and skill and progression towards modern medical practice.²⁵

Despite such limitations, institutionalised medical education was central to the development and circulation of venereological knowledge.²⁶ The inconsistencies and gaps in this knowledge should therefore be viewed within a context of wider problems facing undergraduate and

postgraduate medical education. Resistance towards venereological training reflected what George Weisz has identified as a wider opposition to the teaching of medical specialisms as distinct subjects of undergraduate study.²⁷ Even towards the end of the nineteenth century, when specialisms were emerging as distinct and important disciplines within an integrated body of medical knowledge and practice, the place of venereal diseases remained problematic. In contrast to continental clinicians, such as Alfred Fournier, who expressly defined themselves as venereologists or syphilologists, English contemporaries remained ambivalent about such professional classification and continued to supplement specialist interests with general practice.²⁸ It was feared that doctors whose specialist interests were too narrow would unconsciously reduce their patients to a collection of symptoms and proceed to focus on those symptoms rather than treating the whole patient, as Selby did to Norton.

Histories of specialisms have tended to focus on those disciplines that gained specialist status and on those doctors with special interests who were directly responsible for, or affected by, the development of a particular specialism.²⁹ Few historians have considered how the compartmentalisation of medicine, along with the identification of certain knowledge as specialist, affected the training and practice of general practitioners.³⁰ Neither have they considered why doctors, having trained in a system that espoused generalism, went on to seek postgraduate study. Yet the emergence of specialisms within a prevailing landscape of generalist medical education and practice greatly influenced the degree of venereological knowledge available to general practitioners. These special disciplines affected how doctors were taught about venereal diseases as undergraduates, how they were able to augment that knowledge through institutionalised postgraduate study and how they were able to diagnose and treat their patients.

Debate over, and resistance towards, the institutionalisation of specialisms such as venereal diseases reveals much about the limitations and categorisation of medicine at the turn of the twentieth century. That venereal diseases were not elevated to the level of specialism is not indicative of apathy or moral aversion. Rather, the increasingly prominent place of venereal diseases within wider specialisms suggests that doctors were becoming more aware of the pervasive influence of venereal diseases upon different structures and functions within the body. The study and practice of venereology was greatly facilitated by the different specialist subjects and departments in which undergraduate students and qualified doctors could

expect to encounter venereally diseased patients. The more that English doctors understood about the different ways that venereal diseases could manifest themselves, the more these diseases seemed unsuitable to be taught as a self-contained specialism. Such compartmentalisation acknowledged the importance of venereal diseases and their serious effects upon multiple structures and functions within the body while simultaneously subordinating them to the study of other disciplines.³¹

MEDICAL AUTHORITY AND GENDERED PROFESSIONAL BOUNDARIES

As in other branches of medicine, developments in the field of venereal diseases were assessed according to their diagnostic and therapeutic value. Yet little attention has been given to the movement of new diagnostic and therapeutic technologies beyond specialist professional circles and into general practice. Few historians have made more than passing references to the effect of limited knowledge among doctors, nurses and midwives upon the diagnosis and treatment of their venereally diseased patients.³² Much attention has been given in recent decades to the centrality of the diagnostic process but the problems attendant upon accurately diagnosing venereal diseases using empirical or early laboratory-based methods have remained largely unaddressed.³³ Doctors may have legitimated their authority and sought professional advancement through the acquisition of specialist knowledge but the limitations of this knowledge and its implications for diagnostic accuracy, effective treatment and general patient care warrant further investigation.³⁴

Historians have tended to focus on the recipients, rather than the providers, of medical attention. Histories of venereal diseases have attempted to rescue the patient from the assumed mistreatment and condescension of medical professionals and the state.³⁵ At the heart of these critiques is the assumption that patient agency, especially among the working classes, was subordinated to medical authority, specifically male medical authority. It was a hierarchy of assumed medical knowledge and clinical skill. Yet with only a handful of exceptions, medical professionals continue to occupy the negative space in historiographical studies of venereal diseases.³⁶ This relative absence of professional experiences is reductive. Any examination of venereal diseases is incomplete without attention to the clinical and educational experiences of doctors, nurses and midwives.

A focus on patient subordination to medical authority obscures the uncertainties, disagreements and errors that pervaded clinical practice. The little attention given to the role of medical professionals in caring for patients with syphilis and gonorrhoea has focused on those male doctors (often medical elites) who wrote and lectured on the subject. As in wider histories of medical education and practice, this prevailing focus on male medical authority overshadows the contributions of, and acquisition of knowledge among, nurses, midwives and women doctors.³⁷ Historical scholarship has focused on reform, professionalisation and professional identity among nurses and midwives, rather than the particulars of training and clinical practice, especially in relation to specific disease categories.³⁸ Historians have rarely considered the dynamics of knowledge dissemination from doctors to nurses and midwives, nor the reasons why some pieces of practical and theoretical knowledge were considered unsuitable. To appreciate the complex landscape of English venereology we must understand how medical women acquired knowledge of venereal diseases, and how they used that knowledge to care for their patients.

With the exception of Irish institutions, most British universities and teaching colleges excluded qualified women doctors from postgraduate study.³⁹ However, surviving sources suggest that female medical students were exposed to the same foundational venereological knowledge as their male counterparts. Women doctors, such as Florence Willey and Mary Scharlieb, encountered venereal cases in the course of general practice and in specialisms such as obstetrics and gynaecology.⁴⁰ Likewise, nurses, such as Albinia Broderick and Amy Hughes, were caring for venereally diseased persons in hospitals and Poor Law institutions, and received some theoretical knowledge of venereal diseases.⁴¹ Midwives, such as Christina Sutherland and Sarah Harvey, were taught about congenital syphilis and expected to care for children with gonorrhoeal ophthalmia neonatorum.

Women may have been professionally hampered by a persisting conceptualisation of gender-normative behaviour, but the image of an oppressive medical patriarchy, denying women all knowledge of these diseases, is not wholly persuasive.⁴² *Medicine, Knowledge and Venereal Diseases* demonstrates that attitudes towards female venereological study and practice are explained far more satisfactorily through reference to wider professional debates over the encroachment of women into emerging fields of specialist knowledge or the threat posed by midwives and nurses to traditional spheres of male medical practice. This framework of professional competition helps to explain why women doctors were excluded from

postgraduate study, why certain pieces of knowledge were withheld from nurses and midwives, and why restrictions were placed upon the work of these female medical professionals.

MEDICINE, KNOWLEDGE AND VENEREAL DISEASES

The foci of this book are the institutional structures that facilitated the study of venereal diseases and provided opportunities for the circulation of, and debate over, new knowledge claims, technologies and clinical techniques. Chapters are arranged thematically according to the different but heavily interconnected frameworks of educational and professional practice available to medical professionals.

Each chapter addresses the work of key professional groups, as well as some of the more significant debates surrounding venereal diseases. These included debates over the use of salvarsan; the reliability of microscopical testing and the Wassermann reaction; and the identification of the *gonococcus* and *spirochete* as the causative microorganisms of various gonorrhoeal and syphilitic conditions, such as ophthalmia neonatorum and tabes dorsalis. In undertaking such a study, this book attempts to answer a number of key questions. How were such debates addressed in the education of medical students and how were they received within professional circles? How did doctors incorporate specialist venereological interests into their teaching of medical students? What was the scope and nature of their professional practice and how did their clinical experience influence their teaching? For example, it is important to understand the extent to which students were taught about the Wassermann reaction and why limitations were placed on the teaching of this diagnostic technology at an undergraduate level. But it is also important to understand what different medical professionals knew about the reaction and the role that this diagnostic technology played in debates over the relationship between syphilis and conditions like tabes dorsalis. The thematic arrangement of chapters allows for just such a detailed examination of the different ways that medical professionals were able to acquire venereological knowledge and clinical experience.

Medical education was inextricably bound up with clinical practice and, eventually, laboratory research.⁴³ The relationship between venereological education and practice was reciprocal. Developments in medical science gradually permeated educational practice. Changes in educational practice in turn produced younger generations of scientifically trained

medical professionals, some of whom would go on to augment an existing body of venereological knowledge. Spheres of education, practice and research were (and remain) inseparable. Yet, for reasons of thematic clarity, processes of knowledge production and circulation have nonetheless been divided between each chapter.

Chapter 2 examines the organisation and limitations of venereological teaching among undergraduates. The undergraduate study of venereal diseases constitutes an important case study for wider concerns over the quality of education and the training of competent generalists. How much should students be taught about any specific disease category? Was the study of venereal diseases essential to their generalist training? Much of the source material used in this chapter is taken from the testimony of the RCVD. Those who were questioned about the state of undergraduate training were heavily involved with teaching at their respective hospitals. While they may not have been able to judge how readily students assimilated information about the diagnosis and treatment of venereal diseases, they were able to speak with authority about the training available to students.

Having established the place of venereal diseases on the undergraduate curriculum, Chapter 3 moves on to the opportunities available to doctors who wanted to augment or refresh their knowledge. It examines the emergence of postgraduate education at the end of the nineteenth century and its effect upon the study of venereal diseases, and contextualises these issues within a wider framework of emerging specialisms. If undergraduate medical education was reflective of a wider privileging of generalist training and practice, then postgraduate education was a means of forging a new frontier of medical knowledge available through specialist study and practice. Chapter 3 addresses the gaps in venereological knowledge that postgraduate study was attempting to fill.

The rise of laboratory medicine and developing understandings of bacteriology and pathology fundamentally altered the way that doctors thought about, diagnosed and treated venereal diseases. Chapter 4 reveals how developments in laboratory-based research influenced the trajectory of venereological knowledge and practice among medical elites and, as far as possible, among general practitioners before the First World War. It examines the accessibility of the diagnostic and therapeutic developments of vaccine therapy, salvarsan and the Wassermann reaction. In so doing this chapter demonstrates the place of venereal diseases within wider frameworks of medical knowledge and practice, and the extent to which

new laboratory-based knowledge claims permeated day-to-day clinical practice.

In the absence of centralised state objectives or policies, responsibility for diagnosis, treatment and prevention fell to medical professionals whose work was conducted on a largely individual or institutional basis. Chapter 5 offers a mosaic of medical practice, examining the nature and limitations of the venereological work conducted by Medical Officers of Health, club and panel doctors and Poor Law medical officers. These are situated within wider frameworks of healthcare provisions. Although not the only professional channels through which doctors encountered venereal diseases, they constituted important case studies for the ways that venereal diseases were studied, diagnosed and treated.

The final chapters leave behind the work of doctors to consider how nurses and midwives engaged with venereally diseased patients, and how they were able to acquire and apply their own venereological knowledge. By examining the work of nurses and midwives, these chapters redress a historiographical gap and offer a different perspective on the care of patients. Given that sources pertaining to female medical involvement in the treatment and study of venereal diseases are comparatively scant, these chapters provide an important counterpoint to an otherwise predominantly male sphere of clinical research and practice.

Chapter 6 contextualises the limitations of venereological study among nurses within a wider framework of professionalism and knowledge circulation. Nurses at some training schools received specific (if not specialised) instruction, while others were left almost ignorant of the symptoms of, and treatments for, venereal diseases. These inconsistencies and gaps in the practical and theoretical knowledge circulated among nurses were indicative of more than just prudishness. They were also part of a wider context of inadequate medical training and the division of knowledge according to professional hierarchies. Chapter 6 demonstrates how knowledge of venereal diseases could be circumscribed professionally and morally, according to what pieces of information doctors deemed suitable for consumption by probationers and nurses. Some knowledge was vital, but too much was detrimental to the health of patients, the hierarchical structure of patient care and the professional territory of doctors.

Although various manifestations of venereal diseases are addressed throughout this book, Chapter 7 offers a detailed account of how knowledge developed around one specific condition—gonorrhoeal ophthalmia neonatorum—and how two different groups of medical professionals were

trained to care for infants with this condition. Not only has ophthalmia neonatorum received little attention in histories of venereal diseases but the training and practice of midwives and doctors who cared for infants with this condition has also been overlooked. Yet it constitutes an important case study for the limitations in theoretical knowledge available to midwives, and for the professional and disciplinary boundaries imposed upon midwifery practice following the passing of the Midwives Act in 1902 and the establishment of the Central Midwives Board.

Medicine, Knowledge and Venereal Diseases reconstructs the complex and constantly changing landscape of English venereology around the turn of the twentieth century. In so doing it makes a number of particularly important contributions. For example, doctors who used an emerging system of postgraduate training to remain abreast of new ideas and technologies helped to break down the notion that medical education ended when a student passed their qualifying examinations. Similarly, nurses and midwives drew upon informal networks of shared knowledge and experience to circumvent the limitations of their formal practical and theoretical instruction. In examining these and other professional frameworks, this book displays the vast amount of unobserved work among medical students, nurses, midwives and rank-and-file doctors that was instrumental in constructing knowledge of venereal diseases as well as their more remote sequelæ. This clinical work was not without its challenges. At the turn of the twenty-first century, a richer appreciation of the uncertainties and challenges that characterise medicine, along with a more informed understanding of the ways that medical professionals attempted to overcome such uncertainties and challenges in the past, is essential. The following chapters look in detail at the key ways that different professional groups met those challenges, and attempted to augment their knowledge and that of their medical contemporaries.

NOTES

1. Arthur Conan Doyle, *Round the Red Lamp: Being Facts and Fancies of Medical Life* (London: John Murray, 1894), 46–64.
2. By the late-nineteenth century, syphilis and gonorrhoea were understood as distinct pathological entities but, as Michael Worboys argues, ‘venereal disease’ remained ‘a singular moral and political construct largely defined by syphilis’ and continued to be used as a classificatory term well into the twentieth century. The term ‘venereology’ was used (albeit infrequently)

- prior to the First World War and is also used in this book as an expedient term to describe the study, diagnosis and treatment of venereal diseases. See Michael Worboys, 'Unsexing Gonorrhoea: Bacteriologists, Gynaecologists, and Suffragists in Britain, 1860–1920', *Social History of Medicine* (2004), 45.
3. J.D. Oriel, *The Scars of Venus: A History of Venereology* (London: Springer-Verlag, 1994); Gayle Davis, *The Cruel Madness of Love: Sex, Syphilis and Psychiatry in Scotland, 1880–1930* (Amsterdam: Rodopi, 2008); Robert Darby, "'Where Doctors Differ": The Debate on Circumcision as a Protection against Syphilis', *Social History of Medicine* (2003): 57–78; Allan Brandt, *No Magic Bullet: A Social History of Venereal Disease in the United States Since 1880* (Oxford: Oxford University Press, 1987).
 4. Mary Spongberg, *Feminizing Venereal Disease: The Body of the Prostitute in Nineteenth-Century Medical Discourse* (New York: New York University Press, 1997); Lesley Hall, *Sex, Gender and Social Change in Britain since 1880* (London: MacMillan Press, 2000).
 5. Judith Walkowitz, *Prostitution and Victorian Society: Women, Class, and the State* (Cambridge: Cambridge University Press, 1982); Lucy Bland, "'Guardians of the Race" or "Vampires upon the Nation's Health"? Female Sexuality and its Regulation in Early Twentieth-Century Britain', Elizabeth Whitelegg (ed.), *The Changing Experience of Women* (Oxford: Martin Robertson, 1982), 373–88; Peter Baldwin, *Contagion and the State in Europe, 1830–1930* (Cambridge: Cambridge University Press, 1999), 355–523; Philippa Levine, *Prostitution, Race and Politics: Policing Venereal Disease in the British Empire* (New York: Routledge, 2003); Julia Laite, *Common Prostitutes and Ordinary Citizens: Commercial Sex in London, 1885–1960* (London: Palgrave Macmillan, 2012); E. M. Sigsworth and T.J. Wyke, 'A Study of Victorian Prostitution and Venereal Disease', Martha Vicinus (ed.), *Suffer and Be Still: Women in the Victorian Age* (Bloomington: Indiana University Press, 1973), 78–100; Theodore Rosebury, *Microbes and Morals: The Strange Story of Venereal Disease* (London: Secker and Warburg, 1971).
 6. Charles E. Rosenberg, 'Framing Disease: Illness, Society and History', Charles E. Rosenberg and Janet Golden (eds), *Framing Disease: Studies in Cultural History* (New Brunswick: Rutgers University Press, 1992); Rhodri Hayward, "'Much Exaggerated": The End of the History of Medicine', *Journal of Contemporary History* (2005): 167–78; Roger Cooter, 'Anticontagionism and History's Medical Record', Peter Wright and Andrew Treacher (eds), *The Problem of Medical Knowledge: Examining the Social Construction of Medicine* (Edinburgh: Edinburgh University Press, 1982): 87–108; Ludmilla Jordanova, 'Has the Social History of Medicine Come of Age?', *The Historical Journal* (1993): 437–49; Ludmilla

- Jordanova, 'The Social Construction of Medical Knowledge', *Social History of Medicine* (1995): 361–81; Jan Golinski, *Making Natural Knowledge: Constructivism and the History of Science* (Chicago: University of Chicago Press, 2005); David Harley, 'Rhetoric and the Social Construction of Illness and Healing', *Social History of Medicine* (December 1999): 407–35.
7. Tabes dorsalis was a tertiary-stage manifestation of syphilis and was marked by the slow deterioration of the spinal cord nerves that carried sensory information to the brain. Symptoms could include visual impairment, diminished reflexes, incoordination and unsteady gait, sporadic sharp pains throughout the body, personality changes, dementia, deafness, rectal crises and sexual dysfunction. Ophthalmia neonatorum was an infective form of neonatal conjunctivitis, often caused by the transmission of *gonococci*. It was identifiable by redness, swelling and discharge of matter from a child's eyes. If left untreated ophthalmia neonatorum could result in complete or partial blindness.
 8. Anne Hanley, "'The Great Foe to the Reproduction of the Race": Diagnosing and Treating Venereal Diseases-Induced Infertility, 1880–1914', Tracey Loughran and Gayle Davis (eds), *Infertility in History: Approaches, Contexts and Perspectives* (London: Palgrave Macmillan, forthcoming); Worboys, 'Unsexing Gonorrhoea'.
 9. Alfred Cooper, *Syphilis and Pseudo-Syphilis* (London: J. and A. Churchill, 1884), 440–70; Michael Worboys, 'Was There a Bacteriological Revolution in Late Nineteenth-Century Medicine?' *Studies in History and Philosophy of Biological and Biomedical Sciences* (2006), 28.
 10. James E. Lane, *The Prophylaxis of Venereal Diseases: A Paper Read Before the London Medical Graduates College and Polyclinic, December 10, 1906* (London: John Bale, Sons and Danielson, 1907).
 11. W.F. Bynum, *Science and the Practice of Medicine in the Nineteenth Century* (Cambridge: Cambridge University Press, 1994); Dorothy Porter, *Health, Civilisation and the State: A History of Public Health from Ancient to Modern Times* (London: Routledge, 1999); Michael Worboys, *Spreading Germs: Disease Theories and Medical Practice in Britain, 1865–1900* (Cambridge: Cambridge University Press, 2000); Worboys, 'Was There a Bacteriological Revolution?'
 12. J.E.R. McDonagh, *Venereal Diseases: Their Clinical Aspect and Treatment* (London: Heinemann, 1920), 5; Jill Harsin, 'Syphilis, Wives, and Physicians: Medical Ethics and the Family in Late Nineteenth-Century France', *French Historical Studies* (1999): 72–95; Bernard Witkop, 'Paul Ehrlich and His Magic Bullet, Revisited', *Proceedings of the American Philosophical Society* (December 1999): 540–57; Ludwik Fleck, *Genesis and Development of a Scientific Fact* (Chicago: University of Chicago Press,

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13. For an overview of these and other significant venereological developments see Oriel, *The Scars of Venus*.
 14. See, for example, Andrew Cunningham, 'Transforming Plague: The Laboratory and the Identity of Infectious Disease', Andrew Cunningham and Perry Williams (eds), *The Laboratory Revolution in Medicine* (Cambridge: Cambridge University Press, 1992), 209–44; L.S. Jacyna, 'The Laboratory and The Clinic: The Impact of Pathology on Surgical Diagnosis in the Glasgow Royal Infirmary, 1875–1910', *Bulletin of the History of Medicine* (1988): 384–406; Rosemary Wall, *Bacteria in Britain, 1880–1939* (London: Pickering and Chatto, 2013); James Stark, *The Making of Modern Anthrax, 1875–1920* (London: Pickering and Chatto, 2013); Terrie M. Romano, *Making Medicine Scientific: John Burdon Sanderson and the Culture of Victorian Science* (Baltimore: Johns Hopkins University Press, 2002); Jacob Steere-Williams, 'Performing State Medicine during its "Frustrating" Years: Epidemiology and Bacteriology at the Local Government Board, 1870–1900', *Social History of Medicine* (2014), 82–107.
 15. Michael Worboys, 'Vaccine Therapy and Laboratory Medicine in Edwardian Britain', John Pickstone (ed.), *Medical Innovations in Historical Perspective* (London: Macmillan, 1992), 84–103; J.E. Ross and S.M. Tomkins, 'The British Reception of Salvarsan', *Journal of the History of Medicine and Allied Sciences* (1997): 398–423; Pauline M.H. Mazumdar, "'In the Silence of the Laboratory": The League of Nations Standardises Syphilis Tests', *Social History of Medicine* (2003): 437–59; Simon Szreter, 'The Prevalence of Syphilis in England and Wales on the Eve of the Great War: Revisiting the Estimates of the Royal Commission on Venereal Diseases 1913–1916', *Social History of Medicine* (2014): 508–29; Worboys,

- 'Vaccine Therapy and Laboratory Medicine in Edwardian Britain'; Worboys, 'Unsexing Gonorrhoea'; Davis, *The Cruel Madness of Love*; Fleck, *Genesis and Development of a Scientific Fact*.
16. Bruno Latour, 'A Textbook Case Revisited: Knowledge as a Mode of Existence', Edward J. Hackett et al. (eds), *The Handbook of Science and Technology Studies* (Massachusetts: MIT Press, 2007), 83–112.
 17. Elizabeth Lomax, 'Infantile Syphilis as an Example of Nineteenth-Century Belief in the Inheritance of Acquired Characteristics', *Journal of the History of Medicine* (1979): 23–39; Roger Davidson, *Dangerous Liaisons: A Social History of Venereal Disease in Twentieth-Century Scotland* (Amsterdam: Rodopi, 2000); Anne Hanley, "'Scientific Truth into Homely Language": The Training and Practice of Midwives in Ophthalmia Neonatorum, 1895–1914', *Social History of Medicine* (2014): 199–220; Worboys, 'Unsexing Gonorrhoea'; Davis, *The Cruel Madness of Love*.
 18. Jay Cassel, *The Secret Plague: Venereal Disease in Canada 1838–1939* (Toronto: University of Toronto Press, 1987), 38.
 19. Royal Commission on Venereal Diseases, PP 1913–16 Cd 7475 (Appendix to First Report of the Commissioners, Minutes of Evidence); Cd 8190 (Appendix to Final Report of the Commissioners, Minutes of Evidence); Cd 8189 (Final Report).
 20. Established in 1913 with the Final Report published in 1916, the Royal Commission on Venereal Diseases was intended to 'inquire into the prevalence of venereal diseases in the United Kingdom, their effects upon the health of the community, and the means by which those effects [could] be alleviated or prevented.' It was also 'understood that no return to the Contagious Diseases Acts of 1864, 1866 or 1896 [was] to be regarded as falling within the scope of this inquiry.' Royal Commission on Venereal Diseases, PP 1913–16 Cd 8189 (Final Report), iii.
 21. Worboys, 'Was There a Bacteriological Revolution?' 26.
 22. Fleck, *Genesis and Development of a Scientific Fact*.
 23. George Rosen, *The Specialization of Medicine: With Particular Reference to Ophthalmology* (New York: Froben Press, 1944); Roger Cooter, *Surgery and Society in Peace and War: Orthopaedics and the Organisation of Modern Medicine, 1880–1948* (London: Macmillan Press, 1993); Ornella Moscucci, *The Science of Woman: Gynaecology and Gender in England, 1800–1929* (Cambridge: Cambridge University Press, 1990); George Weisz, *Divide and Conquer: A Comparative History of Medical Specialisation* (Oxford: Oxford University Press, 2006).
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- and Careers* (Manchester: Manchester University Press, 2012); Godelieve van Heteren, 'Students Facing Boundaries: The Shift of Nineteenth-Century British Student Travel to German Universities and the Flexible Boundaries of a Medical Educational System', Vivian Nutton and Roy Porter (eds), *The History of Medical Education in Britain* (Amsterdam: Rodopi, 1995), 280–340; David S. Jones, Jeremy A. Greene, Jacalyn Duffin and John Harley Warner, 'Making the Case for History in Medical Education', *Journal of the History of Medicine and Allied Sciences* (2014): 623–52.
25. Irvine Loudon, 'Medical Education and Medical Reform', Vivian Nutton and Roy Porter (eds), *The History of Medical Education in Britain* (Amsterdam: Rodopi, 1995), 229–49; A.L. Mansell, 'Examinations and Medical Education: The Preliminary Sciences in the Examinations of London University and the English Conjoint Board, 1861–1911', Roy MacLeod (ed.), *Days of Judgement: Science, Examinations and the Organisation of Knowledge in Late-Victorian England* (Cheshire: Studies in Education, 1982), 87–109; Charles Newman, *The Evolution of Medical Education in the Nineteenth Century* (Oxford: Oxford University Press, 1957); Charles Newman, 'The Rise of Specialism and Postgraduate Education', F.N.L. Poynter (ed.), *The Evolution of Medical Education in Britain* (London: Pitman Medical Publishing, 1966), 169–93; Thomas N. Bonner, *Becoming a Physician: Medical Education in Britain, France, Germany and the United States, 1750–1945* (Oxford: Oxford University Press, 1995).
 26. See, for example, Anne Hanley, 'Venereology at the Polyclinic: Postgraduate Medical Education among General Practitioners in England, 1899–1914', *Medical History* (2015): 199–221.
 27. George Weisz, 'The Emergence of Medical Specialisation in the Nineteenth Century', *Bulletin of the History of Medicine* (2003), 536–75.
 28. Alfred Fournier, *Syphilis and Marriage* (London: David Bogue, 1881); Alfred Fournier, *Syphilis and the Nervous System: Being a Revised Reprint of the Lettsomian Lectures for 1890 Delivered Before the Medical Society of London* (London: Churchill, 1892).
 29. Lindsay Granshaw, *St Mark's Hospital, London: A Social History of a Specialist Hospital* (London: Oxford University Press, 1985); Stella V.F. Butler, 'Science and the Education of Doctors in the Nineteenth Century: A Study of British Medical Schools with Particular Reference to the Development and Uses of Physiology' (unpublished PhD thesis, University of Manchester, 1981); Stevens, *Medical Practice in Modern England*; Weisz, *Divide and Conquer*; Rosen, *The Specialization of Medicine*.

30. Anne Digby, *The Evolution of British General Practice, 1850–1948* (Oxford: Oxford University Press, 1999), 287–305.
31. Claude Quétel, *History of Syphilis* (London: Polity Press, 1992).
32. Gayle Davis is an important exception but her work on misdiagnosis focuses specifically on the problems of psychiatric assessment in cases of neurosyphilis. See Davis, *The Cruel Madness of Love*.
33. Notable exceptions include Victoria Bates, “‘So Far as I Can Define without a Microscopical Examination’: Venereal Disease Diagnosis in English Courts, 1850–1914”, *Social History of Medicine* (2013): 38–55; Elliott Bowen, ‘Limits of the Lab: Diagnosing “Latent Gonorrhoea”, 1872–1910’, *Bulletin of the History of Medicine* (2013): 63–85; Szreter, ‘The Prevalence of Syphilis in England and Wales on the Eve of the Great War’; Worboys, ‘Unsexing Gonorrhoea’.
34. Nancy M. Theriot, ‘Women’s Voices in Nineteenth-Century Medical Discourse: A Step toward Deconstructing Science’, *Signs* (1993): 1–31; Nancy M. Theriot, ‘Negotiating Illness: Doctors, Patients and Families in the Nineteenth Century’, *Journal of the History of Behavioural Sciences* (2001): 349–68.
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36. Anne Crowther and Marguerite Dupree, ‘The Invisible General Practitioner: The Careers of Scottish Medical Students in the Late-Nineteenth Century’, *Bulletin of the History of Medicine* (1996): 387–413; Joan Sherwood, *Infection of the Innocents: Wet Nurses, Infants, and Syphilis in France, 1780–1900* (Montreal: McGill-Queens University Press, 2010); Joan Sherwood, ‘Syphilisation: Human Experimentation in the Search for a Syphilis Vaccine in the Nineteenth Century’, *Journal of the History of Medicine and Allied Sciences* (1999): 364–86; Ross and Tomkins, ‘The British Reception of Salvarsan’; Szreter, ‘The Prevalence of Syphilis in England and Wales on the Eve of the Great War’; Worboys, ‘Unsexing Gonorrhoea’; Davis, *The Cruel Madness of Love*; Darby, “‘Where Doctors Differ’”.
37. Two notable exceptions are Sherwood, *Infection of the Innocents*; Hanley, “‘Scientific Truth into Homely Language’”.
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- Domestic Duty? Midwifery in Sheffield, 1881–1936’, *Social History of Medicine* (1998): 403–20; Brooke V. Heagerty, ‘Willing Handmaidens of Science? The Struggle Over the New Midwife in Early Twentieth-Century England’, Mavis Kirkham and Elizabeth Perkins (eds), *Reflections on Midwifery* (London: Baillière Tindall, 1997), 70–95.
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40. See, for example, Elizabeth Garrett Anderson, *The Student’s Pocket Handbook* (London: H.K. Lewis, 1878); Arabella Kenealy, ‘A Question of Conscience’, *BMJ* (14 September 1895), 682; Royal Free Hospital Archives, Vaughan-Sawyer Casebooks (1910) RFH/4/PN/1/32/3; Laura Kelly, ‘“Fascinating Scalpel-Wielders and Fair Dissectors”: Women’s Experience of Irish Medical Education c. 1880s–1920s’, *Medical History* (2010), 506.
41. Royal Commission on Venereal Diseases, PP 1913–1916 Cd 8190 (Appendix to Final Report of the Commissioners, Minutes of Evidence), qq. 13662–14003; London Hospital Archives, House Committee Chairman’s Papers (1913), Letter to Sydney Holland from Matron Eva Lückes Regarding Salvarsan Treatment for Syphilis and the Nursing Requirements (November 1913) RLH/LH/A/25/8.
42. For a persuasive reassessment of this gendered professional and political dynamic see Ben Griffin, *The Politics of Gender in Victorian Britain: Masculinity, Political Culture and the Struggle for Women’s Rights* (Cambridge: Cambridge University Press, 2012).
43. Cyrus C.M. Mody and David Kaiser, ‘Scientific Training and the Creation of Scientific Knowledge’, Hackett et al. (eds), *The Handbook of Science and Technology Studies*, 376–402.

Training Competent Generalists

On 14 June 1910, ten-year-old Dotty was brought to the outpatient department of the Royal Free Hospital suffering from a yellow vaginal discharge, ulceration of the vulva and painful micturition. Clinical films were taken and Brooks, a student clinical clerk, recorded in Dotty's case notes that the pathological laboratory had identified the presence of *gonococci*. By 28 June she had developed condylomata as well as a rash 'resembling that of secondary syphilis?'¹ A Wassermann reaction confirmed the presence of *spirochaete pallida*. However, the addition of a question mark in the clerk's notes suggests that, although Brooks suspected the presence of syphilis, she did not possess enough knowledge of, or familiarity with, its secondary-stage manifestations to confidently make a diagnosis. Dotty had not improved by 5 July so was admitted to Milne ward under the care of Dr Ethel Vaughan-Sawyer. Brooks continued to observe Dotty's progress and compiled detailed case notes over the following month, recording her physical symptoms and treatment. Dotty received injections of mercury but the newly developed arsenical-chemotherapeutic drug, salvarsan, was not administered.

These case notes reveal much about the ways in which medical students were taught to think about the various manifestations of venereal diseases. Dotty's parents were recorded as 'healthy' and without a family history of syphilis, suggesting that the student clerk had considered, or had been instructed to consider, the possibility of congenital infection.

Although Dotty was described as generally ‘healthy looking’, her tonsils were swollen and her labium majus and anus were both swollen and ulcerated. Yet at that time there was little vaginal discharge or tenderness.² On 11 July Brooks recorded that enlarged glands had been observed in the patient’s neck. By the time she was discharged on 5 August, the rash was nearly gone and the ulceration of the labium was improving. Dotty was admitted for the alleviation of symptoms that were later confirmed as venereal. She was classified as ‘relieved’ rather than ‘cured’ and there is no indication that she was requested to attend as an outpatient for continued treatment. Dotty’s case was typical of acute gonorrhoea and acquired syphilis. The observations recorded in her case notes, whether made independently by the student clerk or simply recorded during the course of Vaughan-Sawyer’s ward rounds, show that medical students were being taught to look for key physical indicators of venereal diseases and were being exposed to diagnostic and therapeutic innovations. Case notes like Dotty’s suggest that the female medical students at the Royal Free Hospital had access to clinical material from which they built up knowledge of the common gynaecological and dermatological manifestations of syphilis and gonorrhoea.

Historians have written at length about the work of doctors involved in the care of venereally diseased patients but they have rarely addressed the fundamental question of venereological training among medical students. It has generally been assumed that doctors must have acquired an adequate working knowledge of the symptoms of venereal diseases, as well as the common treatments available to patients. Yet it has also been claimed that venereal diseases were not part of the undergraduate curriculum.³ It is generally accepted that the curriculum was overloaded and slow to integrate new clinical practices and ideas.⁴ Venereal diseases were not taught as a coherent and contained subject to medical students. But as evidenced in the treatment of Dotty, students were exposed to cases of venereal diseases in the course of their clinical work and were taught about them as part of other subjects. The assumptions being made by historians about venereological knowledge among medical students and doctors warrant further scrutiny. A medical student’s training was not comprehensive but nor were they ignorant of basic diagnostic and therapeutic practices.

Students were expected to qualify with a sound generalist education that would be augmented through experience acquired in professional practice or specialist postgraduate study. Although some doctors called

for greater attention to venereal diseases in undergraduate education, such study remained subordinated within an educational system that privileged generalist knowledge and practice. Unlike in Scotland, where medical students received part of their training through ‘outdoor practice’ in charity dispensaries that provided domiciliary care to poor patients, English students were trained almost entirely within their respective teaching hospitals.⁵ Yet few cases of gonorrhoea and early stage syphilis were accepted to the general wards and those treated in the outpatient departments were of limited educational value to students. In a hospital-based system of medical training based heavily upon clinical experience, such a dearth of clinical material was exceedingly problematic. Inconsistencies and gaps in the venereological knowledge disseminated among students should therefore be viewed within a wider context of problems confronting hospital-based medical education.

Venereal diseases were present in one form or another but were usually compartmentalised within the study of other branches of medicine that were intended to develop the generalist knowledge base and practical skills of students. By the turn of the twentieth century many teaching hospitals were establishing special departments for disciplines that included obstetrics, dermatology, otolaryngology, ophthalmology, bacteriology and pathology. These special wards, along with outpatient departments, were the places in general hospitals where students were most likely to encounter patients with venereal diseases. These departments were often small, underfunded and ill-equipped. Nevertheless, the emergence of such specialisms within a prevailing landscape of generalist medical education and practice had important implications for the undergraduate study of venereal diseases. Venereological teaching might have been fragmented across these various special and outpatient departments but the establishment of such departments meant that small numbers of cases could be admitted, examined, treated and used to demonstrate to students the many ways that venereal diseases affected different structures and functions within the body. This chapter examines the nature and limitations of that education as well as the institutional educational structures through which venereological knowledge was disseminated among medical students during the late-nineteenth and early twentieth centuries. It addresses how knowledge claims and clinical skills pertaining to the diagnosis and treatment of venereal diseases were developed and integrated into a complex and evolving landscape of generalist medical education.

AN OVERCROWDED CURRICULUM

The state of venereological training, and medical education more broadly, was an ongoing concern for the medical profession and was repeatedly addressed by medical witnesses who appeared before the RCVD. Although younger generations of medical students were thought to be receiving better venereological training than their predecessors, there was general agreement that it remained inadequate. The problem, as ever, was finding room on an overcrowded curriculum. The question that preoccupied many of the witnesses before the RCVD was how to design a curriculum and examination system that would produce competent general practitioners who also possessed adequate experience diagnosing and treating venereal diseases.

Some claimed to have received 'a very decent medical education' but most testified that venereal diseases were given insufficient attention on the curriculum. They testified that medical students were inadequately taught about the aetiology of venereal conditions as well as the most up-to-date diagnostic and therapeutic techniques. Even the respected female doctor Mary Scharlieb claimed that ten years prior to the RCVD, her knowledge of venereal diseases had been 'absolutely inadequate'.⁶ When asked if efforts were made at the Royal Free Hospital to 'thoroughly instruct' students in the diagnosis and treatment of syphilis and gonorrhoea, Florence Willey, assistant physician for diseases of women, testified that, although 'under consideration', it had not yet been organised.⁷ Clinical clerks such as Brooks were therefore acquiring knowledge and experience in an opportunistic manner according to the particular patients they encountered.

Several witnesses felt themselves unable to comment generally upon the adequacy of venereological training because it differed so greatly between hospitals.⁸ Witnesses generally possessed detailed knowledge of the clinical work being undertaken only at their own hospitals.⁹ Venereal diseases were neither absent from the teaching at most hospitals nor a compulsory or systematised component of medical education.

Venereal diseases were not the only subject to be taught in a fragmented or haphazard way. For example, in 1900 anaesthetics remained an optional addition to the curriculum, pathology departments were often poorly equipped, and the integration of bacteriology into undergraduate education was proving a protracted process.¹⁰ The cost of establishing special departments and teaching special subjects to medical students, most

of whom were not expected to move beyond general practice, meant that such teaching could be more efficiently undertaken if compartmentalised within other, more generalist disciplines.¹¹ The increasingly prominent place of venereal diseases within wider specialisms suggests that doctors were becoming increasingly aware of the pervasive influence of venereal diseases upon different structures and functions within the body. A growing appreciation of the multiplicity of venereal symptoms did not produce a self-contained specialism. It instead caused English doctors to segment venereological study. As Claude Quézel observes, such compartmentalisation acknowledged the importance of venereal diseases and their serious effects upon multiple parts of the body while simultaneously subsuming these effects within the study of other disciplines.¹²

As early as 1878, Elizabeth Garrett Anderson, lecturer in medicine and midwifery at the London School of Medicine for Women, compiled a handbook of diseases intended to equip medical students with the means of recording their clinical work.¹³ Included under the category of ‘general diseases’ was gonorrhoeal rheumatism, as well as congenital and acquired syphilis in its various stages. Syphilis was also classed under ‘diseases of the cerebral arteries’.¹⁴ Gonorrhoeal ophthalmia, chronic interstitial keratitis and syphilitic and gonorrhoeal iritis were listed under ‘diseases of the eye’. Syphilitic ulcer of the cervix, gonorrhoeal inflammation of the fallopian tubes, gonorrhoeal vaginitis and vulvitis and syphilides were listed under ‘diseases of the female organs of generation’. Venereal diseases appeared in almost every category of Anderson’s handbook. Although not necessarily indicative of how the curriculum was organised, it does show that, as early as 1878, venereal diseases were being compartmentalised within multiple subjects.

The hospital and college calendars from St Bartholomew’s and St Thomas’s hospitals during the 1890s and early 1900s confirm that venereal diseases were being taught within a variety of disciplines. Syphilis was taught in conjunction with tuberculosis, scrofula and ‘surgical diseases allied to hysteria’, constituting only one part of a wider course of lectures on surgery. On St Bartholomew’s syllabus, gonorrhoea was coupled with ‘diseases of the conjunctiva’ and was taught within a wider course on ophthalmic medicine and surgery.¹⁵ Students were being taught about the pathology of syphilis as early as 1896 in their course on general pathology.¹⁶ From the early 1900s, students at St Bartholomew’s were taught to prepare and examine samples for the presence of *gonococci* as part of their study of practical biology.¹⁷

The Medical Acts Amendment Bill of 1886 sought to regulate the quality of medical education and examination to ensure a standard level of proficiency among all students and qualified doctors throughout the United Kingdom.¹⁸ Yet the degree of venereological training available to students remained, for the most part, dependent upon whether they were being taught by individuals with particular interests in venereal diseases. When asked about statements made before the RCVD regarding the ‘quite adequate instruction’ supposedly received by young women doctors, Helen Wilson replied that it depended greatly upon the particular lecturers responsible for their instruction.

In certain hospitals and medical schools there has been perhaps one lecturer who has felt it a duty to give this instruction, and has given it. Not in a systematic course, but when opportunity has offered. I know ... some of those connected with the women’s medical schools lately who have felt that responsibility, and therefore a great many of them get it. It depends which teacher they are under.¹⁹

During the London Hospital’s winter teaching session of 1913/14, James Sequeira and twelve of his colleagues organised ‘a complete and special course’ of twenty-four lectures on syphilis’s various stages and manifestations.²⁰ Following the establishment of the RCVD and the development of new diagnostic and therapeutic technologies, these medical men may have felt just such a responsibility to improve their students’ knowledge. The course was designed ‘to collate all the evidence from all the different departments on the recent work that has been done in syphilis.’²¹ However, as James Ernest Lane testified, the London Hospital’s course was unique and unprecedented. Lecturers with specific interests or a belief that students should be made aware of venereal diseases, taught opportunistically within the subjects under their administration.

Despite calls for increased attention to venereal diseases, doctors believed that the curriculum was overcrowded and could not adequately accommodate additional material.²² William Osler, Regius Professor of Medicine at Oxford, was among several medical witnesses who thought that insufficient attention was given to the study of venereal diseases, but also acknowledged that additional study posed logistical problems.²³

The question is whether they should be taught in special classes, that is to say, whether the subject should be dealt with under a separate division in

the curriculum—that is to say, venereal diseases as a subject to be taught systematically in lectures and ... clinically; or whether as it is a disease which boxes the whole compass of medicine, it could not be dealt with more satisfactorily by each person in the different departments. ... The difficulty in dealing with it separately is that the curriculum is at present so overburdened that I think there is no medical school that would venture to add another special course. On the other hand the subject is very important, and I think that if [it were taught] in the outpatient department, and if syphilis were admitted more frequently to the wards, the students would individually get experience enough.²⁴

For Osler, it was not a question of apportioning valuable time to the study of an additional subject but rather rearranging the curriculum and fundamentally altering the nature of hospital practice by admitting those cases that were otherwise excluded from inpatient care. Such a scheme would offer students greater theoretical instruction while also facilitating greater access to venereal cases in the course of their normal clinical work.

In contrast to Osler's call for the admission of venereal cases to the general wards and outpatient departments, other doctors argued that venereal diseases should constitute a specialist undergraduate course and be treated within a separate department. According to Amand Routh, obstetric physician to Charing Cross Hospital, this would provide better opportunities for the teaching of students.²⁵ However, an important consideration was whether any single doctor possessed enough knowledge of the different manifestations of venereal diseases to competently take charge of a special venereological subject or department. Such a doctor would, according to Routh, have to be an authority on every part of the body affected by syphilis. In other words, an implausibly knowledgeable and skilled general practitioner, whose expertise covered every branch of medicine. With a few notable exceptions such as Jonathan Hutchinson, most doctors possessed knowledge of venereal diseases only as they related to another special interest. Sequeira, lecturer on dermatology and physician to the skin department of the London Hospital, asserted that he would not administer such a department, because he specialised only in skin diseases and knew little about the effects of syphilis on other parts of the body.²⁶

Although some witnesses were cautious about forming a special venereological department, others thought that such a scheme would improve the treatment of patients and the instruction of students. John J. Pringle, who had studied in Paris and Vienna and was the physician in charge of

the skin department of the Middlesex Hospital, recommended that the study and treatment of syphilis in England be conducted along the same lines as Continental institutions. A special chair was established in France in 1879 for *clinique des maladies cutanées et syphilitiques*, to which venereologist Alfred Fournier was appointed.²⁷ Pringle recommended that, with the exception of ‘syphilis of the eyes, arteries and nervous system’, all cases of early infection be brought under the management of the skin department, thereby consolidating treatment and medical education.²⁸ As we shall see in Chapter 3, these manifestations were commonly associated with tertiary-stage neurological dysfunction, about which there was still much uncertainty. It is unclear why Pringle wished to make such an exception. He may have been distinguishing these obscure non-dermatological manifestations from a collection of readily diagnosable symptoms.

In contrast to Pringle’s envisaged dermatological department, Osler advocated the establishment of, and compulsory student attendance at, genito-urinary clinics attached to larger general hospitals. Despite calling for greater admittance of venereal cases to the general wards and despite acknowledging that venereal diseases affected multiple organs in a variety of ways, Osler nonetheless coupled these diseases with genito-urinary medicine.²⁹ It was a coupling that other doctors, including Arthur Newsholme, found problematic: ‘undoubtedly “genito-urinary” gets rid of the implication of venereal, but it lands you in other difficulties—that the name you suggest does not include all the kinds of syphilitic disease.’³⁰ Sequeira was similarly sceptical of such a scheme and would not describe a department devoted primarily to the study and treatment of syphilis as a genito-urinary department.³¹ The multiplicity of symptoms meant that venereal diseases were given over to other departments according to the specific symptoms of each patient.

‘FIT AND PROPER’ GENERAL PRACTITIONERS

Debate over the opportunistic and fragmented place of venereal diseases on the curriculum was directly linked to concerns for sound generalist training. Calls for special departments and courses were countered by equally vehement calls for the preservation of a medical curriculum that produced ‘fit and proper’ general practitioners.³² Commissioners to the RCVD invoked a resolution of the 1899 Brussels International Conference of Social Hygiene stating that ‘a profound knowledge of venereology forms one of the best means for effectively combatting the spread of venereal diseases.’³³ The Conference had recommended that provision be made for ‘the education of truly competent medical practitioners by the

institution ... of complete and compulsory courses, the subject of which shall form part of the state examinations' by specialists in the subject of venereal diseases.³⁴ Yet a number of witnesses resisted the idea that venereal diseases should constitute a self-contained and compulsory section on the medical curriculum.³⁵ Donald MacAlister, president of the General Medical Council (GMC), asserted that

... if we once begin to single out particular branches of that kind, the number of them would very soon be excessive, and the attention of the student ... would be diverted from the fundamental pathology, medicine and surgery and midwifery to those special branches and the assumption would necessarily be made that branches not specially mentioned were negligible ... It is most essential in the public interest that he should be safe in the fundamental branches—the branches essential to sound general practice ... I therefore feel, although it seems an easy thing to say 'make venereal diseases compulsory', that the net result would be less efficient medical men rather than more efficient. You might have premature specialists, but you would not have safe general practitioners.³⁶

English medical schools were not alone in their anxieties over specialist training. Resistance in medical schools throughout Britain was due, in large part, to the belief that specialism narrowed knowledge and skill by drawing attention away from the systematic study of disease, thereby fostering an inferior medical practice.³⁷ As early as the 1870s and 1880s, some in the medical profession feared that colleagues were sacrificing the 'intellectual breadth' that underpinned good general practice in favour of a fad for specialisation.³⁸ In his 1881 address to the Medical Society of University College London, J. Russell Reynolds, consulting physician to University College Hospital, rejected specialism in medical education and practice. A specialist, he claimed, would regard 'every patient who comes under his care as a sufferer from the particular disease which he has studied'.³⁹ In his view specialists risked focusing too much attention on one specific structure or function of the body at the expense of a holistic appreciation of the patient's condition.

Specialism in London did not develop the same associations with research and innovation that characterised specialist practice in cities such as Paris.⁴⁰ The system of appointments within voluntary hospitals favoured doctors who styled themselves as generalists, making the development of specialist knowledge and innovative practices a laborious process. English doctors, unlike their Continental contemporaries, thought of specialism as antithetical to a liberal ideology of gentlemanly generalist education and

practice.⁴¹ The ideal English specialist was a good general practitioner who pursued specialist study only after receiving a broad undergraduate medical education. Even Lane, as surgeon to the London Lock Hospital and a noted authority on venereal diseases, maintained that he was foremostly a general surgeon while Hutchinson similarly classified himself as a generalist with special interests.⁴²

Those undertaking specialist venereological work were not only hampered by their profession's preoccupation with generalism but also by venereology's lingering association with irregular practice.⁴³ Just as specialism was thought to represent a narrowing of knowledge and practice, so too did quackery represent serious underlying concerns about the expertise and authority of the profession. 'Are there not some', claimed Reynolds when speaking about venereal diseases, 'who prey upon the sense of shame and exhort money for ... worthless drugs [while] holding in terror over their victims the knowledge of facts that have been confided to them.'⁴⁴ Specialism, especially venereology, was uncomfortably reminiscent of unregulated and dangerous practice and therefore remained a subject of concern.⁴⁵

Yet despite such ongoing concerns, specialisms were slowly becoming important fields within an integrated body of professional knowledge. By the turn of the century, doctors such as Sequeira and Routh could aspire to specialist careers in London's general hospitals and could also take up positions in special hospitals. Such specialist positions were becoming acceptable rungs on the professional ladder for young doctors. Yet the speed with which hospitals established special departments varied greatly.⁴⁶

The development of special departments in the large teaching hospitals provided greater opportunities for the study and treatment of venereal diseases, thereby leading to improvements in clinical knowledge and practice. But they did not facilitate groundbreaking innovation nor did they mark any significant shift in undergraduate teaching. The continued privileging of generalist education and practice made the development of knowledge in fields such as venereology problematic. Doctors such as Sequeira were identified as specialists more for their clinical work and hospital appointments than for their teaching responsibilities. Teaching hospitals were staffed by physicians and surgeons who were thought to be experts in their various fields. But there was little guarantee that these experts were also good teachers or had the facilities to effectively impart their knowledge to students.⁴⁷ As evidenced in the skin department of the Middlesex Hospital, a lack of adequate provisions in special departments often meant

that their therapeutic and educational utility was limited. Pringle had complete discretion as to the admittance of syphilitic patients to the small dermatological wards under his supervision, but these wards contained only three beds each for male and female patients.⁴⁸ Special departments were often too small and poorly equipped to provide adequate care to patients and sufficient instruction to students. Despite the establishment of special courses, such as that offered in syphiliology at the London Hospital in 1913, specialisms remained linked primarily to patient care rather than medical education. Although the GMC attempted to persuade teaching hospitals to offer courses in various special disciplines, the content of most specialisms was not officially integrated into the medical curriculum, nor did it appear in undergraduate examinations.⁴⁹

Despite its flaws, English medical education was believed to provide ‘a very good base’ from which eventually to develop specialist knowledge and to keep pace with medical science. Several witnesses before the RCVD, including Thomas Barlow, president of the Royal College of Physicians, conceded that the volume of material that students were required to assimilate, and the clinical skills they were expected to perfect, left little room for detailed study of any single subject. To give students a complete training was ‘absolutely impossible’ and they therefore needed to continue augmenting their knowledge after qualification.⁵⁰ Sequeira reiterated this view when he claimed before the RCVD that he did not want ‘to turn out men experts in syphilis’ but to turn them out able to recognise cases of syphilis, or to recognise that a case was so suspicious as to warrant seeking a second opinion.⁵¹ Students received enough knowledge to qualify as competent general practitioners. They were expected to have developed the skills necessary to assimilate and apply further knowledge acquired in the course of their professional practice. However, at least in the early years of that professional practice, undergraduate education left most doctors with only a rudimentary ability to diagnose and treat venereal diseases.

Instruction in various subjects also remained foundational because the average general practitioner was not thought to require highly detailed knowledge or skill in those fields. As George Cooper Franklin, president of the British Medical Association (BMA), observed in his 1905 presidential address, certain disciplines such as bacteriology, histology and physiology had become so extensive that they could constitute ‘a study for a lifetime.’ Such disciplines needed to be studied but Franklin advised that their teaching be adapted to the specific needs of medical students, most of whom were destined for general practice.⁵²

New technologies, clinical practices and knowledge claims were slow to be incorporated into the curriculum and examinations of medical students. Salvarsan and the Wassermann reaction only entered professional practice in the years immediately before the First World War through the highly specialised study of bacteriologists such as James McIntosh and Paul Fildes at the London Hospital.⁵³ Although the London Hospital's Medical Council resolved in 1911 that the use of salvarsan would no longer be confined to the bacteriological department, neither was it to be administered in the outpatient department. Any member of the medical staff might order doses of salvarsan but its actual administration would be the responsibility of one of the registrars, who was to 'make himself acquainted with the method of preparation of the injection, and shall be required to carry out its preparation and injection.'⁵⁴ Increasingly, salvarsan was administered at the London Hospital before the First World War but only a handful of medical staff were capable of administering it, so students were unlikely to have been practically instructed. D'Arcy Power, when writing in 1912 of the work of Schaudinn, Hoffmann and Wassermann, called upon doctors to remember that this knowledge had only just begun to permeate English medicine. Doctors' knowledge of these developments was therefore 'tentative'.⁵⁵ Frederick W. Mott, an eminent neurologist with expertise in the neurological manifestations of syphilis, was still cautioning doctors in 1914 not to expect students immediately to take up ideas and technologies with which the former were themselves unfamiliar.⁵⁶ Students were introduced to salvarsan as a potential new treatment available to their future patients, but were not trained in its administration.

The delicate nature of the Wassermann reaction and the risks associated with the administration of salvarsan placed these technologies beyond the skill of general practitioners, especially older generations, who had not been trained in new scientific methods.⁵⁷ F.W. Andrewes, pathologist and lecturer on pathology to St Bartholomew's Hospital, was one of several witnesses who believed that, although students received satisfactory theoretical instruction, their practical training remained inadequate.⁵⁸ When asked what percentage of students commenced professional practice having been 'scientifically' trained in the whole principle of the Wassermann reaction, Andrewes replied that the younger newly qualified generation of doctors might know the theory but few would be able to perform it.⁵⁹ By the time of the RCVD, the Wassermann reaction was performed weekly in the laboratories of St Bartholomew's Hospital, but Andrewes lectured

on the subject only once a year and rarely offered students practical demonstrations.⁶⁰ Medical students were being introduced to Schaudinn and Hoffmann's work on the *spirochaete pallida*. But this knowledge was principally theoretical. Students possessed new pathological knowledge but they were not equipped to employ new diagnostic technologies to test for the presence of syphilis. Students trained as generalists would not be called upon to use these technologies themselves and therefore had little need of detailed practical knowledge. An understanding of the basic theory was sufficient for them to seek these diagnostic and therapeutic facilities for their patients.

In the decades before the First World War, medical education focused upon aspects of venereological practice (such as observational diagnoses and the administration of mercury) that were thought to be more useful to the general practitioner. The aim was to equip them with enough knowledge to be able to recognise, or at least suspect, venereal diseases in their commoner forms. When necessary, expert opinions could be sought. Sir Victor Horsley, an eminent physiologist and surgeon, accepted that doctors might struggle with the delicate techniques required when administering salvarsan or performing the Wassermann reaction. However, he could not accept that the 'ordinary medical man' would be unable to recognise and treat venereal diseases.⁶¹

Few sources have survived from which definitive conclusions can be drawn about the training of medical students in venereal diseases during the 1880s and 1890s. Examination papers offer one of the best indications of the level of knowledge expected of students. For example, in April 1895 students were asked to demonstrate their knowledge of the 'course, symptoms, possible complications, and treatment of a case of acute gonorrhoea in the male'.⁶² Students were expected to think expansively and to demonstrate in their answers a working knowledge of venereal diseases. These examination papers, combined with the assertions of witnesses such as Horsley, indicate that medical students were being taught to perform examinations and make differential diagnoses based upon a collection of observable symptoms. They were expected to recognise classic cases of congenital and acquired infection, as well as some of the commoner associated conditions such as syphilitic iritis, ophthalmia neonatorum and gonorrhoeal rheumatism.⁶³ However, as will be seen in the next section of this chapter, there was often discontinuity between the expectations of examiners and the realities of medical education.

Witnesses appearing before the RCVD acknowledged the necessity of maintaining a balanced curriculum. They also believed that, in the process of training competent generalists, they were producing doctors who were unable adequately to diagnose and treat venereal diseases. They were torn between a desire for training good general practitioners and concern that the venereological knowledge of those generalists was inadequate. In 1909 Hutchinson was still convinced that large numbers of newly qualified doctors had acquired little, if any, practical knowledge of venereal diseases.⁶⁴ The venereological knowledge of Hutchinson and his contemporaries, and the methods of diagnosis and treatment based upon that knowledge, was the product of individual professional experience regulated by little institutional training. Ralph W. Johnstone, senior medical inspector to the Local Government Board (LGB), similarly believed that newly qualified doctors were ‘practically incapable’ of administering treatment and had to find means of acquiring additional venereological knowledge and experience in the course of their professional practice.⁶⁵ As one commissioner put it, ‘they pick it up as they go along’.⁶⁶

Yet opportunities for acquiring this additional training were limited, especially among general practitioners. A comparatively small number took up positions in hospitals, asylums or infirmaries, which would expose them to large numbers of venereal cases and provide opportunities for further clinical study.⁶⁷ Although undergraduate education was ideally the foundation upon which to build, many doctors lacked the motivation or resources to pursue further study, especially in those branches of medicine that were not part of their day-to-day practice. If a doctor encountered few venereally diseased patients, there was little incentive to maintain up-to-date venereological knowledge.

Few records of private practice have survived from which to determine how frequently younger doctors encountered venereal cases or how they were able to deal with them. One uniquely candid example appeared in the *British Medical Journal* (BMJ) in 1885. A ‘junior member’ sought counsel on how to advise a ‘young man, aged 25, of fair social position’ who had contracted syphilis in 1882 and wanted to know if he could now be married. The doctor premised his correspondence by admitting that, ‘amidst much controversy on the treatment of acquired syphilis by mercury and iodide of potassium, separately or together, [he] ... should be grateful if some member would give [him] ... advice’. ‘Is it safe’, he asked, ‘or will it be more so in a year or so?’ In response to this conundrum, Charles R. Drysdale, a respected authority on venereal diseases, advised that ‘in a

year's time there would be much less risk, provided a course of treatment with mercury were undergone in the interval.⁶⁸ This case revealed great uncertainty on the part of a recently qualified general practitioner called upon to treat and advise his patient. He may have been familiar with contemporary theories regarding treatment and modes of disease transmission but was inexperienced in the practical application of that knowledge.

Testimony given before the RCVD suggests that young doctors treated fewer venereal cases than their older professional counterparts and attracted more cases only as their practice, reputation and clinical experience grew. As various witnesses observed, such limited access to venereally diseased patients resulted in an inferior clinical practice since 'the man who only sees one or two cases of syphilis a week is not in a position to carry on the treatment so effectively as one who has fifty or sixty a week.'⁶⁹ Johnstone believed that doctors acquired more venereal cases towards the end of their careers, having become known for 'that sort of work'.⁷⁰ This was a view reiterated by Mott and Power, who believed that venereally diseased patients did not go to young doctors, favouring instead older doctors with more experience and knowledge: 'the older you get the more of these people you see'.⁷¹ This perceived lack of patients meant that young doctors, who were most in need of experience, were the least likely to acquire it.

UNDERGRADUATE EXAMINATIONS

Students were expected to demonstrate their acquisition of sound generalist training by passing a series of written and practical examinations. The contentious place of venereology on a curriculum designed to produce competent generalists meant that attention given to venereal diseases in these examinations was limited. The few questions that did appear on the examination papers were not simply testing the venereological knowledge of candidates. They were designed to ascertain whether students were able to practice as safe general practitioners.

By the turn of the twentieth century, the curriculum and examinations of the Conjoint Examining Board of the Royal Colleges of Physicians and Surgeons had been brought more into line with those of the universities. Both systems were divided roughly into three sections: elementary science; anatomy and physiology; and 'the purely professional subjects of medicine, surgery and midwifery in their special branches'.⁷² The study of venereal diseases and the examination of students' venereological knowledge

occurred in the final stage of their medical education. Here they would pursue practical and systematic study of the specialist disciplines of medicine and surgery through attendance on the wards and in the outpatient departments. As well as practical instruction, these final years included six months of lectures in medicine and surgery, three months of midwifery lectures and three months of pathology, including pathological histology and bacteriology. At the conclusion of curricular study, students' knowledge of these special branches was examined.

Just as lecturers with special interests in venereology taught students about venereal diseases, so too did examiners with special interests assess students' knowledge of venereal diseases and their associated clinical and laboratory skills. When asked if medical students knew that passing their examinations might require an up-to-date knowledge of venereal diseases, Lane asserted that the students he examined knew to expect questions on the subject.⁷³ In examinations for Cambridge and the Conjoint Board, Mott showed students *spirochete* under a microscope and required them to make film preparations.⁷⁴ Unlike the special skill required to perform the Wassermann reaction, Mott believed that every student ought to know how to perform microscopical examinations, and therefore should be examined on that knowledge.⁷⁵ Students who came before him for examination were expected to know how to prepare slides using the Gram staining method to test for *gonococci* and the dark-ground illumination or Indian ink-staining methods for determining the presence of the *spirochete pallida*.

Teaching hospitals established special departments and specialists such as Lane and Mott were appointed as examiners, but students were rarely examined on such special subjects. If students believed themselves likely to be examined on venereal diseases, they were thought to devote more attention to this subject. Yet as Mott conceded, 'if you do not examine them on it they will not learn it.'⁷⁶ Questions pertaining to venereal diseases were found in the Conjoint examination papers on 'surgical anatomy and the principles and practice of surgery'. Four examinations were held each year and six questions were asked during each examination. Of the 552 questions put to candidates between 1892 and 1914 only 21 directly tested their knowledge of syphilis or gonorrhoea.⁷⁷ However, they had to answer only four of six questions, giving them even less incentive to revise their knowledge of venereal diseases.⁷⁸ They could, if necessary, have answered other questions. These collections of past examination papers were compiled into single volumes each year and could be purchased

for 6d. Students would have had access to such affordable volumes and therefore known that questions about venereal diseases could be avoided (if they featured at all).

Although many lecturers believed that the curriculum could not be expanded, the London Hospital had in the years before the First World War compelled its students to attend the various special and outpatient departments in addition to their regular curricular work. Sequeira and his staff in the skin department deemed it necessary that students study these special subjects.⁷⁹ But since students were not regularly examined on the dermatological manifestations of venereal diseases, Sequeira believed that students would ‘speculate on not getting them’ and instead revise other, more pressing subjects in the limited time at their disposal.⁸⁰ In 1907 the *BMJ* had expressed similar concerns over the constant risk ‘that both teacher and pupil may allow their work to be subordinated to the interests of the fact-eliciting final examination’ and therefore give minimal attention to subjects such as venereal diseases that were examined less frequently.⁸¹ Such concerns were equally common in Scotland, with E.A. Schäfer, professor of physiology at the University of Edinburgh, complaining in 1903 that there was ‘a feverish attempt to cram up the subjects during the few weeks before the examination’.⁸² Examination questions might indicate the level of knowledge that students were *expected* to possess but these expectations were not always commensurate with the practicalities of study and revision. Students, required to master a voluminous body of general medical knowledge, had little motivation to revise what limited instruction they had received about venereal diseases.

Some doctors believed that students were neglecting the study of venereal diseases in favour of other subjects upon which they were more likely to be examined. Lane may have asserted that students were obliged to have some venereological knowledge but he also conceded that they were examined on venereal diseases as only one part of their general surgical knowledge.⁸³ He lamented that most students had very little specific knowledge, and that many who successfully qualified were ‘quite incompetent’ to diagnose and treat venereal diseases.⁸⁴ Mott had also found that ‘a good many failed’ when examined on the subject. Yet these students were able to qualify as doctors. Mott and Lane deducted marks for insufficient venereological knowledge but another examiner could award enough marks to pass the student overall.⁸⁵

Accounts of medical education and examination represented an ideal standard rather than an actual depiction of the state of medical education. The GMC was responsible for monitoring and regulating the quality of medical education. The licencing examinations fell indirectly within its charter.⁸⁶ Yet, as MacAlister admitted, the GMC had little power to superintend the teaching at different hospitals. They did not know whether venereal diseases were being adequately taught and could not determine whether students' knowledge was being adequately assessed.⁸⁷

OVERCROWDED AND ILL-EQUIPPED OUTPATIENT DEPARTMENTS

Although most witnesses before the RCVD considered it preferable to treat venereal cases in general hospitals rather than in special hospitals set aside for venereal diseases, they also acknowledged that facilities in general hospitals were inadequate.⁸⁸ L.W. Harrison, pathologist to the Royal Army Medical Hospital at Rochester Row, lamented that not enough hospitals were treating venereal diseases to give medical students opportunities for practical observation.⁸⁹ Voluntary hospitals gave priority to acute cases, emergencies and patients who could easily be treated. Patients with chronic and incurable conditions were infrequently and reluctantly admitted.⁹⁰ Cases of gonorrhoea, as well as primary- and secondary-stage syphilis, were not commonly admitted to the wards in which treatment was better regulated and its therapeutic effects could be more closely observed. These cases were instead redirected to overcrowded outpatient departments or, as we shall see in Chapter 5, Poor Law institutions.

The limited admission of these cases to inpatient care meant that outpatient departments constituted the largest source of venereally diseased patients available to medical students in general hospitals. However, there are few surviving records of this care. At the time of the RCVD, Johnstone found that accurate figures for outpatient treatment of venereal diseases could be obtained only from the Middlesex Hospital: there were no 'early infective cases' available for teaching except in the hospital's outpatient department.⁹¹ Yet teaching in these departments was disorganised. In a lecture to postgraduates at the Medical Graduates' College and Polyclinic in 1906, Lane lamented that the care of venereal cases in hospitals, and more specifically in outpatient departments, was entirely inadequate.

There are no facilities for the microscopical or bacteriological examination of secretions or discharges, for intramuscular injections, for urethral irrigations, and urethroscopic examinations; very little clinical instruction is given on such cases, so that at the commencement of their career the majority of medical practitioners are only possessed of a very insufficient knowledge of the subject ... There is no time for clinical instruction, and even if there were, the accommodation in the outpatient department is so miserably inadequate.⁹²

With the exception of lock hospitals and Poor Law institutions, hospital outpatient departments were often the first and primary source of systematised medical care for the sick poor in the late-nineteenth and early twentieth centuries.⁹³ Yet these departments were often unable to provide sufficient patient care or instruction to medical students.

In 1909 the London Hospital's Medical Council decided that, given the congestion resulting from large numbers of patients passing through the outpatient department, 'no patient shall be treated in the Receiving Room by Receiving Room Officers twice [and] ... medication shall not be given for longer than four days'.⁹⁴ As we have already seen, the London Hospital would resolve in 1911 to prohibit salvarsan treatment in the outpatient department.⁹⁵ Since most venereal cases were not accepted as inpatients, the only option was to treat them with mercury in the outpatient department. Such provisions were therefore entirely inadequate for the care of venereal cases, in which treatment might extend over many weeks or months. Yet other voluntary London hospitals implemented similar measures to reduce pressure on their outpatient departments.⁹⁶ Venereal cases were more numerous in outpatient departments, but as seen in the outpatient statistics for the Middlesex Hospital, students were still unlikely to have encountered more than a handful of cases. Of the 3096 medical and 4248 surgical outpatients treated in 1910, only 274 were identified as suffering from syphilis and 169 from gonorrhoea.⁹⁷ The sheer volume of patients meant that students working in outpatient departments were exposed to a wide variety of conditions. However, only a fraction of these cases were identified as venereal. Venereal cases were thought to attend outpatient departments 'in such small numbers' that Routh believed students had few opportunities to see them.⁹⁸

Resistance towards the inpatient care of gonorrhoeal and non-tertiary-stage syphilitic cases meant that there were few opportunities to keep patients under extended and continuous observation. Such observation

would have allowed doctors and students to chart the progress of each case and to determine the effectiveness of treatment. For example, Francis was subjected to such clinical study on admittance to St Bartholomew's Lazarus ward in 1880 for treatment of a penile chancre, which had begun as a 'smooth pimple'. A syphilitic rash soon developed and he spent the next seven months as an inpatient. When symptoms reappeared five years later and he was again admitted as an inpatient, his dresser was able to draw important links between his present condition and that of five years earlier.⁹⁹

Treatment of venereal cases as outpatients made such observation and intervention problematic. Regulation and surveillance were employed to curtail the spread of disease but only certain groups were forcibly subjected to such medical intervention after the repeal of the CD Acts.¹⁰⁰ The management of venereal diseases under a system of voluntary care meant that most patients, especially outpatients, were at liberty to accept or reject medical examination and treatment. The stigma surrounding venereal diseases, coupled with popular aversion to the potentially dangerous and debilitating side effects of mercury, often made patients reluctant to persist with treatment once their physical symptoms had abated.¹⁰¹ For example, Albert Lucas, surgeon to the General Hospital in Birmingham, recounted the case of a mother who had supposedly been infected with primary syphilis from nursing her own child. The woman attended the outpatient department only twice for chancres of the areola and a secondary rash across her arms and chest. She discontinued her treatment and the infected infant was not treated at all.¹⁰² Lane believed that patients were also deterred from attending for treatment because of the valuable time lost from their working day.¹⁰³ Indeed, it was for this reason that St Paul's Hospital for Skin and Genitourinary Diseases (an outpatient clinic in Holborn providing free treatment for venereal diseases) remained open on certain evenings each week. Working-class patients might obtain treatment without losing a day's wages.¹⁰⁴ Not only were patients falling through the cracks of an ill-equipped system and receiving inadequate care, but students were also losing valuable opportunities for practical study.

The heavy workload of the outpatient departments meant that patients attended only for short intervals to receive treatment, providing students with limited opportunities for clinical observation. It was preferable for as large a proportion of cases as possible to be treated in outpatient departments because it maximised the total number that could be seen each day.

The Select Committee on Metropolitan Hospitals, Provident and other Public Dispensaries, and Charitable Institutions for Sick Poor (SCMH) found that medical staff in the outpatient departments were expected by 1890 to attend approximately 120 cases every hour.¹⁰⁵ Between 1860 and 1900, outpatient consultations at the London Hospital alone rose dramatically from 25,000 to over 220,000. The average outpatient consultation in hospitals across London lasted less than two minutes.¹⁰⁶

Given the volume of patients and the resulting pressure of outpatient work, some patients were inevitably misdiagnosed and wrongly treated. In 1898 a child with acute rhinitis and a flattening nasal bridge was brought under the care of St Clair Thomson (Fig. 2.1). He later admitted that ‘in the stress of outpatient work’ a family history was not taken and, despite clear signs of congenital syphilis, the child was misdiagnosed and wrongly treated.¹⁰⁷ In 1892 the SCMH had reported that some outpatients were even wrongly or inadequately treated for ‘want of proper supervision over the students who ... are allowed in the crowd and hurry of the outpatient room to treat patients independently’.¹⁰⁸ Not only did diagnosed venereal cases account for a small proportion of outpatients but time constraints meant that detailed attention could rarely be given to those patients or the supervision of the students tending them. Cases that were unique or characteristic of particular venereal conditions (and therefore valuable as teaching material) had to be treated amid the bulk of cases that were of little academic interest.

If doctors could allocate no more than a few minutes to each case, they were unlikely to have offered undergraduates systematised and detailed clinical instruction. Routh believed that there was no system or routine. If a venereal case appeared in the outpatient department, ‘a little clinical lecture might be given’, but there was no systematised teaching using a series of cases.¹⁰⁹ At a House Committee Meeting in 1911, Hunter Tod, surgeon to the otorhinolaryngology department of the London Hospital, stressed the ‘impossibility’ of teaching students in his outpatient department, owing to the great workload entailed. He therefore urged the Committee to make student attendance compulsory to alleviate the pressures of clinical work.¹¹⁰ The demands placed on outpatient medical staff, combined with the apparently small number of venereal cases that attended for treatment, meant that students had, according to Johnstone, ‘very little opportunity of studying the early symptoms of the disease, and appreciating the proper treatment that was required’.¹¹¹



Fig. 2.1 'The rhinitis of inherited syphilis', 1899 (*Journal of Laryngology and Otolology*)

INSUFFICIENT CLINICAL MATERIAL ON THE WARDS

Venerally diseased persons who sought hospital treatment were not only confronted with overcrowded and ill-equipped outpatient departments. They were also hindered by the decisions of most hospitals to restrict severely the number of venereal cases admitted to the wards.¹¹² Special departments still admitted venereal cases but, as evidenced in the skin department at the Middlesex Hospital, the number of available beds was limited.¹¹³ The exclusion of gonorrhoeal and early stage syphilitic cases from the general wards was, as Johnstone claimed, attributable to a combination of moral, medical and pragmatic reasons: objection to patients' apparent immorality and concern over the greater infectivity of acute cases. Among the most influential of these reasons was sensitivity to the moral scruples of hospital benefactors. Scharlieb echoed the view of multiple witnesses before the RCVD when she observed that

... these subjects are not taught in all London hospitals because there are no special beds allotted to these diseases and ... in some of the hospitals they are afraid to admit these diseases so that they may be treated and the students may be taught, because they fear they will lose the subscriptions from the public.¹¹⁴

As a student Harrison had seen a disproportionate number of tertiary-stage syphilitic patients because the statutes of most teaching hospitals prevented the admission of primary- and secondary-stage cases.¹¹⁵ Reliance upon public subscriptions meant that many hospitals were reluctant to accept venereally diseased inpatients. At the time of the RCVD, the London Hospital reported on the difficulty of persuading subscribers who thought that venereal diseases were 'a deterrent on immorality' and who could 'not appreciate the enormous amount of ... innocent suffering'.¹¹⁶ Despite the acknowledged dangers posed by untreated infection, and despite the educational value of early stage cases, moral sensibilities reduced the availability of treatment and, importantly, the amount of clinical material with which to instruct students.

The issue of innocently acquired infection, known as *syphilis innocentium*, did not greatly influence decisions regarding the accessibility of inpatient care.¹¹⁷ Doty was among a small number of infective cases to be admitted to the Royal Free Hospital. Her young age may have prompted the medical staff to look upon her as an 'innocent'. However, her case notes, and those of other women and girls admitted for treatment, do not indicate whether

this was indeed a factor. Although some adult women were listed as married, others, such as Mary, were single and yet still received a comparable level of inpatient care. Like Dotty, eighteen-year-old Mary had syphilis and gonorrhoea, was admitted to Milne ward under the care of Vaughan-Sawyer and was eventually discharged as 'relieved'. Dotty had received injections of mercury in 1910 but by the time Mary was admitted in October 1914 the Royal Free Hospital had adopted salvarsan and neo-salvarsan. Mary was initially prescribed salvarsan but her veins were too small and was instead injected with neo-salvarsan. Nothing was made of her being an unmarried woman with syphilis and gonorrhoea, and possibly a prostitute. The 'occupation' section on her admission form was left blank.¹¹⁸ However, these cases at the Royal Free Hospital appear to have been an exception to a general policy among voluntary hospitals to exclude venereal cases from inpatient care.

Most witnesses before the RCVD who advocated greater inpatient provisions for venereal cases conceded that the infectivity of early stage cases presented logistical and financial problems. Concerns for the transmissibility of syphilis and gonorrhoea were a product of wider problems of infectivity and disease prevention in general hospitals. In 1892 the SCMH had found there to be 'great need of access to infectious cases for the purpose of study ... Until quite recently the medical training available seems to have been almost entirely deficient in this respect.'¹¹⁹ The limited facilities at most hospitals meant that venereal cases would have been treated alongside non-venereal cases, which was thought to increase the risk of transmission.¹²⁰ According to Johnstone,

... syphilis is infective in the primary and secondary stages, the chancre itself is infective, as well as the mucous patches and condylomata ... All the lesions of early congenital syphilis are infective. *Spirocheta* are rarely found in tertiary lesions ... In general it may be said that all active manifestations of syphilis are liable to be infectious, but that the disease is chiefly spread by persons in the primary or secondary stage.¹²¹

He reiterated his claim before the RCVD: 'people have got the idea that the early cases are so much more infectious. It was on the grounds of infectivity that objection was generally raised.'¹²² According to J. Galloway, senior physician at Charing Cross Hospital, tertiary-stage syphilis was accepted onto the general wards except in cases demonstrating 'very obvious irruptive lesions' that were thought to increase the risk of transmission.¹²³ There may have been, as Harrison claimed, 'plenty of late cases ... providing a rich material for teaching purposes' but students had less than adequate access to cases of early stage infection.¹²⁴

All venereal cases requiring inpatient care at St Thomas's Hospital were sent to wards in a special block for the treatment of septic surgical cases, where necessary precautions could more easily be taken.¹²⁵ Until 1891 St Bartholomew's Hospital had reserved twenty-two beds for syphilitic cases, after which time these beds were subsumed within a broader category of 'general and isolation' beds.¹²⁶ Most of Vaughn-Sawyer's venereal cases were admitted to Milne ward, suggesting that this had been set aside for the treatment of such infective cases.¹²⁷ In 1912, when the London Hospital was considering plans for building new wards for the treatment of venereal diseases, the Medical Council decided that infectious cases of syphilis would be sent as isolation cases to Blizzard and Roswell wards.¹²⁸ Correspondence between Sydney Holland, chairman of the London Hospital, and Matron Eva Lückes demonstrates the many expensive logistical requirements of nursing on wards given over to the treatment of infectious venereal diseases. Among the provisions necessary to minimise the risk of transmission were a 'steriliser of sufficient size'; separate bathroom, lavatory and sink facilities for patients; another set of separate facilities for nurses; and a sufficient supply of rubber gloves.¹²⁹ These teaching hospitals were among only a handful in the early 1900s that were prepared to accept venereally diseased persons as inpatients, but none saw this as an ideal situation. Precautionary arrangements were a logistical and financial burden. Many hospitals chose instead to limit the admission of infective cases, thereby reducing student access to instructional clinical material in the earlier stages of infection.

How, then, were students to equip themselves with sufficient practical and theoretical knowledge? They were expected to augment their curricular study through appointments as clerks and dressers. Students were expected to take up positions as clinical clerks and surgical dressers during their two final years of study. There were seventy-four clerks and dressers working in the outpatient departments of St Bartholomew's Hospital, which, combined with those appointed to the various general wards and special departments, meant that 920 positions were open annually to senior students during the 1890s. These appointments provided teaching hospitals with cheap student labour, but the medical staff also saw these appointments as essential for the effective teaching of students.¹³⁰

Forty clinical clerks attended the wards every morning for periods of three months to take notes on the various cases to which they were assigned. Dressers also visited the wards each morning to attend their surgical cases and make notes.¹³¹ Every three months twenty-four surgical dressers and fifty clinical clerks were also appointed to the outpatient departments where they examined cases and took case notes, received instruction on

those cases and assisted in the administration of treatment.¹³² Case notes functioned as educational tools. Students charted patients' symptoms and responsiveness to different treatment regimes. Medical officers also gave instruction during their visits to the wards. They were

... attended on their visits to the wards by their dressers, clerks and other students not holding appointments. The dressers and clerks read their notes of the cases allotted to them, and each physician, surgeon and physician-accoucheur enter particularly into the details of the cases with the clerk or dresser ... giving general instruction on the symptoms, diagnosis, prognosis and treatment of the several diseases ... under observation to all students who go round the wards with him.¹³³

Attending ward rounds as dressers and clerks furnished students with much practical experience and knowledge of medicine and surgery. Although admitted infrequently, small numbers of venereal cases exemplifying acute infections could usually be found on the wards of most voluntary hospitals.¹³⁴ It was often in special departments that students found the most illustrative cases of syphilis and gonorrhoea in their various stages and manifestations. As head of the London Hospital's skin department, Sequeira asserted that

... any man who has been through my department for three months, if he had reasonable intelligence and came regularly, would leave with a knowledge of syphilis that would be quite adequate for learning to tell those cases which are definitely syphilis and those cases which were doubtful, and in which he could get a second opinion or blood examination.¹³⁵

He gave demonstrations on the diagnosis of syphilis to students so that they would develop 'a very fair knowledge' of its various dermatological manifestations.¹³⁶ However, the very nature of special departments meant that only specific collections of venereal symptoms were being studied within each department. Sequeira's students knew how to recognise obvious syphilitic rashes and act in cases of doubtful diagnosis, but would not have necessarily been able to recognise non-dermatological symptoms as syphilitic or to safely administer treatment.

Students' exposure to venereal cases, and by extension their levels of clinical experience, depended greatly upon the ward or department in which they worked.¹³⁷ Inpatient registers from the London Hospital indicate that students appointed to wards such as Sophia, Talbot, Gloster, Mellish,

Blizzard and Roswell came into more regular contact with surgical patients suffering from venereal diseases or conditions known to be linked to venereal diseases.¹³⁸ Students appointed to Milne ward at the Royal Free Hospital, or St Bartholomew's Lazarus and Magdalen wards before their closure in 1891, would have also acquired considerable venereological knowledge and experience. However, those appointed to other wards appear to have relied upon more opportunistic exposure to venereal cases.

The cases of syphilis and gonorrhoea that received inpatient care were often admitted for conditions that may or may not have been related to an underlying venereal infection. For example, in 1885 Jim was admitted to St Bartholomew's Hospital for a fractured rib but was transferred to Lazarus once the doctors discovered that he was syphilitic.¹³⁹ These cases were rarely in the very early stages of infection. The stigma of venereal diseases and fear of mercurial treatments meant that many persons only sought care after an extended period of infectivity when secondary symptoms had become noticeable and troubling, or had been exacerbated by another condition.¹⁴⁰ In 1903 Sid was admitted to the Royal Free Hospital 'suffering from difficult breathing and hoarseness' but was later diagnosed with acute 'general infection predominantly laryngitis due to the *gonococcus*' and 'infective endocarditis' that was '*gonococcal* in origin'.¹⁴¹ Surviving case notes from various hospitals suggest that inpatients suffering from gonorrhoea and early stage syphilis were admitted to the wards for other conditions including cystitis, stricture, retention of urine, fistula, buboes, synovitis, fibroids and condylomata.¹⁴² All these conditions could have potentially resulted from venereal diseases but patients were admitted because of the severity of associated conditions.

Reluctance to admit patients for the treatment of venereal diseases meant that students often had to rely on the opportunistic identification of venereal diseases in cases being treated for other conditions. Frances Ivens, medical officer for diseases of women at the Liverpool Stanley Hospital, claimed that staff and students rarely encountered venereal cases unless incidentally in the course of treating gynaecological patients—a claim supported by case notes from the Royal Free Hospital.¹⁴³ Dotty and Mary were both discharged as 'relieved' rather than 'cured', suggesting one of two possibilities. Vaughan-Sawyer may have believed the diminution of their symptoms to be indicative of recovery. The Wassermann reaction was rarely used at the Royal Free Hospital as a follow-up tool to determine the disappearance of *spirochæta*.¹⁴⁴ Alternatively, the objective may have been simply to relieve their 'local conditions'—rash, discharge, ulceration,

condylomata and genital warts—rather than attempt to cure their constitutional gonorrhoeal and syphilitic infections. Mercurial treatments were often thought to be ameliorative, rather than curative.¹⁴⁵ Salvarsan was seen as a much more ‘heroic measure’, which was increasingly thought to bring about a complete cure. But in 1914 this was still a new and experimental treatment at the Royal Free Hospital.¹⁴⁶ Although not recorded in either set of case notes, Vaughan-Sawyer may have believed complete cures to be overly optimistic.

Such cases provided important opportunities for students to study the various manifestations of venereal diseases but there was little systematisation of this study. The condition being treated may not have been related to a patient’s venereal infection. In other cases, patients appear to have been admitted to alleviate the symptoms of venereal diseases rather than to achieve a complete cure. Reliance upon such clinical material for the instruction of medical students resulted in a foundational but fragmented knowledge base. Students who encountered cases such as those of Dotty and Mary gained experience in diagnosing and treating venereal diseases in women and young girls. Those encountering patients such as Sid would have been instructed in some of the more remote sequelæ. Students would have been able to identify specific symptoms as gonorrhoeal or syphilitic, but it is unclear whether they were able to conceptualise adequately these different symptoms as belonging to unified disease entities.

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English medical students, especially those in their final two years of study, enjoyed regular access to the wards and outpatient departments of their respective teaching hospitals. This brought them into regular contact with patients from whom they could develop their clinical knowledge and practice. Students encountered a variety of conditions, including venereal diseases. However, patients were rarely admitted for the treatment of gonorrhoea or primary- or secondary-stage syphilis. Those who were admitted as inpatients were often treated for secondary conditions that may or may not have been linked to venereal diseases. Special hospitals, asylums and infirmaries accommodated large numbers of venereal cases, but opportunities for additional study at these institutions were not widely available. The outpatient departments of general hospitals to which many venereal cases were directed were overcrowded and understaffed. The extent to which students were able to observe patients, and the extent to which hospital teaching staff were able to use these cases in practical demonstrations and lectures, was limited. Insufficient clinical material,

combined with an overcrowded curriculum and a general lack of attention in examinations to the subject, meant that undergraduate study of venereal diseases was, at best, patchy. The combined result was the qualification of doctors who, while capable of diagnosing and treating the most obvious cases of venereal diseases, were challenged by more ambiguous symptoms and new diagnostic and therapeutic technologies.

Venereological knowledge was disseminated in an often haphazard and opportunistic way. However, it must be remembered that undergraduate knowledge was intended to be foundational. This training introduced students to those aspects of medicine, surgery and midwifery that were considered essential for the production of competent and safe general practitioners. By the early twentieth century, students were expected to know how to perform bacteriological tests for *gonococci* but the serodiagnostic Wassermann reaction was beyond the capabilities of the average doctor. Given the specialised and delicate nature of this reaction, as well as the generalist nature of most doctors' training, this was entirely reasonable and realistic. Students' venereological training would never be comprehensive. There were simply too many other subjects to be studied.

Students were expected to recognise common symptoms such as stricture and chancres. Ambiguous manifestations, such as tabes dorsalis, were much more difficult to link aetiologically to venereal diseases. Such diagnostic problems were apparent throughout the decades addressed in this chapter. But they were especially common in the years prior to the development of the laboratory-based innovations that characterised the first decade of the twentieth century. As will be seen in the next chapter, it was not until the years just before the First World War that doctors were able to speak with any real certainty about the aetiology of conditions such as tabes dorsalis.

Such undergraduate knowledge was not intended to constitute the sum total of a medical student's professional education. Doctors were thought to possess the ability and motivation to acquire new knowledge and clinical skills throughout their careers, be that through formal postgraduate study, experience in the course of general practice or appointments to special departments or hospitals. Yet younger general practitioners seem to have attracted fewer venereal cases. Patients preferred instead to seek care from older doctors even if the knowledge of these doctors was less up-to-date. The next chapter examines how some qualified doctors chose to refresh or augment their knowledge of venereal diseases through formal postgraduate study at the turn of the twentieth century. This study drew upon an emerging landscape of medical specialism and in so doing built upon the generalist training received at an undergraduate level.

NOTES

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14. *Ibid.*, 12, 14, 16.
15. St Bartholomew's Hospital Archives, Hospital and College Calendars (1893–94) SBHB/MS/20/1893/4, 48, 60 (henceforth, St Bartholomew's College Calendars).
16. *Ibid.* (1896–97) SBHB/MS/20/1896/7, 58.
17. *Ibid.* (1903–04) SBHB/MS/20/1903/4, 42; *Ibid.* (1907–08) SBHB/MS/20/1907/8, 33.
18. A Bill to Amend the Medical Acts, PP 1886 IV.35 (163), 2.
19. Royal Commission on Venereal Diseases, Appendix to First Report, Cd 7475, q. 5648.
20. Royal Commission on Venereal Diseases, PP 1913–16 Cd 8190 (Appendix to Final Report of the Commissioners, Minutes of Evidence), q. 14424 (henceforth, Royal Commission on Venereal Diseases, Appendix to Final Report, Cd 8190).
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Postgraduate Specialism

‘Medical men were to the last day of their lives learners’.

– *BMJ*, 1899

In February 1899 the *BMJ* enthusiastically announced that a new postgraduate teaching college was to open in London. After years in professional practice, general practitioners would be ‘anxious’ for opportunities to augment and refresh the knowledge acquired as undergraduates.¹ The Medical Graduates’ College and Polyclinic (MGC) sought to provide such educational opportunities. Its teaching focused principally upon special fields of knowledge such as venereal diseases that received little systematised attention at an undergraduate level. It was an institution that offered doctors ‘mutual instruction in consultation in difficult cases of disease’. Courses were designed to refresh knowledge, introduce doctors to new knowledge claims and clinical practices and, overall, enhance the ‘general usefulness’ of the medical profession.²

The overcrowded and generalist nature of the undergraduate curriculum meant that venereal diseases, especially in their more remote sequelæ,

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were often addressed in an unsystematic way. Venereological teaching depended greatly upon the availability of clinical material and the special interests of individual teachers. It was one of several fields of specialist knowledge to receive fragmentary and opportunistic attention at an undergraduate level. Indeed, as the London Hospital's own Medical Council acknowledged in 1912, no single doctor could be expected to master each of the increasingly diverse and specialised fields of medical knowledge.³ Rather, it was necessary to produce competent general practitioners. As a result, doctors qualified with only a foundational knowledge of venereal diseases. Some continued developing that knowledge through encounters with venereal cases in professional practice. But it was generally assumed that most participants in postgraduate study possessed only foundational venereological knowledge.

Various witnesses before the RCVD expressed concern about leaving specialist venereological training to postgraduate institutions. William Osler believed that only those doctors who intended to specialise in venereal diseases, or were encountering large numbers of cases, would pursue such postgraduate study.⁴ Institutionalised postgraduate study constituted an important channel through which structured and specialised knowledge of venereal diseases could be disseminated. Before the First World War, however, these institutions were confined primarily to the metropolis and utilised by a small percentage of qualified doctors.⁵ Faced with the demands of general practice, few doctors would have had the time or incentive for such study.⁶ Under such circumstances, improved instruction among undergraduates was thought to be the more effective method of disseminating knowledge about venereal diseases. Yet this method risked narrowing a curriculum designed to produce competent generalists.⁷ Although problematic, the pursuit of special knowledge was thought more suitable at a postgraduate level, where it neither competed with undergraduate medical schools nor threatened the generalist nature of the curriculum.

The effects of venereal diseases upon multiple structures and functions of the body confirmed their place within several different disciplines. Postgraduate lectures and demonstrations on the different manifestations of syphilis and gonorrhoea continued to be compartmentalised. Nonetheless, the study of venereal diseases at postgraduate institutions was less fragmented and opportunistic than that available to undergraduates. Postgraduate study provided a more holistic theoretical framework within which to consider the various manifestations of venereal diseases. It attempted simultaneously to build upon and move away from

the generalism advocated at an undergraduate level. Just as the special departments of general hospitals brought undergraduates into greater contact with venereally diseased patients, so too did postgraduate institutions facilitate further, specialised study.

Studies of nineteenth- and early twentieth-century specialism have not considered why some subjects, such as venereal diseases, did not achieve specialist status. The place of venereal diseases within postgraduate study and within the landscape of medical practice more broadly has been consequently overlooked. Although often integrated into the study of other disciplines, venereal diseases figured prominently at the MGC, suggesting that doctors were keen to study these diseases and their various sequelæ. Indeed, few subjects received more attention in clinical lectures and the pages of the *Polyclinic*, the College's journal. Lecturers with special interests in venereal diseases, as well as other special subjects, were appointed. Their objective was to share their expertise and call attention to instructive and diagnostically challenging cases. Prominent medical men, including Jonathan Hutchinson and Charles Hawthorne, regularly published accounts of interesting and instructive venereal cases brought before postgraduates.

Most who sought postgraduate training came from the rank and file of general practitioners, who otherwise had limited opportunities systematically to refresh or augment their knowledge. General practitioners were increasingly absent from the staff of major general hospitals where they would have been regularly exposed to clinical developments and to patients suffering from a variety of venereal conditions.⁸ As Leonard Bidwell testified before the Royal Commission on University Education in London (RCUEL), advances in medicine were becoming so rapid that any doctor who did not refresh his knowledge was 'apt to find himself left behind'.⁹ Although his opinion was influenced by his desire as Dean of the West London Hospital Postgraduate College (WLH) to attract more students, it nonetheless reflected a general concern for the state of knowledge among older generations of doctors. Those without access to hospital resources had to find other methods of refreshing and augmenting their knowledge.

Yet little attention has been given to the postgraduate medical institutions, which were established during the final decades of the nineteenth century and catered primarily to the educational needs of general practitioners. Postgraduate study appealed to doctors because it pushed professional boundaries, challenged traditional knowledge claims, stimulated

discussion of new ideas and clinical practices and attempted to provide clarity to areas of medical uncertainty.¹⁰ Importantly, it did this without placing too great a strain on doctors' limited time.

These postgraduate colleges were among a growing number of special clinical institutions, which attended to cases that the larger general hospitals were reluctant to admit, such as gonorrhoea and early stage syphilis.¹¹ Such opportunities for postgraduate study marked a wider shift in attitudes towards medical education and professional knowledge around the turn of the twentieth century. They reflected a growing acceptance of medical specialism as a form of professional advancement and as a legitimate means of acquiring knowledge. Doctors, especially general practitioners with limited means of systematically acquiring new knowledge, were given greater access to unusual and exemplary cases of the types of conditions that they might be called upon to treat. Postgraduate study was intended to provide a more holistic theoretical framework within which to conceptualise these cases. As one commissioner to the RCUEL put it, postgraduate study was

... a refresher course for the class of man who will not go back to a medical school, who is older and does not want to be a clerk or dresser any more, who wants to know about special diseases, and be refreshed by seeing the way in which an experienced practitioner handles clinical cases.¹²

Postgraduate study offered general practitioners access to a constantly changing body of medical knowledge, allowing them to pursue special interests while maintaining their general practices. It enabled doctors to employ newer, more reliable diagnostic techniques and therapies, increasing the likelihood of enhanced professional reputations and expanded clinical practices.¹³ Although not a common follow-on from undergraduate study, postgraduate study was nonetheless an important addition to the landscape of English medical education and English venereology.

This chapter examines the teaching of venereal diseases at a postgraduate level from the opening of the London Postgraduate Course (LPC) in 1889 to the establishment of the MGC's specialist course on venereal diseases in 1914. It addresses the ways that lecturers, specifically at the MGC, attempted to fill perceived gaps in the venereological knowledge of postgraduates. Although universities and teaching hospitals were increasingly offering postgraduate courses to medical graduates, none offered such

comprehensive study of venereal diseases as the MGC.¹⁴ One of several venereal conditions to receive ongoing attention at the MGC was *tabes dorsalis*, which would eventually be classified under the diagnostic category ‘neurosyphilis’. *Tabes dorsalis* is used in this chapter as a case study for the ways in which postgraduates were taught about venereal diseases. The physiological and neurological manifestations of tertiary-stage syphilis were a subject of much debate and uncertainty at the turn of the twentieth century. Lecturers at the MGC assumed that general practitioners were particularly ill-equipped to diagnose and treat tabetics. Changing understandings of *tabes dorsalis* were intertwined with important diagnostic and therapeutic developments. The debate surrounding such conditions and the ways postgraduates were taught about them demonstrates how new and contested ideas were slowly being integrated into a corpus of accepted venereological knowledge.

FACILITIES AT THE MGC

The MGC replaced the prototypical LPC (an institution for which there are few surviving records), whose establishment in 1889 had marked the beginning of a sustained effort to provide opportunities for postgraduate study in London.¹⁵ Thirty doctors enrolled in the first session of the LPC. Its organisers claimed that such popularity demonstrated ‘a want actually felt, that of collective instruction in subjects to which the student before he is qualified has not time or, indeed, always the opportunity to do justice’.¹⁶ By 1892 the LPC’s academic year was broken into three terms of eight weeks, with twelve courses offered at affiliated hospitals during each term. These hospitals included the National Hospital for the Paralysed and the Epileptic, Moorfields Eye Hospital, the Hospital for Diseases of the Skin and the Central London Sick Asylum, all of which probably brought postgraduates into contact with venereal diseases.¹⁷ At least eight of the sixty lecturers connected with the LPC would join the teaching staff of the MGC and lecture on venereal diseases. Moreover, four of the LPC’s principal organisers—J. Fletcher Little, C. Theodore Williams, James Cantlie and Hutchinson—were to be instrumental in the establishment of the MGC, building upon the structure and objectives of its predecessor.¹⁸ The MGC was much more ambitious in the scope and frequency of its teaching. However, the system of courses established by the LPC provided an educational framework, a professional network

of lecturers and general publicity from which the founders of the MGC could draw.

Premises were secured at 22 Chenies Street, Bloomsbury, close to University College Hospital, the London School of Tropical Medicine (LSTM) and the Royal Society of Medicine, and included consultation rooms as well as facilities for demonstrations, lectures and practical classes.¹⁹ A subscription also gave doctors access to the MGC's reading room, library and museum. The latter housed Hutchinson's extensive collection of medical prints, anatomical models, photographs, instruments and specimens, much of which pertained to his special interest in venereal diseases.²⁰ For an additional fee, doctors could also utilise the MGC's clinical and pathological laboratory (Fig. 3.1).



Fig. 3.1 Façade of the Medical Graduates' College and Polyclinic (*The Polyclinic*, 1904; Bodleian Library, University of Oxford)

The MGC's laboratory offered a number of diagnostic services and facilities. Doctors could perform their own tests or send samples for analysis. Gonococcal testing, at 3s.6d., was modestly priced compared to other pathological services; bacteriological diagnosis of diphtheria cost 5s.²¹ As will be seen in Chapter 4, the MGC's laboratory was one of a growing number of laboratories in Britain offering diagnostic facilities, including tests for *gonococci* and, later, *spirochaeta*.²²

By 1914 laboratory services at the MGC included the Wassermann reaction at a cost of £2.2s., as well as urine analysis to determine the presence of arsenic in patients receiving salvarsan treatment. Accompanying this updated list of diagnostic services were instructions for the collection of samples. When performing the Wassermann reaction, subscribers were advised to half fill a Wright's capsule or collect approximately thirty drops in a test tube. For those subscribers unable to attend the MGC, specimen containers for dispatch through the post could be obtained on application.²³ It was hoped that general practitioners, having been introduced in lectures to the theory and effectiveness of gram staining and the Wassermann reaction, would embrace these new technologies and utilise the MGC's diagnostic services. However, as will be seen in Chapters 4 and 5, bacteriological and serological testing was often prohibitively expensive.²⁴ It is unclear how frequently the MGC's diagnostic services were utilised. Such expense, in addition to subscription fees, likely made these services unaffordable, especially for use on a regular basis.

The MGC's founders, including Cantlie, Hutchinson and Malcolm Morris (the latter of whom would sit on the RCVD), held posts at other London hospitals and were considered authorities in their fields. All had experience of diagnosing and treating venereal diseases and all lectured on the subject at the MGC. The most influential college founder was Hutchinson. As co-founder, council member, chairman, editor of the *Polyclinic*, one-time president, regular lecturer and significant financial benefactor, he was instrumental in the MGC's establishment, organisation and teaching. His involvement certainly influenced the level of attention given to venereal diseases in various courses at the MGC and in the pages of the *Polyclinic*. That venereal diseases continued to figure prominently after his resignation as editor in 1903, and even after his death in 1913, demonstrated an ongoing concern and interest among a wide cross-section of lecturers and postgraduates.

By the 1890s large numbers of medical staff in the London general hospitals (as well as other cities throughout Britain) held appointments at

various special hospitals and postgraduate colleges, where their specialist knowledge could be developed and employed in the treatment of patients and the teaching of students.²⁵ In addition to the clinical expertise of its founders, the MGC enjoyed the support and scholarly contributions of several other elite medical men. They were respected authorities in their different fields and brought prestige to the fledgling college. Between 1899 and 1905, lectures on venereal diseases were delivered at the MGC by at least thirty-three doctors with diverse interests in dermatology, laryngology, ophthalmology, pathology, psychiatry, neurology and obstetrics and gynaecology. Among them were William Osler, James Ernest Lane, James Sequeria and Frederick W. Mott. Like Mott, George Henry Savage, physician superintendent to Bethlem Royal Hospital, lectured on neurological conditions associated with tertiary-stage syphilis. They were joined by Sydney Stephenson, ophthalmologist and authority on gonorrhoeal ophthalmia neonatorum, who lectured on syphilitic conditions of the eye. These doctors did not style themselves as venereologists but their diverse collection of specialisms indicates an understanding of venereal diseases as multifaceted and best addressed within a variety of associated disciplines, rather than as a self-contained specialism.

Many who lectured at the MGC were also involved with the teaching of students at their respective hospitals and would have appreciated the limitations of venereological teaching at an undergraduate level. The content of most lectures given at the MGC assumed a working knowledge of common symptoms, modes of transmission and methods of treatment. Lecturers expected postgraduates to be familiar with common symptoms of acquired and congenital infection: chancres, rashes, stricture, discharges, genital sores and Hutchinson's 'Hutchinsonian' triad of interstitial keratitis, notched teeth and middle-ear deafness.²⁶ Lecturers built upon this knowledge by offering detailed study of specific venereal conditions, emphasising the obscurity and multiplicity of symptoms and conceptualising these symptoms within a wider theoretical framework. Although lecturers assumed a basic level of knowledge among postgraduates, they were also aware of gaps in the knowledge of those postgraduates. During a clinical lecture on 'The Treatment of Syphilis' in 1904, Lane lamented the poor state of venereological education in England: 'There is a lack of system in our treatment [and] ... a want of appreciation of the remotely destructive effects of the syphilitic virus.'²⁷ More 'remotely destructive' (or obscure) effects such as tabes dorsalis were difficult to diagnose and link to an underlying syphilitic infection.²⁸ These

were the types of uncommon and diagnostically challenging cases that occupied lectures and demonstrations at the MGC and filled the pages of the *Polyclinic*. Such attention suggests that these were more likely to have been overlooked or misdiagnosed and therefore required further clinical study.

CLINICAL CONSULTATIONS

Consultations at the MGC were an important forum in which students could develop their knowledge of venereal diseases. Subscribers with instructive cases under their care were encouraged to contact the Medical Superintendent to arrange for these patients to be presented for consultation. Letters of recommendation were required from the family doctor, as was a declaration that the patient was suitably ill and impoverished and therefore deserving of gratis consultation. The criteria used to determine financial and medical suitability meant that working-class and lower-middle-class patients, who were otherwise unable to afford referral to a specialist, could be accepted at the MGC. In September 1900, for example, the MGC offered seventeen consultations at which eighty-seven patients were 'presented for advice'.²⁹ By the end of that year, 1027 patients had been received for consultation.³⁰

There is no discernible pattern in the referral or acceptance of patients for consultation. Articles and abstracts in the *Polyclinic* indicate that there was a steady supply of venereal cases. Some patients were referred because their illness was believed to be suitably interesting and edifying to post-graduates. Others appeared at the MGC because the referring doctor sought a second opinion or wanted to improve their own knowledge in a particular field. The MGC's system of referral reflected a wider trend in professional practice. Systems of referral were well established among doctors by the turn of the twentieth century.³¹ General practitioners who had insufficient knowledge or experience to treat particular cases could seek a second opinion. However, one contributor to the *Polyclinic* lamented that general practitioners could often do little more than refer to hospitals poorer patients in need of more specialised care. After referral general practitioners would lose clinical and financial control of such cases.³² This account reflected long-standing concerns that general practitioners were losing patients to the hospitals.³³ The MGC's system of referral was based upon this broader model but, importantly, it allowed general practitioners to retain their patients. It allowed them to receive professional advice

regarding the nature of a patient's condition while giving consultants access to difficult or interesting cases that fell within their field of special interest.

Following referral, a patient would be presented to attending postgraduates who, guided by the lecturer, discussed the patient's history and symptoms, the method of diagnosis and the most effective treatments. According to Williams, the value of the MGC was not only in the volume of cases seen each year but also the manner in which these cases and accompanying medical knowledge were conveyed to postgraduates. The postgraduate was able to 'ask questions and examine the patients for himself'.³⁴ Open discussion that often followed offered postgraduates an opportunity to seek clarification or elucidation on various aspects of the case.

Case histories were instrumental in the development and circulation of medical knowledge. They transformed subjective experiences of illness into statistically comprehensible data.³⁵ Doctors at the MGC sought to make venereal conditions understandable through the presentation of cases and the keeping of case histories in which they described and categorised symptoms. Such practices have been criticised for their objectification and subjugation of the patient in favour of a reductionist approach to disease and the diagnostic process.³⁶ Yet despite such problems, case histories have long been central to the study and practice of medicine. They exposed students to common and uncommon symptoms, as well as the most appropriate diagnostic and therapeutic practices. These cases were contextualised by, and were instrumental in developing, venereological knowledge.³⁷ Cases presented for consultation at the MGC conformed to this theoretical and educational framework and offer important insight into the knowledge and values of postgraduates and the doctors who lectured to them.

The MGC was not equipped to accommodate inpatients or provide ongoing medical care and supervision. Nevertheless, some of the more perplexing or unusual venereal cases warranted one or more return visits to allow postgraduates to chart either the patient's deterioration (in untreatable and degenerative cases such as locomotor ataxia) or their improvement under a prescribed treatment regime.³⁸ Hutchinson remarked casually of one patient—a sailor 'not too careful in his habits'—with locomotor ataxia and double aortic disease that 'it will be interesting to observe whether he ultimately glides into general paralysis'.³⁹ He deemed the case particularly interesting and instructive 'as bringing together in one person two,

if not three, important pathological conditions known to own syphilis as their distinct ancestor'.⁴⁰ This was a case of genuine medical curiosity. Locomotor ataxia was not only thought to be irreversible but was just beginning, in 1900, to be aetiologically linked to tertiary-stage syphilis.

CROSS-INSTITUTIONAL COOPERATION

Postgraduate colleges did much to refresh their students' knowledge and introduce them to new ideas and practices. But they were nonetheless faced with a constant shortage of instructive clinical material.⁴¹ The *Polyclinic* was usually optimistic in its estimation of the popularity and efficacy of clinical classes. Yet the editor was also aware that the supply of cases upon which those classes relied was in turn reliant upon the cooperation and enthusiasm of subscribers. Unlike the WLH, whose inpatients and outpatients offered a steady supply of clinical material for practical instruction, most cases brought for consultation at the MGC were drawn from the private practice and hospital work of its lecturers and postgraduate subscribers.⁴² Most lectures, clinical demonstrations, practical classes and laboratory work were conducted on the MGC's own premises and with little formal cross-institutional cooperation.

By contrast, the London Postgraduate Association had been able to affiliate with several metropolitan teaching and special hospitals including the LSTM, St Thomas's Hospital, Guy's Hospital and St Mary's Hospital, all of which would have given postgraduates access to venereal cases. Any doctor holding a relevant ticket from the Association could access clinical instruction on the wards of these hospitals. If interested in one particular specialism, they could also pursue that interest through each hospital's various special departments.⁴³

The MGC was eager to establish similar professional links with metropolitan hospitals and medical schools, thereby making available to its postgraduates the wealth of clinical material in wards and outpatient departments. Unfortunately, several of the larger teaching hospitals declined to affiliate. This reluctance was, according to the *Polyclinic*, because these hospitals already accepted undergraduate students and could not adequately accommodate postgraduate study.⁴⁴ Indeed, the lack of teaching staff and resources in English medical schools meant that opportunities for specialist study, particularly specialist postgraduate study, were scant.⁴⁵ In 1906 Hutchinson, in his capacity as a member of the London Hospital's Medical Council, advised that formal teaching for

postgraduates to the exclusion of the hospital's own undergraduates was 'undesirable'. The London Hospital did establish a 'system of supervision' over postgraduates attending its various departments for instruction. However, even Hutchinson, with competing interests in the MGC, prioritised the educational needs of undergraduates above those of qualified doctors.⁴⁶

Various doctors involved with postgraduate teaching stressed the need for tailored classes that were separate from those of undergraduates, but the practicalities of such arrangements in teaching hospitals were problematic.⁴⁷ Many teaching hospitals throughout Britain already offered their own courses of postgraduate instruction.⁴⁸ The MGC's demand that prospective hospital affiliates provide separate and tailored classes undoubtedly contributed to their reluctance to accommodate additional postgraduates. This lack of cooperation raises questions about the efficacy of the teaching programme offered by the MGC. Although the *Polyclinic* remained optimistic about the MGC's ability to maintain a steady supply of clinical material, the majority of venereally diseased patients whose circumstances would have entitled them to gratis consultation continued to gravitate towards hospital outpatient departments and Poor Law infirmaries. The MGC continued to offer important opportunities for clinical instruction but its postgraduates were unlikely to have enjoyed access to the larger selection of venereal cases available at established teaching hospitals.

In an attempt to overcome such problems, cooperation was sought from hospitals unaffiliated with medical schools—an approach that Bidwell considered more appropriate for postgraduate teaching.⁴⁹ At a Council meeting in July 1900, the Seamen's Hospital Society was added to the list of potential affiliates. But it was already affiliated with the London School of Clinical Medicine.⁵⁰ In October Guthrie Rankin proposed that the Metropolitan Asylums Board Hospitals, the WLH, the Lock Hospital in Soho and Bethlem Royal Hospital be included in the MGC's 'scheme of Hospital Association'.⁵¹ The London Lock, Bethlem and Asylum Hospitals (all of which would have brought postgraduates into contact with venereal cases) declined to affiliate while the WLH already offered its own successful postgraduate courses.

It was hoped that other institutions would prove more amenable, thereby securing 'very excellent opportunities for clinical observation'.⁵² By the end of 1900, ten general and special hospitals had indeed expressed their willingness to affiliate with the MGC, including the Dreadnought

Hospital Greenwich, Victoria and Albert Dock Hospital, the Evelina Hospital, the Westminster Ophthalmic Hospital and Blackfriars Hospital for skin diseases.⁵³ These affiliate hospitals would have offered postgraduates additional study of cases of acquired and congenital syphilis, as well as cases of gonorrhoeal infection, including ophthalmia neonatorum. The *Polyclinic* advised its readers that postgraduates seeking hospital instruction could access any type of desired clinical work by applying for a list of the MGC's affiliated institutions.⁵⁴

‘AN OUNCE OF PRACTICE IS WORTH A TON OF THEORY’

The MGC published figures for annual subscriptions and total monthly attendance. In January and February 1900 there was an average of 230 weekly attendances.⁵⁵ There were 1371 attendances in November, with an average of 60 attendees at each afternoon consultation.⁵⁶ Drawing conclusions about the variation in attendance between subscribers in each month is problematic, however, because the statistics did not differentiate between repeat and isolated visits. The total number of original members in 1899 was quoted as 535.⁵⁷ Subscriptions fluctuated over the following decade, with 731 in 1903, 712 in 1906, 637 in 1909 and 681 in 1912.⁵⁸ Average annual subscriptions were three per cent of the total number of doctors recorded in England and Wales in the 1911 Census.⁵⁹ These respectable but small subscription numbers reflected the fact that postgraduate study, although gaining in popularity, had yet to become a fully integrated aspect of English medical education and professional advancement.

Although total monthly attendances continued to increase, successive fee reductions throughout 1900 indicate that the MGC did not attract the levels of professional interest initially expected. Annual subscriptions for doctors based outside of London were reduced to one guinea, as compared to the two guineas charged to London-based doctors.⁶⁰ Most subscribers were drawn from the greater London area but a sizeable minority were based in other British cities and as far away as Bombay and New South Wales.⁶¹ These changes in fee structure indicate that attendance was greater among London-based doctors. Yet fees were soon changed again to equalise resident and non-resident subscriptions at one guinea. The MGC doubted whether in reality London doctors had taken full advantage of the College's facilities.⁶² It was hoped that fee reductions would alleviate financial pressures by encouraging further subscriptions among those who had hesitated to commit to an annual ‘burden’ of two guineas.⁶³ However,

several years after the equalisation of fees (which the *Polyclinic* resignedly described as ‘too indiscriminately low’), the MGC still lamented that its facilities were not being utilised thoroughly by subscribers.⁶⁴

Work conducted at the MGC constituted an important but nonetheless narrow channel through which a small number of doctors could hope to improve their practical knowledge of venereal diseases. The terms of subscription included the free monthly delivery of the *Polyclinic*. For subscribers who attended classes, the journal acted as a record of, and supplement to, practical study of venereal diseases. For those who could not attend classes, the write-ups of select lectures and unusual cases were intended to provide exposure to contemporary ideas and debates. The journal functioned as a substitutional, rather than supplementary, educational tool. But as helpful as it was, the *Polyclinic* could not compensate for the absence of practical instruction. Non-resident doctors were unable to examine patients, engage in professional discussion or make regular use of the MGC’s laboratory, thereby hindering attempts to improve their practical knowledge of venereal diseases.

Moreover, the *Polyclinic* offered contradictory estimates of the quality of its own articles. The journal was considered to be a valuable record of the MGC’s clinical work, through which non-attending subscribers could remain *au fait* with the cases and ideas discussed during consultations and lectures.⁶⁵ Hutchinson asserted that articles were intended as ‘instructive commentary upon consultation work’ which, it was hoped, would be ‘as good a substitute as printed material can be for *actual* observation’.⁶⁶ Yet despite his editorial enthusiasm, even Hutchinson acknowledged the educational limitations inherent in a reliance upon written information as a total or even substantial substitute for practical study. Of the large volume of patients presented at the MGC each month, only the most ‘important’ cases were written up for publication. Many of these articles were considered to be ‘mere fragments of narratives without endings’ because most patients did not return for follow-up consultations.⁶⁷ As early as 1901, the MGC regretted that only ‘a small portion’ of the venereal cases presented for consultation ‘found adequate record’ in the pages of the *Polyclinic*.

Some of our members will put themselves to great trouble to bring for demonstration an important case, and a skilled physician will devote much time and care to its investigation, and then neither ... will [write] out the record in an accurate but pithy form suitable for publication.⁶⁸

Detailed write-ups of cases and lectures provided a good indication of common misdiagnoses and forms of treatment prescribed to venereally diseased patients. However, the educational value of these write-ups was limited because they lacked the visual stimulus and stimulating discussion that accompanied clinical classes. Given the potential for the misdiagnosis of uncommon or obscure symptoms, a lack of practical experience placed the absentee postgraduate at a significant disadvantage. As John Pardoe observed in 1906, ‘an ounce of practice is worth a ton of theory’.⁶⁹ The *Polyclinic* might have equipped readers with a ton of theoretical knowledge but it did not offer absentee postgraduates the necessary practical instruction to diagnose and treat more challenging conditions, such as tabes dorsalis.

Despite its limitations as a substitute for practical instruction, much can be gained from considering as a means of knowledge circulation the *Polyclinic*’s editorial correspondence, advertisements and articles. Historians have given little attention to the ways that doctors used medical publications as a means of refreshing or expanding their knowledge.⁷⁰ From 1904 onwards the journal was allocated a reduced budget with the hope that advertising revenue would eventually make it self-supporting.⁷¹ The inclusion of advertisements resulted in fewer articles but they were themselves important tools in the development of knowledge and practice. They were designed to draw attention to therapeutic and technological innovations. Among those frequently reprinted were advertisements for ‘Gonosan’, which claimed to diminish pain, lessen discharge and prevent ‘the much dreaded complications’ of gonorrhoea. Apart from being marketed as ‘a remedy for combatting the effects of the *gonococcus*’, little else is known of gonosan or how commonly it was employed. However, it claimed to so influence ‘the state of the urine and mucosa that the former is rendered antiseptic and the latter analgesic’. Doctors could place orders for boxes of 50 capsules at a cost of 3s.6d (Fig. 3.2).⁷²

In 1910 the *Polyclinic* also ran advertisements for ‘Soamin’, which, it claimed, produced ‘striking success in syphilis’ (Fig. 3.3).⁷³ Soamin was also advertised in the Burroughs Wellcome and Co. trade catalogues at 18s. per dozen five-gram bottles.⁷⁴ It was marketed as

... stable, uniform in action, and is of low toxicity, as compared with arsenious acid and other inorganic compounds ... Clinical reports obtained in a series of cases of syphilis efficiently demonstrate that ‘Soamin’, administered by

Gonosan A Remedy for Combating the
Effects of the Gonococcus.

Gonosan consists of Oil of Sandal Wood, in combination with Kawa-Kawa. Gonosan (a) diminishes pain very materially (b) lessens the discharge, and (c) prevents the much dreaded complications. It so influences the state of the urine and the mucosa that the former is rendered antiseptic and the latter analgesic.

In boxes of 50 Capsules, 3s. 6d. per box.

Descriptive Literature sent post free to Medical Men on application.

THOS, CHRISTY & CO.,
4, 10 & 12 OLD SWAN LANE, UPPER THAMES STREET, LONDON, E.C.

Fig. 3.2 'Gonosan' advertisement, 1904 (*The Polyclinic*, 1904; Bodleian Library, University of Oxford)

intramuscular injection, may be considered a specific. In most cases complete disappearance of the symptoms resulted and there was marked ... improvement in general health.⁷⁵

Despite such praise, doctors were unconvinced of its therapeutic benefits. In 1911 H.C. French of the Royal Army Medical Corps (RAMC) reported that the War Office, having compiled evidence from six large military treatment stations, had found the prophylactic and therapeutic value of soamin to be inconclusive and had not recommended its continued use.⁷⁶ Soamin was soon replaced by Ehrlich's salvarsan.⁷⁷ The *Polyclinic's* 1911 advertisement for salvarsan described it as 'the most efficient remedy ever introduced into the therapeutics of *syphilis*' (Fig. 3.4).⁷⁸

In 1908 and 1910, the *Polyclinic* also ran full-page advertisements for 'bacterial vaccines' prepared at St Mary's Hospital under the supervision of Almroth Wright. Included in these advertisements were stock anti-gonococcal vaccines prepared from pooled cultures of *gonococci*. As will be seen in Chapter 4, it was among a number of new sera products being developed and distributed commercially for a variety of conditions in the years before the First World War.⁷⁹

Such advertisements were found in most medical periodicals and reflected wider trends in the promotion of new products.⁸⁰ It was



SUCCESSFUL RESULTS
 have followed the use of the
 ARYLARSONATE

'SOAMIN'

(TRADE MARK)

Sodium Para-aminophenylarsonate

IN
 GENERAL PARALYSIS, CEREBRO - SPINAL
 MENINGITIS, SLEEPING SICKNESS AND
 TUBERCULOSIS

For Clinical Reports, see *B.M.J.*, Jan, 22, 1910, pp. 192-198

STRIKING SUCCESS IN SYPHILIS

See special booklet, "Arylarsonates,"
 which will be sent post free on request

*'SOAMIN' is supplied in bottles of 5 gm. and 30 gm.,
 at 1/6 and 6/0 per bottle. 'TABLOID' 'SOAMIN':
 gr. 1, in bottles of 100, at 2/4 per bottle; gr. 5 and
 0.3 gm., in bottles of 25, at 2/6 per bottle*

BURROUGHS WELLCOME & CO., LONDON

NEW YORK MONTREAL SYDNEY CAPE TOWN
 MILAN SHANGHAI



XX 152 Copyright



Fig. 3.3 'Soamin' advertisement, 1910 (*The Polyclinic*, 1910; Bodleian Library, University of Oxford)

ADVERTISEMENTS. vii.

MODERN THERAPEUTICAL AGENTS.

SALVARSAN

THE "EHRlich - HATA" ARSENIC COMPOUND "606" or
DIOXYDIAMIDOARSENOBENZOL is the most efficient REMEDY ever
introduced into the THERAPEUTICS of SYPHILIS.

SALVARSAN is also indicated in Recurrent Fever, MALARIA, Pemphigus, Lichen ruber
planus, Frambœsia, Psoriasis, Early Stages of PARALYSIS and EPILEPSY, NERVE and
Blood Diseases.

<p>PYRAMIDON The most reliable, safest and best ANTIPYRETIC, ANALGESIC and ANTINEURALGIC</p>	<p>SYNTHETIC SUPRARENIN The active adrenal substance built up by chemical synthesis Superior to all natural adrenal PREPARATIONS</p>
<p>TUMENOL-AMMONIUM An invaluable remedy for ECZEMA and all kinds of skin diseases. No unpleasant smell, easily soluble in water Cheap in use</p>	<p>VALYL Excellent nervine and nerve sedative for all nervous disorders Useful in Tinnitus ANTIDYSMENORRHÆIC</p>
<p>ALBARGIN Excellent ANTIGONORRHÆIC. Strongly bactericidal, deep, penetrative action. No irritation. ECONOMIC IN USE</p>	<p>SABROMIN Absolutely tasteless substitute for Alkaline BROMIDES ANTISPASMODIC and SEDATIVE</p>
<p>ANÆSTHESIN Local Anæsthetic with reliable long continued action. Absolutely NON-IRRITANT and NON-TOXIC External and internal use</p>	<p>SAJODIN Tasteless and Odourless Substitute for Pot. iod. IRONSAJODIN</p>

Prof. Koch's TUBERCULINS for DIAGNOSIS and TREATMENT.

✎ **WRITE FOR SPECIAL PAMPHLET ON TUBERCULINS.** ✎

ANTIDYSENTERY SERUM "Hoechst," ANTIPNEUMOCOCCIC SERUM "Hoechst,"
ANTISTREPTOCOCCIC SERUM "Hoechst," SCARLET FEVER STREPTOCOCCIC
SERUM "Hoechst," DIPHTHERIA SERUM "Hoechst," MENINGOCOCCUS SERUM "Hoechst."

TETANUS ANTITOXIN.

For Samples and Literature apply to:—

**MEISTER LUCIUS & BRÜNING, L^{td.} 51, ST. MARY AXE,
LONDON, E.C.**

Fig. 3.4 'Salvarsan' advertisement, 1911 (*The Polyclinic*, 1911; Bodleian Library, University of Oxford)

considered unprofessional for doctors to associate themselves with medicines advertised to the lay public but advertisements in medical periodicals were clever commercial and educational tools.⁸¹ Advertisements in the *Polyclinic* were designed to provide doctors with information about new therapeutic products and persuade them of their usefulness. Although the administration of salvarsan was confined to a select few hospitals before the First World War, the inclusion of such advertisements in the *Polyclinic* indicates that some general practitioners were able to refer their patients for treatment. Advertisements for drugs such as salvarsan were designed to familiarise doctors with important therapeutic developments, even if they could not administer those drugs themselves.⁸²

References to Paul Ehrlich and Wright were deliberate marketing strategies. As will be seen in Chapter 4, the latter was well known for his work in the emerging field of vaccine therapy.⁸³ Such references were intended to underscore the reliability and efficacy of the advertised pharmaceuticals and encourage *Polyclinic* subscribers to make purchases. Wright's anti-gonococcal vaccine was readily available and thought suitable for administration by general practitioners. For those doctors no longer engaged in formal education or hospital practice, such advertisements were an important means of remaining abreast of therapeutic and technological innovations.⁸⁴

In addition to its articles and advertisements, the *Polyclinic* also included a regular editorial section, to which doctors could write for advice on difficult cases. The *Polyclinic* was a valuable forum through which readers could correspond and receive answers to clinical conundrums. For example, in 1900 one correspondent delivered 'a very fine but dead infant'. Upon questioning, the father admitted to having had syphilis thirteen years earlier but asserted that he had been free from symptoms for many years. The medical correspondent wrote to the *Polyclinic* asking 'whether the indurations of the placenta could be regarded as a trustworthy indication of taint' and whether congenital syphilis was therefore the cause of death. He was advised that the healthy foetal development up until the moment of still-birth 'proves that the placenta was not seriously diseased, and makes it necessary to seek for some other explanation of the death'.⁸⁵

Cases recorded in the *Polyclinic* adhered to a general schematic format. The lecturer or writer offered an overview of the patient's medical history and, occasionally, brief references to the patient's own account of illness. Symptoms were documented and the difficulties of diagnosis raised.

A final diagnosis was made and the case concluded with a discussion of the most efficacious treatments. The *Polyclinic* was not unique in its write-up of such instructive cases. Articles were regularly published in the wider medical press on cases presenting various manifestations of venereal diseases. What made the *Polyclinic* unique was the regularity and detail with which accounts of venereal cases were published and that these were often accompanied by practical instruction.

Most articles about venereal diseases dealt with only one or two specific symptoms. Yet when considered collectively, the great volume of material published in the *Polyclinic* between 1899 and 1914 offers an overview of important developments in venereology. An extensive series of cases of tabes dorsalis, which had been presented to postgraduates at the MGC, were written up for publication. For Rankin these cases were ‘a valuable clinical exhibition’ of the various symptoms of tabes dorsalis which doctors might be called upon to diagnose.⁸⁶ Despite its educational limitations, the write-up of these cases offered subscribers important clinical information. They provided a holistic framework through which to consider orthodox understandings and new ideas regarding the aetiology, diagnosis and treatment of venereal diseases as manifested through different morbid conditions.

TEACHING POSTGRADUATES ABOUT VENEREAL DISEASES

The MGC’s timetable of clinical demonstrations, lectures and practical classes was intended to facilitate discussion and dissemination of current medical knowledge and practice pertaining to various subjects of special interest, including syphilis and gonorrhoea. The extensive collection of venereological articles in the *Polyclinic* offers valuable information about the ways in which these orthodox and innovative knowledge claims were circulated and debated among a select group of doctors. They demonstrate the types of discrepancies in knowledge that existed at the turn of the twentieth century, and how lecturers attempted to build upon assumed knowledge. Specialists could draw upon their own extensive clinical experience, as well as recent research on the subject of neurosyphilis.⁸⁷ Mott’s work, as director of the London County Council Pathological Laboratory at Claybury Asylum (CPL), was particularly influential.⁸⁸ By 1903 the MGC also offered annual courses of composite lectures that, unlike their normal lecture series, were designed to encapsulate contemporary orthodoxy on various aspects of medicine.

The initial decision to offer classes on the diagnosis and treatment of venereal diseases represented an attempt to fill a perceived gap in medical knowledge. Accounts in the *Polyclinic* suggest that instruction at the MGC was popular. Hutchinson's 1900 lecture 'The Present Day Treatment of Syphilis' witnessed an overflow of attendees into the library and consultation rooms.⁸⁹ But surviving records do not offer breakdowns of attendance at individual lectures and demonstrations, so we cannot accurately chart the popularity of classes on venereal diseases. Still, that each volume of the *Polyclinic* contained a large number of articles devoted to the various aspects of venereal diseases indicates that the MGC was responding to healthy attendance rates and an ongoing desire among doctors to receive venereological instruction.

Demand was sufficiently high to warrant the introduction in 1914 of a special course of practical classes devoted to the diagnosis and treatment of venereal diseases.⁹⁰ The identification of the *spirochaete pallida* by Schaudinn and Hoffmann, along with the development of salvarsan and the Wassermann reaction, revolutionised the study and treatment of venereal diseases during the preceding decade. These developments, along with the establishment of the RCVD in 1913, probably influenced the MGC's decision to run what appears to have been the first systematised pedagogic approach to venereological instruction among postgraduates. However, attendance records for this course have not survived. The only precise record of attendance at classes on venereal diseases are found in a receipt book from the WLH in 1911. Of its 202 postgraduates, twenty-two attended classes on venereal diseases. Fifteen of these postgraduates were medical officers in the Royal Navy.⁹¹ Attendance was most likely motivated by rapid diagnostic and therapeutic developments, coupled with the attention given in the medical press to the proceedings of the RCVD. It is unclear, though, how attendance compared with the WLH. Certainly, the great popularity of Hutchinson's own lectures suggest that the MGC enjoyed healthy levels of attendance at its special course on venereal diseases.

It is also difficult to draw definite conclusions about the educational benefit derived from these courses and to determine how postgraduates were able to apply their newfound knowledge in clinical practice. Although doctors paid fees to attend courses, there was little compulsion to persist with study. With the exception of the Diploma of Public Health and the Diploma of Tropical Medicine, doctors were not required to demonstrate a level of attained knowledge upon the completion of their postgraduate

study.⁹² It was assumed that doctors had already attained a degree of knowledge that placed them in an elite professional group. Postgraduate training was, in some ways, undermining the perception of that knowledge by implicitly admitting that it was not as complete or up-to-date as it ought to be.⁹³ Such implications probably influenced the decisions of postgraduate institutions to refrain from formally assessing the proficiency of their students. Formal assessment was thought not only to demean doctors but also to make them less inclined to pursue postgraduate study. We may know the types of venereological knowledge claims circulated among postgraduates at institutions such as the MGC, but without formal examinations or records pertaining to their clinical practices, it is difficult to determine whether doctors retained and utilised this knowledge.

Many of the cases presented in clinical classes and written up for publication instructed postgraduates in modern clinical practices, as well as correct forms of doctor–patient interaction. By emphasising the necessity for discretion, tact and a degree of scepticism when dealing with problematic patient accounts of illness, or assertions of health, these classes were not simply disseminating epidemiological knowledge. Venereological knowledge also encompassed important social considerations and was built up, in part, through conversations with patients. Doctors needed to accurately diagnose and effectively treat their patients, but they also needed to instil patients with confidence in their knowledge, skill and discretion.⁹⁴ Hutchinson deemed it ‘cruelly inconsiderate’ to question a patient’s parents or spouse, who would likely obfuscate and hinder diagnosis.⁹⁵ Hawthorne reiterated that doctors should exercise discretion when questioning family members since the objective was not mere ‘gratification’ of medical curiosity. Rather, the doctor’s primary concern should be the welfare of their patients.⁹⁶ Postgraduates were being encouraged to think of the patient not only as a morbid condition, but as an individual functioning within larger familial and social networks. They needed to appreciate the potential damage caused by indiscreet questioning and incorrect diagnosis.

On other occasions the personality of the patient and the persuasiveness of their account was remarked upon as being inhibitive of an accurate diagnosis. Hutchinson was surprised by the ‘credulity’ of the assembled postgraduates when presented with a ‘lad’, aged twenty. The patient insisted with ‘such apparent truthfulness’ that he had never been exposed to risk, that many in the audience were inclined to accept his statement.⁹⁷ Such accounts reinforced existing assumptions about the inherent problems

of clinical consultations, especially before the wide application of bacteriological and serological tests. Caution was advocated when questioning patients and their families. However, several detailed cases reported in the *Polyclinic* suggest that doctors nonetheless placed considerable weight upon narratives of illness when diagnosing venereal diseases.⁹⁸ Patient narratives were especially valued in cases where symptoms were slight, contradictory or in isolation from other characteristic indicators.⁹⁹ Simultaneous reliance upon, and frustration with, patient narratives was indicative of the wider constraints of empirical diagnostic practices.

Compared to the fragmented teaching of venereal diseases at an undergraduate level, the MGC provided a more systematised (if not an entirely coherent) theoretical approach to training. Venereal cases were regularly brought before students as examples of various ophthalmic, dermatological, neurological, antenatal or genito-urinary conditions. Such teaching reflected a transitional period in the conceptualisation of various venereal conditions, including tabes dorsalis. Its approach remained, in some respects, pre-theoretical. As in undergraduate study, symptoms of venereal diseases were conceptually and diagnostically compartmentalised within special disciplines, such as dermatology and ophthalmology. Lecturers relied upon traditional diagnostic and therapeutic practices that delineated symptoms according to the bodily structure or function affected. Yet the specialist study of conditions such as tabes dorsalis suggests that postgraduates at the MGC were slowly being encouraged to consider individual cases or specific symptoms within a wider theoretical and pathological framework.

The rise of germ theory and laboratory-based medicine gave currency to the idea of micrococcal specificity but it was not until the identification in 1905 of the *spirochæte pallida* that tabes dorsalis could be conclusively linked to syphilis. The rise of bacteriology led to the identification of a variety of causative agents, but there was no automatic or universal consensus on how those agents affected different structures and functions within the body.¹⁰⁰ Tabes dorsalis had been identified as a specific disease entity but doctors spoke with varying degrees of certainty about its specific aetiology. In his early research into tabes dorsalis and GPI—research that predated Schaudinn and Hoffmann's identification of the *spirochæte pallida*—Mott preferred to talk about the diffusion of a syphilitic 'poison' throughout the body, rather than a specific microorganism. It was a term sufficiently ambiguous to allow Mott and his contemporaries to discuss the potential effects of syphilis without making definite statements that

exceeded existing knowledge.¹⁰¹ New theories of disease causation were altering how doctors studied, diagnosed and treated their patients. These changes, however, would be gradual, competing for pre-eminence with more entrenched knowledge claims and clinical practices.

Historians have attributed this slow adoption of new ideas to the powerful appeal of continuity and familiarity, the ingrained values and ideas acquired during undergraduate training and the multiplicity of competing knowledge claims.¹⁰² Knowledge of *tabes dorsalis* was comparatively new and under constant revision around the turn of the twentieth century. Older generations of doctors, for whom courses at the MGC were principally designed, would have struggled to modify their views to accommodate superseding ideas.

Discussion of *tabes dorsalis* throughout the 1880s had focused on questions of symptomatology, specifically its characteristic, unique or diagnostically challenging symptoms. Although not confirmed until the turn of the twentieth century, the connection between *tabes dorsalis* and GPI was often speculated upon.¹⁰³ Doctors had begun to discuss the pathology of *tabes dorsalis*. But this discussion rarely extended beyond the post-mortem identification of irregularities such as sclerosis of the posterior columns of the spinal cord. During the final decades of the nineteenth century a conclusive diagnosis was often obtained only at post-mortem, at which doctors could identify a series of internal physical changes that correlated with physiological changes observed in the living patient.¹⁰⁴ Some doctors, such as Thomas Stretch Dowse, former physician superintendent of the Central London Sick Asylum, were beginning to consider such conditions as ‘manifestations of a more or less diffuse process of disease extending over a great part of the central nervous system’.¹⁰⁵ Yet the micrococcal aetiology of this diffuse process was rarely discussed with any certainty or detail. Thomas Buzzard, an authority on diseases of the nervous system, in 1886 reiterated his hesitation to link *tabes dorsalis* to syphilis.

Whilst it appears to me incontestable that there is a remarkable frequency of association between syphilis and *tabes dorsalis*, I do not think, all things being considered, that the time has yet arrived for us to draw safe inferences as to the precise nature of the relation.¹⁰⁶

The respected neurologist William Gowers would also not be drawn on the matter, despite strongly suspecting the role of a causative syphilitic microorganism.¹⁰⁷ Doctors frequently remarked upon the presence

of 'gross intracranial change' leading to necrotic softening of the cerebral arteries, aneurysm and haemorrhage but rarely speculated upon the aetiology of such changes.¹⁰⁸ In the absence of more certain knowledge, questions about aetiology were subordinated to the more pressing and manageable problems of classifying and alleviating symptoms.

Some doctors, such as Joseph Ormerod, physician to St Bartholomew's Hospital, still looked upon syphilis as 'a predisposing rather than the exciting cause' of tabes dorsalis.¹⁰⁹ Nonetheless, other doctors were speaking with much more certainty about such conditions by the turn of the twentieth century. To Buzzard, it was now 'unquestionable' and 'a matter of common experience' that tabes dorsalis was produced by degenerative changes resulting from syphilis.¹¹⁰ The presence of *spirochaetæ* in general paralytics was not conclusively demonstrated until the publication of Hideyo Noguchi and Joseph W. Moore's work in 1913.¹¹¹ However, by the time Mott published his first article on 'brain syphilis' in the *Archives of Neurology* in 1900, the majority belief among English doctors was that syphilis produced tabes dorsalis.¹¹² Like many of his contemporaries, Mott strongly suspected an aetiological link but did not initially commit himself on whether syphilis was the direct cause of these conditions. His early findings, based upon vast amounts of clinical material from asylum and hospital practice, would eventually inform his more unequivocal conclusions regarding the pathogenesis of neurosyphilis.¹¹³ Moreover, his early ideas about tabes dorsalis featured heavily in his lectures and would be reflected in those of his contemporaries at the MGC.

In 1900 the *Polyclinic* published an article on some of the fallacies and misconceptions regarding syphilis believed to be commonly held by doctors. It claimed that doctors often made the mistake of expecting the 'full rôle of phenomena' to be present in every case. Chancres could escape observation and characteristic secondary-stage ulceration of the tonsils may never appear. Likewise, characteristic sores and rashes might be so faint as to avoid accurate diagnosis.¹¹⁴ If true then large numbers of doctors were misdiagnosing those patients whose symptoms did not correlate to the full list of characteristic indicators. Reliance upon the presence of common symptoms to make a diagnosis of syphilis demonstrated fundamental uncertainties. Lecturers at the MGC emphasised the importance of not expecting an assortment of common symptoms. Rather, they attempted to teach postgraduates to make accurate diagnoses based upon what would often have been only one or two discrete symptoms.

The objective was to diagnose, treat and alleviate the discomfort caused by specific morbid conditions such as ocular paralysis that were identified as a symptom of tabes dorsalis. Lecturers also stressed the importance of such symptoms as indicators of a current or past venereal infection. In 1903, when lecturing on 'syphilitic disease of the nervous system', Gowers made the somewhat exaggerated claim that 'no defect in medical education seems so persistent as ophthalmoscopic training'.¹¹⁵ Yet doctors did need to be taught to distinguish between a localised ophthalmic condition and an early symptom of constitutional venereal infection. It is possible that some doctors, through their reading of medical periodicals, knew that tabes dorsalis was being increasingly linked to syphilis. However, many general practitioners were not in a position to diagnose confidently conditions such as atrophy of the optic nerve as the onset of tabes dorsalis.

Tabetics experienced slow deterioration of the spinal cord nerves that carried sensory information to the brain. Apart from the visual impairment brought on by ocular paralysis, symptoms could also include diminished reflexes, incoordination and unsteady gait, sporadic sharp pains throughout the body, personality changes, dementia, deafness, rectal crises and sexual dysfunction. These symptoms were demonstrated in the various cases brought for consultation at the MGC. As Gayle Davis notes, many of the characteristic symptoms of tabes dorsalis were not unique to that condition and could have been easily misdiagnosed when relying upon observational practices.¹¹⁶ Nor were these symptoms easily linked to syphilis. There was often an extended interval between an identifiable syphilitic infection and the manifestation of tabetic symptoms. Moreover, not all syphilitics appeared to develop tertiary-stage infection. Those who did may have presented cutaneous gumma that were not seemingly linked to, or accompanied by, neurological dysfunction. Tabes dorsalis was of particular interest to postgraduates because it was diagnostically and therapeutically challenging and because, in the years before the widespread use of the Wassermann reaction, its venereal aetiology remained a subject of debate.

As Mott observed in his clinical lecture 'On the Early Signs and Symptoms of tabes and General Paralysis', a person in the early stages of either disease would present themselves for the treatment of one of many otherwise obscure symptoms.

A spontaneous dislocation or fracture will take him to the surgeon, and very possibly bladder trouble. A squint, with double vision, or failing

sight, ending perhaps rapidly in blindness, will take him to the ophthalmic department ... A fit, or mental symptoms, will take him to the neurologist or alienist. Each of these modes of onset of the disease is indicative of a special localised degeneration of some part of the nervous system.¹¹⁷

In the following year, Mott identified optic atrophy as one of the most important manifestations of tabes dorsalis because he believed that impaired vision would probably be the first symptom prompting patients to seek medical advice.¹¹⁸ Yet Hawthorne found that the early symptoms of tabes dorsalis were rarely noticed by patients and often detected by doctors only by chance.¹¹⁹ Harry Campbell similarly emphasised the challenging nature of tabes dorsalis by bringing before postgraduates two patients for whom optic atrophy was their only discomfort: 'If only these defects could be remedied, neither patient would consider himself in any sense sufficiently ill to need medical advice.'¹²⁰ In many instances a diagnosis was hampered by the presence of only one or two such obscure symptoms. As Gowers reminded postgraduates, 'almost every common symptom of a morbid state is sometimes absent'.¹²¹ Postgraduates were therefore encouraged to familiarise themselves with these diagnostically challenging physiological 'modes of onset' so that they might recognise a potential underlying venereal infection.

The MGC provided select groups of general practitioners with a forum in which to discuss difficult aetiological, diagnostic and therapeutic questions surrounding conditions such as tabes dorsalis. Although lectures given at hospitals and at institutions such as the Medical Society of London also acted as channels for disseminating knowledge in areas of special interest, there is little indication that rank-and-file doctors regularly attended.¹²² The large collection of tabetic cases brought for consultation at the MGC allowed for the dissemination of highly detailed and specialised knowledge. Yet lectures given at the MGC were not only important for their detailed and specialised content. They also catered primarily to the educational needs of general practitioners, who constituted most of their audience and who were not necessarily in a position to develop independently specialist diagnostic and therapeutic knowledge.

Among the diagnostic practices regularly taught to postgraduates was the examination for, and identification of, ocular paralysis, or what Mott described as 'reflex pupil rigidity'. He found that over seventy per cent of tabetics examined in his asylum and hospital practice demonstrated the characteristic Argyll-Robertson pupil, identified by a loss of light reaction

in one or both eyes.¹²³ In 1900 Hawthorne presented three cases of ocular paralysis to postgraduates at the MGC and gave detailed demonstrations of the process through which an early and conclusive diagnosis could be made. When examining the patient, the light response of each eye would be tested and the pupil constriction noted. Using this protocol, the presence of the Argyll-Robertson phenomenon could be determined.¹²⁴ Hawthorne impressed upon his postgraduate audience that the presence of ocular paralysis ‘must always give rise to a suspicion of syphilis’ and be considered ‘very frequently the first evidence of serious organic disease of the central nervous system’.¹²⁵ Such lectures offered postgraduates opportunities for detailed study of a single but diagnostically significant symptom. They laid out in great detail the clinical process through which doctors could most easily and confidently arrive at a correct diagnosis of ocular paralysis, which might in turn indicate the onset of tabes dorsalis.

In January 1910 J.E.R. McDonagh delivered a lecture at the MGC on the serum diagnosis of syphilis using the Wassermann reaction. Although general practitioners were not in a position to perform the highly specialised procedure themselves, such lectures demonstrated the need for at least a theoretical understanding of its nature and effectiveness. For doctors who had qualified before the development of this technology, such lectures, along with articles in the medical press, were especially important for acquiring up-to-date knowledge. It was hoped that such an appreciation would encourage doctors to send samples for serological analysis. But these lectures came with warnings. In introducing postgraduates to the theory of the Wassermann reaction McDonagh explained when the test should be performed and what physiological conditions (such as recently finishing a course of mercurial treatment) might produce a false negative. He also impressed on his audience that a patient’s blood should be examined ‘no sooner than a month after completing a course of mercury’.¹²⁶

By contrast, McDonagh asserted that a course of salvarsan treatment could be followed immediately by a Wassermann reaction.¹²⁷ L.W. Harrison attributed this to the superior therapeutic effects of salvarsan. Such instruction was of great benefit to general practitioners in determining when to collect samples for analysis.¹²⁸ Despite extolling the benefits of the Wassermann reaction, he also warned doctors against relying too heavily upon its results. As we shall see in the next chapter, such caution reflected wider concerns over the reliability of the reaction. Despite its acknowledged potential, the Wassermann reaction was a new, expensive and experimental technology. McDonagh was reiterating the

views of his medical contemporaries when he reminded postgraduates that laboratory results should always be accompanied by a thorough physical examination, for which they required a comprehensive knowledge of syphilis's symptomatology.

Such lectures were at the forefront of venereological knowledge. Lecturers were expected to be *au fait* with the diagnostic and therapeutic innovations that informed clinical practice. They drew upon this knowledge in the teaching of postgraduates and in so doing helped to define the MGC as a centre of expertise. The MGC provided general practitioners with detailed instruction on medical orthodoxies while also introducing them to new and sometimes controversial knowledge claims. Lecturers gave clarity to symptoms that might have otherwise been misdiagnosed and provided general practitioners with the necessary knowledge to conceptualise these symptoms within a more holistic theoretical and pathological framework.

In 1903 the MGC announced the commencement of a year-long series of composite lectures. The College experienced one of its many financial crises that year and so a series of lectures propounding medical orthodoxy was both a calculated commercial venture and a pedagogic necessity.

It is impossible that clinical lectures should be exhaustive or approach completeness, and it is designed that these lectures shall supply the unavoidable deficiencies of those given with reference to the cases of individual patients, and shall offer systematic résumés of our knowledge respective special forms of diseases ... Our lecturers are not to be required to produce the results of original research or to propound original views, but rather to give in clear language a sound exposition of the present state of knowledge concerning the subject in hand.¹²⁹

In the face of uncertainty surrounding fields such as venereal diseases, these lectures were a clever scheme to tempt fee-paying doctors with the appealing prospect of established knowledge claims. However, that such a course of lectures was designed to supplement a focus on the symptoms of individual patients indicates that doctors were moving away from complete reliance upon empirical and opportunistic observation.

Composite lectures were not forums in which to 'propound original views' but to state clearly the accepted knowledge and practice pertaining to the clinical subject under discussion.¹³⁰ In 1904 these lectures included 'Gonorrhoea in Women', 'What is Syphilitic?' and two lectures on 'The Relationship of Syphilis to Insanity'.¹³¹ Lectures given in January 1906

included ‘Some Unusual Manifestations of Syphilis in the Upper Air Passages’, while the December series included ‘Syphilis of the Nervous System’ and ‘The Prophylaxis of Venereal Disease’.¹³² The mandate of the composite lecture series suggests that the content covered was representative of venereological orthodoxy. Yet with the exception of Lane’s lecture on prophylaxis, for which there is a surviving transcript, there are few records from which to determine the content of composite lectures or their didactic influence upon the clinical practices of attending postgraduates.¹³³

Lane’s lecture on prophylaxis was both an overview of orthodox ideas and an account of some of the prevailing social attitudes towards venereal diseases. Much of his subject matter was drawn from his involvement in the 1901 Brussels Congress, at which the subject of venereal prophylaxis was addressed in detail. His lecture documented past work in the field as well as current research, and outlined a broad framework through which the spread of infection might be curtailed. Lane stressed the need for all doctors to be familiar with ‘trustworthy’ methods of treatment, and to impress upon their patients the seriousness of their condition and the availability of those treatments.¹³⁴ He viewed greater education (of doctors and patients alike) as a more effective means of prevention than the regulationism that had been employed under the CD Acts.

His criticism of regulationism and the accompanying unscientific practices employed in the hurried and inadequate examinations of suspected prostitutes reflected growing understandings of bacterial causation and disease progression.¹³⁵ These earlier practices did not, according to Lane, take adequate account of the possibility that the patient had entered a latent stage of infection or that their symptoms were so obscure as to be overlooked. Lane mentioned the *spirochaete pallida* only in passing, suggesting that he assumed his postgraduate audience to be familiar with the very recent work of Schaudinn and Hoffmann. With the identification of the microorganism and the development of the Wassermann reaction, doctors such as Lane stressed the need to avoid what they viewed as a fundamentally flawed and unscientific process. They instead placed greater emphasis upon laboratory-based diagnostic and therapeutic practices. Unfortunately, few records of the MGC’s composite lectures have survived. It is difficult to determine whether the content and tenor of Lane’s lecture was representative of the style generally adopted. Although Lane provided a sweeping account of venereological knowledge and practice, his lecture was nonetheless very well informed and designed to equip his audience with the most up-to-date information.

That the MGC deemed it necessary to create a new composite lecture series designed specifically to disseminate medical orthodoxies suggests that the content of normal clinical lectures was less reflective of orthodoxies and more defined by individual experience and ideas. The information conveyed to postgraduates in normal clinical lectures was the product of each lecturer's unique professional experience. According to the *Polyclinic*, the MGC enjoyed the services of 'men of undoubted authority who have made certain subjects their own, and who constitute a sort of Court of Appeal'.¹³⁶ These eminent medical men were authorities in their fields of specialist knowledge. But inconsistencies in the information sometimes conveyed to postgraduates suggest that these fields were not always epistemologically cohesive. The *Polyclinic* articulated this concern in 1901, expressing regret that medical training was still conducted in 'a haphazard manner'.¹³⁷ With the exception of composite lectures, there were few opportunities for detailed discussion of venereological orthodoxies. The flexibility of such a format meant that the medical knowledge disseminated among postgraduates was, on occasion, contradictory. In some instances there was little certainty to be imparted.

RECOMMENDED TREATMENTS

Contradictions in espoused knowledge were not only evidenced in discussion of specific conditions such as *tabes dorsalis*, but also in broader debates over the most effective treatment methods. Salvarsan was only a very recent development and not widely used beyond the confines of a few hospitals before the First World War. It is unsurprising, therefore, that its therapeutic benefits and modes of administration were not discussed as frequently among postgraduates as were more traditional treatments.

Mercury was generally administered in three different forms: it could be absorbed through a patient's skin, in processes called 'inunction' and 'fumigation'; it could be injected intramuscularly using a hypodermic needle; or it could be ingested, in either tablet or liquid form. When writing in 1887 about these different methods of administration, Hutchinson observed that each was so efficient as to have its own 'warm advocates'.¹³⁸ This was certainly the case among lecturers at the MGC.

Mercurial injections and inunction were advocated by some doctors, but dismissed by others as ineffective, inconvenient or dangerous. Mercury needed to be administered slowly lest the patient begin to suffer the effects of mercury poisoning. The question, therefore, was how best

to administer a safe but sufficient dosage. Assuming that his postgraduate audience was ‘perfectly familiar’ with these standard methods of administering mercury, Lane instead focused his teaching upon the *circumstances* under which each method should ideally be applied.¹³⁹ Unlike Hawthorne, Gowers and St Clair Thomson, who all recommended inunction as the best and safest method of administration, Lane attempted to dissuade postgraduates from its use in most cases.¹⁴⁰ He considered it to be unreliable, imprecise and messy, making it difficult to conceal a patient’s disease and treatment from their family.¹⁴¹ Although C.R.B. Keetley, senior surgeon to the WLH, attempted to dissuade his postgraduate audiences from administering hypodermic injections, he nonetheless advocated their use in cases where other forms of mercurial treatment had been ineffective. In such cases he advised that the injections be intramuscular.¹⁴² Keetley’s cautious advocacy contrasted markedly with Lane’s enthusiasm for intramuscular injection, which the latter believed to be the most efficacious means of combatting ‘malignant’ syphilitic cases. While the oral ingestion of mercury was another popular method of treatment, Lane believed it to be a slow, unpredictable and insufficient mode of absorption.¹⁴³

By 1910 postgraduates were being instructed to rely not upon a single method for administering mercury, but upon a therapeutic regime tailored to the individual needs of each case.¹⁴⁴ Some doctors chose to commence treatment immediately upon the identification of syphilitic symptoms, whereas others, such as Lane, recommended caution until the patient demonstrated secondary-stage symptoms that might better confirm a diagnosis.¹⁴⁵ Such caution reflected a degree of diagnostic uncertainty as well as an awareness of the therapeutic limitations and potential harm of mercury. Yet before the development of salvarsan, doctors had few therapeutic alternatives.

Inconsistencies in advice given by lecturers, although unintentional, were indicative of an under-defined syllabus as well as a fundamental lack of coherent knowledge and agreement regarding standard clinical practices. In some instances, the content of lectures was determined more by the professional experiences of individuals than by an institutionally agreed-upon knowledge base. Doctors were conceptualising the manifestations of venereal diseases within an increasingly holistic framework but when it came to treatment there was still much reliance on intuition and individual experience.

With a few notable exceptions, patients rarely returned for follow-up consultations at the MGC. The course of their illness and the efficacy

of prescribed treatment regimes went unmonitored. The MGC did not administer treatment to patients brought for consultation. Rather, they recommended a course of treatment to be administered by the patient's own doctor. In the absence of additional material, we can know little about the care of venereally diseased patients beyond their consultations at the MGC. Apart from discussion surrounding the unresponsiveness of tertiary-stage conditions to anti-syphilitic treatments, little reference was made to the ineffectiveness of treatment or the inability or unwillingness of a patient to persist with treatment.¹⁴⁶ For one of Hawthorne's patients—a woman with acquired syphilis—the normal 'authoritative dose' of mercury produced extreme salivation and extensive ulceration of the lips, tongue and fauces. This case, although described as 'extreme', illustrated the principle that treatment was not as a matter of routine, but required experience and a sensitivity to individual needs. In many cases, treatment was, as remarked upon by Hawthorne, dependent upon the severity of each patient's infection and the discretion of individual doctors.¹⁴⁷

The unpredictability of patient reactions to mercurial treatments prompted discussion about the need for greater experience among doctors, who were required to judge in each case when a suitable dose had been administered.¹⁴⁸ Lane reminded postgraduates that 'the intensity of the disease should be a guide to the energy of the treatment'.¹⁴⁹ In his 1903 lecture on 'syphilitic disease of the nervous system' Gowers also cautioned postgraduates never to rely upon standardised doses of mercury. Neither could they ever assume that a prescribed course of treatment would be effective.

Instances have been met with by everyone who has had much experience, in which there was recurrence after recurrence, in spite of most thorough treatment ... Hence, whether syphilis is or is not incurable as a constitutional malady, it is certainly one of the cure of which we can never be sure.¹⁵⁰

Before the identification of the *spirochaete pallida*, there was little appreciation of the effect of treatment at a microbial level or for the need to standardise treatments according to their optimal effect upon a causative microorganism. That each patient seemingly had a different physical response meant that doctors could not rely upon standardised doses. As will be seen in the next chapter, tailoring treatment regimes to the needs of individual patients required that doctors develop sensitivity to the therapeutic needs of individual patients. It was a sensitivity based upon

extensive clinical experience and a thorough understanding of the different methods of treatment.

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That the content of postgraduate lectures was inconsistent suggests more than a simple lag in the assimilation of new knowledge and practices. Instead, these were fundamental discrepancies that reflected doctors' attempts to understand and overcome key uncertainties. Differences in opinion, especially regarding the variety of recommended therapeutic practices, suggest that doctors were searching for, but not necessarily finding, adequate solutions to venereological conundrums. The process of knowledge dissemination in these decades could be described as an attempt to rationalise medical uncertainties. Lecturers were not simply reiterating medical orthodoxies but were also speculating over new specialised knowledge claims. They drew upon their own clinical experience and the work of their contemporaries in the instruction of postgraduates. Such an approach to medical education at the MGC inevitably produced inconsistencies, as lecturers and postgraduates sought the best diagnostic and therapeutic methods, and attempted to clarify the aetiology of various venereal conditions. Some of the research that so influenced teaching at the MGC is addressed in the next chapter, which examines laboratory-based practices that were instrumental in developing practical and theoretical knowledge of venereal diseases.

The MGC faced many organisational and financial problems that impeded postgraduate instruction. Fewer general and special hospitals were willing to affiliate than expected and so there were constant concerns about the supply and quality of instructive clinical material. Subscription numbers were never as healthy as the MGC would have wished. Although an important educational tool, the *Polyclinic* could never be an adequate substitute for actual attendance. Unfortunately, it could find no 'successful serum for the financial microbe' that had invaded its 'circulation' and its 'congenital energy' slowly deteriorated.¹⁵¹ Publication of the *Polyclinic* ceased in 1917 and the MGC finally closed in 1927.

Despite such problems, the MGC, and institutionalised postgraduate study more broadly, provided an important channel through which orthodox and innovative venereological knowledge could be disseminated. It drew upon emerging specialisms and in so doing built upon generalist undergraduate training. Postgraduate education began to gain real purchase during the interwar years and instrumental in this were early institutions, such as the MGC and the WLH.¹⁵² By becoming accepted

channels for further education among general practitioners, these institutions also established the legitimacy of postgraduate study, especially in disciplines that were given only cursory attention at an undergraduate level. Postgraduate training recognised that a doctor's knowledge needed constantly to be refreshed and augmented in systematised ways, which could not be achieved simply in the course of general practice.

NOTES

1. Anon., 'The Medical Graduates' College and Polyclinic', *BMJ* (4 February 1899), 285.
2. Anon., 'College Notes', *Polyclinic* (November 1900), 312; William H. Broadbent, 'The Necessity for a Medical Graduates' College', *Polyclinic* (May 1899), 4–5.
3. Rosemary Stevens, *Medical Practice in Modern England: The Impact of Specialization and State Medicine* (New Haven: Yale University Press, 1966), 3; London Hospital Archives, London Hospital Medical Council Minutes (30 May 1912) RHL/LM/1/10.
4. Royal Commission on Venereal Diseases, PP 1913–16 Cd 8190 (Appendix to Final Report of the Commissioners, Minutes of Evidence), q. 14097 (henceforth, Royal Commission on Venereal Diseases, Appendix to Final Report, Cd 8190).
5. According to the 1911 census 22,992 men and 477 women recorded their occupation as 'physicians, surgeons, registered practitioners'. See Census of England and Wales 1911, PP 1913 Cd 7019 (Vol. X: Occupations and Industries), 12–13.
6. Royal Commission on Venereal Diseases, Appendix to Final Report, Cd 8190, q. 14096.
7. *Ibid.*, q. 14091.
8. Stevens, *Medical Practice in Modern England*, 6.
9. Royal Commission on University Education in London, PP 1912–13 Cd 6312 (Appendix to the Fifth Report of the Commissioners including Minutes of Evidence, October 1911 to January 1912; with Appendices and Index), q. 15194 (henceforth, Royal Commission on University Education in London, Appendix to Fifth Report, Cd 6312).
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 16. J.F. Payne, 'The London Postgraduate Course', *BMJ* (11 October 1890), 870.
 17. Anon., 'The London Postgraduate Course', *BMJ* (24 September 1892), 693; Anon., 'The London Postgraduate Course', *BMJ* (13 October 1894), 830.
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 19. Hutchinson, 'Some Account of the Formation and Aims of the College', 7; Anon., 'Medical Graduates' College and Polyclinic', *Polyclinic* (May 1899), 21.
 20. Anon., 'The London Polyclinic', *BMJ* (18 May 1901), 1218–19; Anon., 'Post-graduation Study', *BMJ* (25 August 1900), 507–08; Jonathan Hutchinson, 'Hand-List of the Portraits Illustrating Syphilitic Symptoms and Conditions, Now Exhibited in the Clinical Museum of the Polyclinic, Chenies Street', *Polyclinic* (December 1908), 120–22. Hutchinson's collection is now held by the John Hopkins Institute of the History of Medicine.
 21. Anon., 'College Notes', *Polyclinic* (May 1900), 325; Anon., 'Laboratory Fees', *Polyclinic* (May 1908), vi.
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 26. Leslie Paton, 'The Commoner Local Eye Lesions of Syphilis', *Polyclinic* (October 1904), 138.
 27. James E. Lane, 'The Treatment of Syphilis', *Polyclinic* (November 1904), 142.
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 29. Anon., 'College Notes', *Polyclinic* (November 1900), 297.
 30. Anon., 'College Notes', *Polyclinic* (February 1901), 98.
 31. Stevens, *Medical Practice in Modern England*, 33.
 32. Anon., 'Consultation Hospitals', *Polyclinic* (February 1900), 81.
 33. Select Committee of House of Lords on Metropolitan Hospitals, Provident and other Public Dispensaries, and Charitable Institutions for Sick Poor, PP 1892 XIII, (321) (Third Report, Proceedings, Evidence, Appendix and Index), cxxxii.
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 42. Anon., 'Post-graduation Study', *BMJ* (25 August 1900), 508.
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47. Royal Commission on University Education in London, Appendix to Fifth Report, Cd 6312, q. 15162.
48. Kelly, *Irish Women in Medicine*, 113–14.
49. Royal Commission on University Education in London, Appendix to Fifth Report, Cd 6312, 266.
50. Royal Society of Medicine, Medical Graduates' College and Polyclinic: Council Minute Book (3 July 1900) RSM/02.
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Under the Microscope

The turn of the twentieth century witnessed a new era of laboratory-based medicine underpinned by a shift in the intellectual foundations of medicine and the identification of bacteriology and pathology as important specialist spheres of research and clinical practice. Vaccine therapy, salvarsan and the Wassermann reaction were all part of this wider shift towards laboratory-based medicine. This change was protracted and by no means universal. However, it did signify a new microbial way of thinking about venereal diseases. As doctors' understanding of germ theory grew, they became convinced that previous empirical practices had been ineffective and taken inadequate account of disease latency and asymptomatic infection. This prompted attempts to identify venereal diseases at a microbial level and to find disease-specific treatments.

There were few English equivalents to the state-supported laboratories of France and Germany that won international prestige as leading sites of teaching and research.¹ With few exceptions the large general hospitals were the most important sites of venereological research, as well as associated clinical practice and teaching. While English doctors did not make breakthroughs rivalling those of Albert Neisser, August von Wassermann and Paul Ehrlich, study in English hospitals, laboratories and private consultation rooms transformed knowledge and practice.

English research into venereal diseases was often undertaken in response to developments in other countries. The identification of the *gonococcus*

in 1879 and the *spirochaete pallida* in 1905 revolutionised the way that doctors thought about the pathology, aetiology, transmissibility, diagnosis and treatment of gonorrhoea and syphilis. Laboratory-based research blossomed. Almroth Wright began experimenting with antigonococcal vaccines in the early 1900s. Wassermann's diagnostic test, developed in 1906, quickly became a subject of study and debate in England as doctors sought the most effective 'antigens' and techniques. Doctors acquired samples of Ehrlich's salvarsan for use in therapeutic trials, searching for the safest and most effective concentrations and modes of administration. These technologies were developed and tested using new, scientifically rigorous methods. The results of this research were circulated through lectures and demonstrations, or written up for publication in textbooks and medical periodicals.

Knowledge had been developed incrementally throughout the nineteenth century. Individual doctors had written about their years of accumulated experience treating venereal diseases in private and hospital practice.² Some had also experimented independently with different combinations and concentrations of chemical compounds, including mercury and potassium iodide.³ But such small-scale research was no longer thought to be sufficient at the turn of the twentieth century. If the reliability, efficacy and safety of new technologies were to be proven, doctors would require much larger sample sizes, taken from institutional practice. The laboratory-based research conducted in English institutions constituted just such clinical trials and led to significant developments in the field of venereal diseases.

As we have seen in Chapters 2 and 3, doctors were not expected to have expertise in all branches of medicine. For general practitioners, having too much specialist knowledge might even impede consultations and patient care by narrowing clinical focus. Cooperation between laboratory workers and bedside doctors was therefore increasingly important for the effective use of new diagnostic and therapeutic technologies. According to Arthur Latham, physician to St George's Hospital,

... it is impossible to undertake the laborious work of a clinician and at the same time to keep in constant touch with technical laboratory work. I gave up a year to bacteriological work; it was a year well spent. It does not enable me to carry out technical laboratory work now, but it does enable me, as a clinician, to keep in touch with bacteriological advances and to recognise the value of the bacteriologist.⁴

General practitioners did not need highly specialised knowledge and skill, nor were they expected to prepare autogenous vaccines or perform serological tests. Instead, they needed an appreciation of the value of pathology and bacteriology, and the ability to collect samples to be sent for analysis.⁵ In this new vision of therapeutic practice, the laboratory worker's specialist scientific knowledge was distinct from, but complementary to, the doctor's empirical observation of their patient.⁶

The relinquishment or modification of older knowledge claims and clinical practices in favour of new ones was a protracted and complex process.⁷ Vaccine therapy, salvarsan and the Wassermann reaction are just three examples of how laboratory-based knowledge and practices became bound up with a variety of different meanings and expectations in bedside medicine. When determining how (or even whether) to employ these technologies, an individual doctor's professional circumstances and aspirations were often as important as his or her level of special knowledge and skill.⁸ In 1910 J. Kingston Fowler, senior physician to the Middlesex Hospital, reminded his audience at the Royal Society of Medicine that it was impossible for most doctors, especially those trained in the 'pre-bacteriological age', to master bacteriology.⁹ Doctors wishing to employ new bacteriological techniques were therefore reliant upon the expertise of bacteriologists.¹⁰ Fowler was alluding to a problematic gap between those trained in bacteriology and older generations of doctors who were not. Some doctors urged caution against over-reliance upon laboratory-based medicine, believing that such reliance led to complacency and homogenised therapeutic practices. Some were also reluctant to base important clinical decisions upon the questionable results of new technologies, the workings of which they did not fully comprehend.¹¹ They instead advocated continued reliance upon empirical practices and professional judgement, informed by each patient's unique experience of illness.¹²

Many of the institutions discussed in this chapter were not only leading sites of laboratory research. They were also responsible for the training of medical students and qualified doctors alike. Researchers often balanced laboratory work alongside clinical practice. They drew upon clinical material in their laboratory work, demonstrating the increasing importance of the laboratory to patient care.¹³ Most doctors before the First World War were ill-equipped to administer salvarsan, use opsonic indexing or perform the Wassermann reaction. However, there were facilities in place for at least some to access these technologies. This chapter reveals important links

between the laboratory and the bedside, and in so doing demonstrates the extent to which new laboratory-based knowledge permeated (or failed to permeate) the day-to-day treatment of venereal diseases.

ANTIGONOCOCCAL VACCINE THERAPY AND OPSONIC INDEXING

Vaccination had been a part of scientific medicine and public health in England for many decades, but the new vaccine therapy was reactive rather than preventative, being administered *after* diagnosis.¹⁴ Vaccine therapy was the product of a wider intellectual shift in medicine. It emerged from new ideas regarding the workings of the immune system and revealed the growing importance of the laboratory to therapeutic practice.¹⁵ Ehrlich had already demonstrated that a body invaded by foreign organisms responded by producing a neutralising substance that became known as ‘agglutinins’ (and later redefined as ‘antibodies’).¹⁶ Vaccine therapy sought to confer immunity by stimulating the production of agglutinins to combat a variety of diseases, including *staphylococcal* and *streptococcus* infections, tuberculosis, typhoid and gonorrhoea.

English doctors increasingly sought disease-specific therapies for gonorrhoea and syphilis. For advocates of vaccine therapy, antigonococcal vaccines constituted just such a groundbreaking treatment. According to Wright the fundamental principle of vaccine therapy was to stimulate a patient’s natural immunity by injecting them with ‘devitalised’ *gonococci*.¹⁷ Arthur Loxton, surgeon to the Birmingham and Midland Hospital for Skin and Urinary Diseases, claimed that hypodermic injections of dead (inactivated) *gonococci* possessed a ‘curative agent’ that could potentially transform therapeutic practice.¹⁸ Patients either received stock vaccines made from pooled cultures of *gonococci*, or autogenous vaccines that were cultivated from their own *gonococci*.

There was much concern for standardising vaccines, ensuring correct concentrations and monitoring the immunological responses of individual patients. Wright believed that the instability of an infected person’s immune system required the administration of graduated doses, starting with a weak concentration of micrococci, which would gradually stimulate the immune system.¹⁹ A patient’s progress under vaccine therapy was monitored using opsonic indexing—a procedure developed by Wright to measure the process of phagocytosis and thereby the effectiveness

of vaccines.²⁰ According to Wright a patient suffering from gonorrhoea would have an abnormally high or low opsonic reading in respect to the *gonococcus*. If antigonococcal vaccines were effective, the patient would produce antibodies to fight infection. This would result in an altered opsonic reading.²¹

An aliquot volume of the patient's serum ... is mixed with an equal volume of a bacterial suspension, and a like volume of a suspension of washed leucocytes derived from normal blood ... Film preparations are made and stained. A 'phagocytic count' is then undertaken, *i.e.*, the average bacterial ingest of the leucocytes in the phagocytic mixture is determined and this is compared with the average ingest of the leucocytes in a phagocytic mixture made with normal blood.²²

Changing levels of bacteria and leucocytes (white blood cells) were measured and compared against the serum of a healthy person, who acted as a control.²³ Opsonisation was used not as a diagnostic tool, but as a means for determining the effectiveness of treatment.

Acceptance of pathology as a basis for understanding and treating disease led to important changes in teaching and research practice.²⁴ By 1910 the teaching, research and practice of vaccine therapy had been taken up by most major teaching hospitals in London, as well as some of the larger provincial hospitals, including the Manchester Royal Infirmary and the Royal Southern Hospital in Liverpool.²⁵ Although a number of laboratories began experimenting with antigonococcal vaccines, Wright's pioneering work in the Inoculation Department of St Mary's Hospital was the most comprehensive and well documented.²⁶ Importantly, this work was also being translated into the teaching of students. Wright maintained that students could acquire the necessary knowledge and skill only through practical 'apprenticeships', rather than theoretical study.²⁷ Following his appointment in 1902, he transformed a previously underfunded and ill-equipped department into a respected European-style teaching and research laboratory—the first such dual-purpose institution to be established in an English general hospital. By 1907 he had three permanent research assistants, four student clerks and over forty postgraduate students. Many of his postgraduates were British and international pathologists hoping to learn about opsonisation.²⁸ The Inoculation Department was also Britain's most high-profile bacteriological laboratory prior to the First World War and was one of the first laboratories to receive trial batches of salvarsan.²⁹

Doctors and laboratory researchers rarely speculated on the reasons for different patient responses to vaccine therapy. Gonorrhoeal rheumatism appeared to respond well, whereas chronic infections (that moved beyond localised manifestations and became constitutional) were thought to be much less responsive. The problem, according to T.J. Horder, medical registrar at St Bartholomew's Hospital, was that doctors expected too much consistency in the results of vaccine therapy. He urged his contemporaries to remember that, just like the course of gonorrhoea itself, the results of antigonococcal vaccines varied greatly between patients.³⁰

It is difficult to determine from surviving sources the general attitude of doctors towards antigonococcal vaccines. According to David Watson, surgeon to the Glasgow Lock Hospital, they were received by Scottish doctors with quiet scepticism and unrecorded criticism.³¹ Although most doctors who wrote or lectured on the subject saw vaccine therapy as an important development in the treatment of gonorrhoea, they also acknowledged its limitations. Watson, like many of his contemporaries, accepted the *potential* benefits of antigonococcal vaccines, but believed that fundamental flaws limited a doctor's control over the vaccine's therapeutic action.³² The delicate nature of vaccines meant that their effectiveness could easily be impeded by a variety of factors. These included the vaccine's concentration, preparation and modes of administration; the patient's specific manifestations of gonorrhoea and previous treatment; and the presence of associated or exacerbating conditions.³³ Yet no other micrococci-specific treatments were available for gonorrhoea before the First World War and so antigonococcal vaccines were embraced, despite their limitations.

In 1910 William Bulloch, bacteriologist to the London Hospital, impressed upon his audience at the Royal Society of Medicine that vaccine therapy and opsonic indexing were difficult procedures. As such, they could not be undertaken by doctors lacking detailed knowledge and practical experience of phlebotomy (surgical puncture of the vein to withdraw blood or inject solutions), pipetting, culturing and microscopy.³⁴ According to Wright the general level of bacteriological knowledge among doctors was so low that bacteriologists were swamped by calls upon their specialist skill.³⁵ Although an exaggeration, his claim was indicative of wider concerns that doctors were not keeping pace with changes in medical knowledge and practice. Instead, doctors were thought to be administering vaccines without possessing adequate knowledge of their composition, effects and optimal concentrations.

On the other hand, the demands placed upon bacteriologists also demonstrated a growing awareness of the potential benefits of bacteriology. Many doctors were unskilled in bacteriology, but they nonetheless recognised its clinical value and potential. Such was the case with vaccine therapy. Indeed, some feared that commercial advantage, rather than clinical benefit, was motivating doctors to employ this new treatment.³⁶ Worboys has rightly described vaccine therapy as a ‘medical sensation’ in Britain during the early 1900s.³⁷ Antigonococcus serum was just one of several vaccines developed for an increasing variety of diseases.³⁸ Their relative inexpensiveness, combined with regular advertising in medical journals and trade catalogues, encouraged general practitioners to stock supplies of vaccines.³⁹ Although Wright advocated the use of autogenous vaccines as a more effective method, his Inoculation Department also produced stock vaccines for distribution by Parke Davis Co.⁴⁰ Vaccines marketed to general practitioners were also produced by various other laboratories, including the Lister Institute, Burroughs Wellcome and Co. and the Clinical Research Association.⁴¹ Some suppliers even produced pamphlets to instruct doctors in the proper administration of these vaccines.⁴²

There was much speculation about whether the growing popularity of vaccine therapy was indicative of its therapeutic benefits or simply a professional fad, facilitated by the ready availability and favourable prices of stock vaccines. Horder speculated that doctors’ desire to remain *au fait* with medical developments was responsible for the growing popularity of vaccine therapies, rather than ‘an honest conviction based upon personal experience’.⁴³ Gonorrhoea did not confer immunity as syphilis appeared to, and so there was much debate over the effect of vaccines upon the *gonococcus*.⁴⁴ The most effective vaccines for combatting gonorrhoea were thought to be autogenous vaccines, prepared from patients’ own *gonococci*. Yet the *gonococcus* was delicate and difficult to cultivate.⁴⁵ By contrast, stock vaccines could easily be purchased in standardised doses for immediate administration. In 1908 stock vaccines (in concentrations of five million *gonococci* per c.c.) could be purchased in vials of 0.5 c.c. from Allan and Hanbury’s Ltd for 2s.6d.⁴⁶ By 1910 Burroughs Wellcome and Co. were selling stock vaccines of 1 c.c. in concentrations of twenty million, two-hundred million and one-thousand million *gonococci* per c.c. at a cost of 2s., 3s.6d. and 6s., respectively.⁴⁷ These stock vaccines were substantially less expensive than autogenous vaccines, which could cost up to five guineas per dose.⁴⁸ Growing demands for more immediate treatments

meant that autogenous vaccines were superseded by stock vaccines, which were cheaper and more readily available, but supposedly less effective.⁴⁹

It is difficult to determine the extent to which vaccine therapy, specifically antigonococcal vaccines, was taken up by general practitioners. Concerns about its popular and ill-informed use, along with its ready accessibility through advertisements in medical periodicals and trade catalogues, suggest that many general practitioners were at least experimenting with this fashionable treatment. Private patients were at risk of exploitation: they were prescribed vaccine therapies by doctors who wished to be seen embracing cutting-edge developments, but did not fully understand the make-up or effect of antigonococcal vaccines. Few general practitioners had the time, skill or resources to perform their own microscopical investigations. They relied instead upon the work of others (most commonly disseminated in medical literature) to remain abreast of new research findings and ideas.⁵⁰ Yet medical literature did not equip readers with the necessary practical experience to administer vaccines safely or monitor their effects.

Such concern was especially pronounced because general practitioners, rather than bacteriologists, were expected to remain in charge of the diagnosis and treatment of patients undergoing vaccine therapy. The attending doctor, with his extensive clinical experience, was thought best placed to determine therapeutic effectiveness. Unlike bacteriologists confined to laboratories, general practitioners were in regular contact with patients and could observe the physical effects of vaccine therapy.⁵¹ But to undertake vaccine therapy doctors still needed knowledge of bacteriology and the principles of immunisation, as well as the ability to adjust treatment according to the requirements of individual patients.⁵² They needed to understand that the effectiveness of vaccines was not due to any direct therapeutic value on the part of the sterile bacteria being injected.⁵³

Historians have argued that doctors believed that laboratory-based developments undermined the intuitiveness of the clinical 'art'. Yet discussion over vaccine therapy (and later salvarsan and the Wassermann reaction) revealed that intuitiveness was in fact becoming integral to the application of new laboratory technologies.⁵⁴ Those employing vaccine therapy needed a significant degree of informed judgement when adjusting dosages and determining their effectiveness. This degree of judgement could be acquired only through extensive clinical experience.

Some doctors accepted vaccine therapy on faith rather than admit the limitations of their own knowledge.⁵⁵ J.E.R. McDonagh complained before the RCVD that a doctor's acceptance of new ideas and treatments

was often based upon little more than the favourable opinions of respected medical personalities.⁵⁶ Although speaking specifically about salvarsan, his argument could stand just as well for dissemination of knowledge regarding antigonococcal vaccines. The changing attitude of Hugh W. Bayly was a case in point. In his work as bacteriologist to St George's Hospital and pathologist to the London Lock Hospital, Bayly had been disappointed by the effects of antigonococcal vaccines in most chronic cases under his care. However, the hypotheses of L.W. Harrison, with his 'very large experience' in treating venereal diseases, persuaded Bayly that vaccines were useful in chronic cases of gonorrhoea.⁵⁷ That Bayly, a respected bacteriologist, could be so readily persuaded by the clinical experience of another doctor indicates that there was prevailing uncertainty surrounding the effectiveness of antigonococcal vaccines and venereal diseases more broadly.

These uncertainties were attributed, in large part, to the insufficient clinical study of vaccine therapy. When determining the effectiveness of vaccines, doctors and laboratory workers could do little more than rely upon the 'personal impressions' of medical contemporaries who had experimented with different treatment methods.⁵⁸ This was increasingly unsustainable in the face of emerging technologies such as vaccine therapy, salvarsan and the Wassermann reaction, all of which required systematic studies with large sample sizes. Thorough scientific studies could not be conducted in private practice where sample sizes were too small and general practitioners possessed insufficient knowledge and resources to monitor the effects of treatment adequately. By contrast, the Inoculation Department offered Wright easy access to large numbers of patients who attended for treatment or were transferred from other departments within the hospital. He could administer vaccines on a large scale and monitor their effects.⁵⁹ Patients given vaccines at the London Hospital were also monitored to determine the effectiveness of this treatment.⁶⁰ In this way both hospitals were attempting to make systematic studies of vaccine therapy.

Bulloch expressed concern over what he saw as the precipitous implementation of vaccine therapy in general practice before it had been carefully and comprehensively tested in hospitals, where its effects could be more readily monitored and controlled. Many patients treated with vaccines had already received a variety of other treatments, but the potential for these treatments to obscure the true therapeutic value of antigonococcal vaccines was not considered. To determine their therapeutic value scientifically, Bulloch recommended that studies of vaccine therapy include

control groups. Horder similarly attributed the difficulty of determining the effectiveness of vaccine therapies to the absence of 'proper controls'.⁶¹ This problem affected not only vaccine therapy, but also a variety of new or experimental treatments, including salvarsan. Without significant sample sizes, these treatments could never achieve a 'sound scientific basis'.⁶²

With these concerns in mind, John Eyre and Bernard Stewart, bacteriologists in the Vaccine Department of Guy's Hospital, tested the effectiveness of antigonococcal vaccines over a period of three years, from 1906. For this extended clinical trial they used patients from Guy's Hospital, the London Lock Hospital and St Paul's Hospital, as well as patients from their own private practices.⁶³ Eyre and Stewart concluded that the high toxicity of antigonococcal vaccines had 'a profound influence', but did not detail the effect on the *gonococci*. Toxicity for patients also meant that the routine administration of vaccines required great care, skill and sensitivity, especially in general practice, where the effects of vaccines could not be easily monitored. Injections of up to five-hundred million *gonococci* were initially used but Eyre and Stewart quickly concluded that these were dangerous. They eventually decided that smaller doses at shorter intervals were more effective than larger doses at longer intervals.⁶⁴

During the course of their vaccine therapy some patients did receive additional diluted solutions of therapeutic compounds, such as citrate of potash. However, Eyre and Stewart's assertion that 'a bottle of medicine of some sort' was 'imperative' to ensure patients' regular attendance, suggests that these additional treatments were merely placebos. These were intended to encourage patients to complete their course of vaccine therapy without interference.⁶⁵

Doctors and bacteriologists remained divided over the reliability of opsonic indexing and the effectiveness of vaccine therapy. Loxton reminded *BMJ* readers in 1909 of the necessity when using vaccine therapy to ensure that the *gonococci* were destroyed and not simply 'hidden away in a quiescent state, ready to light up again'.⁶⁶ The opsonic index was thought to be the only 'scientific fact' that could be used in a laboratory to prove the effectiveness and value of therapeutic vaccines.⁶⁷ Yet some questioned whether doctors could know exactly when immunity had been produced, how long it would last and whether a further course of vaccines should be administered. According to Latham some bacteriologists might be 'full of enthusiasm for the opsonic index of all organisms' whereas others, even in the same laboratory, would confess themselves unable to secure reliable readings for the *gonococcus*.⁶⁸ Bayly was also sceptical about the reliability of the opsonic

index: 'I am not, after considerable experience in the method, satisfied that my results are always consistent or reliable. And I have taken every care, and have done my best. My results ... have been most unsatisfactory.'⁶⁹

Despite such scepticism few doctors openly criticised the theory that underpinned vaccine therapy. Their primary concerns were with the mode of administration and that the findings of Wright and his colleagues at St Mary's—the self-styled 'masters of the opsonic art'—could not be reproduced.⁷⁰ There was a growing conviction that, except in the hands of a small number of experts, opsonisation was not of general utility to the medical profession.⁷¹ We know that it was not until the development of sulphonamides in the late 1930s that gonorrhoea could be reliably treated.⁷² Nonetheless, vaccine therapy established the centrality of the laboratory in clinical medicine prior to the First World War.⁷³ Importantly, it also represented an important change in the way that doctors and bacteriologists thought about the epidemiology and treatment of gonorrhoea.

SALVARSAN, 'A THERAPEUTIC DREADNOUGHT'

Like vaccine therapy, salvarsan (or '606') was hailed as one of the first disease-specific treatments to result from wider developments in laboratory-based research at the turn of the twentieth century.⁷⁴ It was not simply a new treatment but a subject of study in its own right. Those responsible for its administration were augmenting their knowledge of this new treatment and of syphilis more broadly. Although laboratory research remained subordinate to bedside medicine, the tensions between these two spheres have been largely overstated. Doctors were beginning to appreciate the benefits of complementing clinical work with laboratory practices.⁷⁵ This was particularly evident in the development and application of salvarsan.

The problems encountered in previous decades with experimental treatments coloured the English reception of salvarsan.⁷⁶ The most notable example was Robert Koch's tuberculin. Initially heralded as a revolutionary treatment for tuberculosis, it proved unreliable, dangerous and even fatal. New tubercles were shown to grow on the edges of infected tissues that were supposedly necrosed by tuberculin. Some contemporaries even suggested that the necrosis might have exacerbated infection.⁷⁷ Association with tuberculin undermined the credibility of salvarsan. In the early years of its use, doctors generally agreed that, despite its apparent efficacy, there were many unanswered questions about dosages and modes of adminis-

tration, as well as side effects and long-term effectiveness.⁷⁸ Nevertheless, salvarsan was cautiously but optimistically embraced as the first of many important laboratory-based developments with the potential to transform clinical practice.

The vocal criticism of salvarsan by a small group of staunch opponents makes it difficult to gauge the reception of this new treatment among the quiet majority of doctors.⁷⁹ Paul Fildes and James McIntosh, bacteriologists at the London Hospital, claimed that critics subjected salvarsan to higher (and even unrealistic) expectations than traditional mercurial treatments.⁸⁰ One such critic was C.F. Marshall, former medical officer to the London Lock Hospital, who sent several critical letters to the *BMJ* detailing the adverse effects of salvarsan upon individual patients.⁸¹ His letters were repudiated by Fildes and McIntosh, who stressed that severe reactions were uncommon and that salvarsan's therapeutic value outweighed its potential ill effects.⁸² Marshall's claim that doctors had too willingly embraced salvarsan does not reflect the cautious optimism of the majority.

Doctors were, in fact, often reluctant to abandon more traditional practices to embrace new developments. Salvarsan was viewed as a potentially groundbreaking treatment, but in the years immediately following its development it was used in conjunction with mercury.⁸³ As we have seen in Chapter 3, doctors understood that mercury's efficacy was limited. They persisted with its use because there were few therapeutic alternatives. McDonagh reminded his readers that mercury was 'extremely poisonous in its curative dose'. Smaller doses administered over a longer time period were preferable, but a lengthier course of treatment would have deterred patients.⁸⁴ Mercury appeared to have some effect upon primary- and secondary-stage symptoms but doctors were increasingly of the opinion that the diminution of these symptoms was attributable to disease latency.⁸⁵ Indeed, the Wassermann reaction was able to demonstrate the presence of infection in patients who had completed a course of mercury and showed no physical symptoms.⁸⁶

Mercury was not immediately replaced, despite its problems and limitations. The majority medical opinion before the First World War was that salvarsan, although then the best treatment available for syphilis, was more effective if used in conjunction with mercury.⁸⁷ In their study of salvarsan in private practice, George Stopford-Taylor and Robert William MacKenna, physicians to the Liverpool Skin Hospital, concluded that

Salvarsan has not come to displace the older remedies, but to reinforce them in their combat with the disease. Any nation which would scrap all its vessels of war except its 'Dreadnoughts' would be guilty of gross folly. So, although in salvarsan we possess a therapeutic Dreadnought, we should not discard the minor vessels in the service, which of old have rendered excellent aid. Salvarsan is more powerful and rapid in its destructive action on the *spirochaete* than either mercury or the iodides; but its effectiveness is greatly enhanced by the systematic administration of the old remedies. And in dealing with such a formidable disease as syphilis we must use every weapon at our disposal.⁸⁸

It was not a choice between these two treatments, but rather a question of what combination of both was most effective. Salvarsan allowed doctors to aim for a 'complete destruction' of the *spirochaete pallida*. However, intravenous administration alone was insufficient because salvarsan was 'rapidly fixed and rendered inert'. Its effect upon the disease could not be maintained and so additional intramuscular injections of salvarsan and mercury were necessary to bring about a complete cure.⁸⁹

In the years immediately following the development of salvarsan, doctors were experimenting with dosages and modes of administration.⁹⁰ They disagreed over what combination of salvarsan and mercury was most effective, the number and concentrations of injections and the interval between each injection. In his private practice, John J. Pringle alternated three pairs of weekly injections of intravenous salvarsan and intramuscular mercury, followed by mercury alone for six months.⁹¹ By contrast, D'Arcy Power recommended that injections of mercury and salvarsan be administered until a negative Wassermann reaction could be produced.⁹² These treatments, whose particulars varied according to each patient's response, necessitated greater doctor intuitiveness.

As with vaccine therapy, combination salvarsan–mercury treatments resisted easy standardisation. McDonagh stressed that neither salvarsan's curative effect nor toxicity was uniform.⁹³ Exacerbating conditions, such as influenza, were also thought to influence the toxicity and curative effect of salvarsan. Moreover, doses of mercury were determined by the health, height and weight of each patient, as well as their 'power of eliminating' mercury from their kidneys. Such variation meant that, as with vaccine therapy, a certain sensitivity to the individual needs of patients was needed in the administration of combination salvarsan–mercury treatments.⁹⁴

When compiling his LGB Report in 1913, Ralph W. Johnstone optimistically concluded that salvarsan was bringing the hospital treatment of infectious patients within 'easily manageable limits'.⁹⁵ Yet by his own admission, hospitals were admitting only a small number of patients for injections of salvarsan or neo-salvarsan. None had decided to reserve beds permanently for the treatment of infective venereal cases.⁹⁶ Cases of early stage syphilis were admitted to St Thomas's Hospital to receive salvarsan and for the immediate effects of that treatment to be monitored.⁹⁷ In 1912 it was proposed that at least four beds in St Bartholomew's skin department be reserved for syphilitic cases in the primary or secondary stage who were being treated with salvarsan. Although the hospital's Medical Council deemed this inadvisable, its minutes report that 222 salvarsan injections had nonetheless been issued from the dispensary, at 7s. per injection. Salvarsan was administered so frequently that the Medical Council needed to impress upon medical staff the expense of the drug and the need for greater discretion in its administration.⁹⁸ The absence of reserved beds also suggests that these injections were being administered either in outpatient departments or to venereally diseased inpatients who were receiving care for another condition.

Salvarsan may have streamlined treatment but the administration of such toxic compounds was generally thought to require medical observation for at least twenty-four hours.⁹⁹ Patients treated with salvarsan at the Royal Free Hospital were always kept in overnight for observation.¹⁰⁰ McDonagh went further than most of his colleagues by recommending that patients receiving salvarsan also remain under observation for at least four days after the injection.¹⁰¹ Salvarsan's side effects were many and varied: high temperatures and chills, constipation and diarrhoea, vomiting, rigour, localised swelling and severe pain. Worse recorded reactions included thrombosis, necrosis, nerve damage and haemorrhagic encephalopathy.¹⁰² In 1911 the Board of the London Lock Hospital was so concerned by these potential side effects that they passed a resolution preventing patients from receiving salvarsan unless they signed a consent form.¹⁰³ Although few doctors reported serious complications, the potential for dangerous or fatal side effects still necessitated periods of medical observation.¹⁰⁴

The cost of salvarsan injections and doctors' fees, combined with lost income resulting from two-or-more days' bed rest, made this treatment prohibitively expensive for most patients. In 1911 a single dose of salvarsan could cost between 7s. and 10s. In that same year a doctor complained

in the *BMJ* about such expense. He had written to his regular wholesaler wishing to purchase salvarsan. Upon hearing that each dose would be 10s., his response was unequivocal: 'I need scarcely say my order was off after that.'¹⁰⁵ Such prices made him question whether the effects of salvarsan could not be produced by older and cheaper mercurial treatments. This was indicative of the great disparity in the accessibility of treatment. As we have seen, private patients were at risk of exploitation by doctors prescribing expensive, experimental vaccine therapies. Yet the cost of salvarsan made it an impractical option for most patients and doctors outside of the larger voluntary hospitals before the interwar establishment of universally and freely available treatment clinics for venereal diseases.

Donald MacAlister believed that, with time, the number of general practitioners capable of safely administering salvarsan would increase, thereby removing treatment from the confines of hospital and institutional care.¹⁰⁶ However, at the time of the RCVD, salvarsan's serious side effects meant that its administration required skill and experience beyond that of the average general practitioner. Carl Browning, director of the clinical laboratory at Glasgow's Western Infirmary, did not believe salvarsan treatment to be difficult, but would not recommend its administration by doctors who had not received special training.¹⁰⁷ Yet as seen in Chapters 2 and 3, medical students had only irregular opportunities to observe and practise the administration of salvarsan and to assess its effect upon different patients. Those already in practice had even fewer opportunities for such special training.

The apparatus required for administering salvarsan was expensive and specialised. Stopford-Taylor and MacKenna favoured the Rochester Row Military Hospital pattern stand, produced by the Holborn Surgical Instrument Company (Fig. 4.1).¹⁰⁸ Bayly also used the technique and apparatus developed at Rochester Row, but commissioned eighteen specially made needles and two needle holders.¹⁰⁹ McDonagh similarly commissioned his own specially designed needle from Allen and Hanbury's Ltd (Fig. 4.2).¹¹⁰ The safe administration of salvarsan by the average general practitioner was made impractical by the need for such special apparatus; a degree of special skill and experience; complete asepsis; and the presence of at least two specially trained assistants. Stopford-Taylor and MacKenna advocated veni-puncture instead of exposure of a patient's vein and the insertion of a cannula. They considered that, in most cases, it was a more expedient and clean method.¹¹¹ They found that with considerable practice, it was possible to insert a needle

THE ROCHESTER ROW MILITARY PATTERN STAND, with table for patient's arm.

(Courtesy of the Holborn Surgical Instrument Co., London.)

(Note the graduated containers suspended from cross-bar: also the clip on each rubber tube leading to the Y-shaped junction. We insert a third clip on the tubing about four inches from the needle. The bowl on the table may be filled with either hot or cold water according as we desire to raise or lower the temperature of the solution as it flows into the vein. The height of the containers may be raised or lowered at will.)

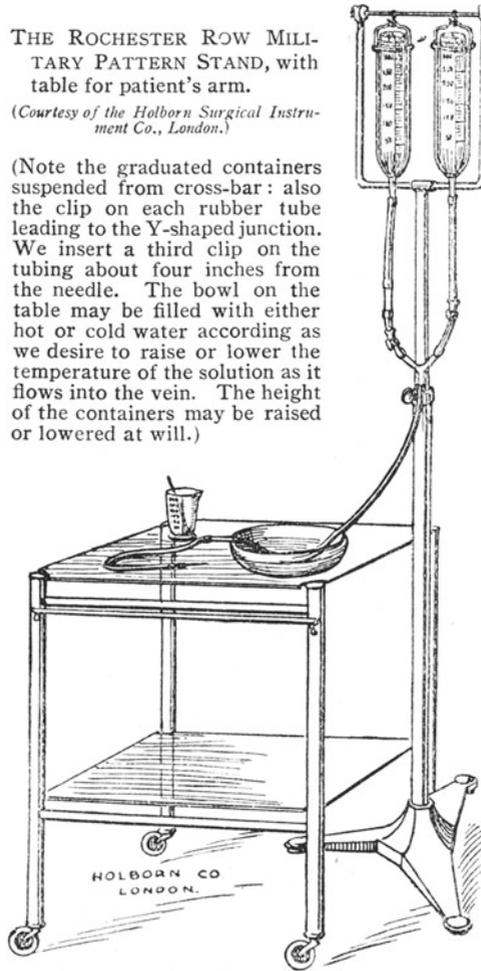
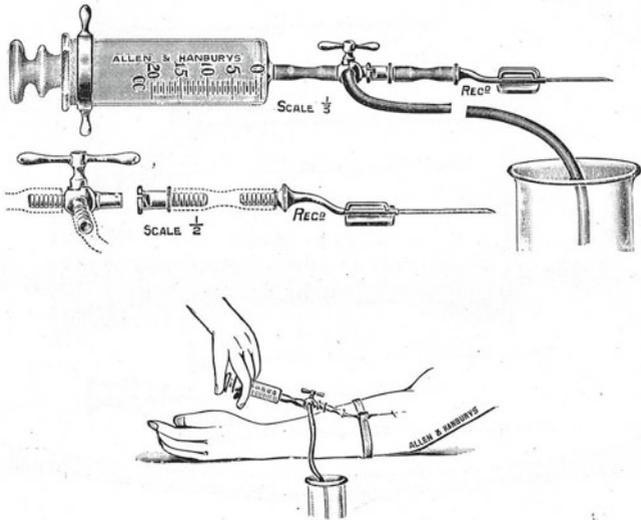


Fig. 4.1 The Rochester Row Military Hospital pattern stand (George Stopford-Taylor and Robert William MacKenna, *The Salvarsan Treatment of Syphilis in Private Practice*, 1914; Syndics of Cambridge University Library)

Hypodermic Syringes—*continued*



12920

No.		£ s. d.
12920—	Intra-Venous Apparatus for the Injection of Ehrlich's Salvarsan "606," McDonagh's, comprising improved three-way stop cock with flexible junction attached by a bayonet-catch joint, and fitted with a platinum-iridium needle, complete with india-rubber tubing for use with any type of all-glass syringe, A. & H.'s Registered Pattern each	0 12 6

Fig. 4.2 J.E.R. McDonagh's intravenous apparatus for the injection of salvarsan (Allen and Hanbury's Medical Trade Catalogue, 1911; Thackray Medical Museum, Leeds)

accurately and safely.¹¹² However, these two men were not only general practitioners but also physicians to the Liverpool Skin Hospital.¹¹³ The experience gained through the administration of salvarsan in their hospital work, as well as the resources at their disposal, equipped them with expertise beyond that of the average general practitioner. Fildes and McIntosh argued that intravenous injections of salvarsan appeared

to be a simple procedure. But to reduce the potential for accident or risk, they nonetheless advised their fellow doctors to look upon it as ‘a heroic measure’.¹¹⁴ It is unlikely that most general practitioners, who lacked hospital positions and access to the most up-to-date facilities, would have possessed the necessary knowledge, experience or surgical expertise to undertake this heroic measure effectively and safely.

As with vaccine therapy, the study of salvarsan also required large sample sizes. Its limited application in general practice and in most hospitals inevitably impeded the development and circulation of knowledge. Salvarsan was therapeutically and commercially important but there was little coordinated effort to employ it on a large scale before the First World War.¹¹⁵ When Bulloch received samples of salvarsan in 1910, he instructed Fildes and McIntosh to perform the first English trials at the London Hospital.¹¹⁶ They insisted that patients treated with intravenous injections remain in bed and under proper nursing supervision. Administering injections to outpatients was unsafe, and without a steady supply of inpatients there would be insufficient clinical material for a meaningful sample size.¹¹⁷ Yet in 1911 the London Hospital’s Medical Council resolved that no outpatients would be treated with salvarsan and, in the following year, that cases of secondary-stage syphilis would no longer be admitted as inpatients for salvarsan injections.¹¹⁸ Two beds had been temporarily allotted to James Sequeira for the treatment of syphilis in the dermatological department but the hospital did not want venereal cases admitted to the general wards.¹¹⁹ Fildes and McIntosh’s research gave them an exceptionally steady supply of patients, but the London Hospital’s reluctance to expand its use of salvarsan suggests that, at least during the first few years of its use, this treatment was experimental rather than representative of wider therapeutic practice.¹²⁰ Despite concessions by a small number of hospitals, following appeals from their respective laboratory workers, few institutions administered salvarsan on a significant scale before the First World War.¹²¹

As will be seen in Chapter 5, civilian institutions had to contend with uncooperative patients, limited facilities and a lack of significant sample sizes from which to derive meaningful conclusions. Such problems did not affect Rochester Row. Devoted to the study and treatment of venereal diseases, it enjoyed a steady supply of patients who were under military authority and compelled to persist with treatment and remain under medical observation. This made Rochester Row an ideal site for treatment, research and teaching—something that Harrison emphasised in

his request to Ehrlich for early trial batches of salvarsan.¹²² Experimental trials began in 1910. The treatment methods developed at Rochester Row were taught to civilian doctors as well as medical officers of the RAMC. Harrison published and lectured widely to civilian doctors. His findings greatly influenced the therapeutic practices adopted by individuals, such as McDonagh and Bayly, as well as various hospitals and Poor Law infirmaries.¹²³

Over the course of their study, Fildes and McIntosh found that patients were less likely to relapse if they received two intravenous injections and one intramuscular injection of salvarsan.¹²⁴ They believed that, unlike mercurial treatments, salvarsan should always be used 'as an attempt at absolute cure by one course, and not for the alleviation of symptoms'. It was therefore necessary to find the minimal dose that would produce the maximal effect. Patients received three injections: a dose between 0.4 and 0.6 grams was administered intravenously on the first and fourth days, and a dose of 0.6 grams intramuscularly on the seventh day.¹²⁵ When determining the necessity of a second course of treatment, Fildes and McIntosh were guided by the results of the Wassermann reaction. If cases of primary- or secondary-stage syphilis did not produce a negative or 'nearly negative' result within eight to ten weeks after treatment, they recommended a second course of salvarsan.¹²⁶

Harrison's research at Rochester Row led him similarly to conclude that 'partial or doubtful reactions' should be viewed as evidence that more treatment was required.¹²⁷ Like Fildes and McIntosh, he found the most effective method to be intravenous injections of 0.6 grams. However, his salvarsan injections were followed by five weekly intramuscular injections of mercurial cream. This combination treatment was repeated and then followed by one last intravenous injection of salvarsan. To determine the effectiveness of this treatment, the patient's blood serum was tested using the Wassermann reaction. Medical officers at Rochester Row allowed at least a fortnight between full doses of salvarsan, to avoid inducing haemorrhagic encephalopathy.¹²⁸ Like Fildes and McIntosh, Harrison and his colleagues in the RAMC sought the minimum dose of salvarsan necessary to cure an 'average' case of syphilis. Although Harrison accepted that the development of neo-salvarsan in 1911 was 'an improvement in respect of safety and convenience', Rochester Row persisted with older salvarsan treatments because Harrison thought them more effective.¹²⁹

THE WASSERMANN REACTION

In his memorandum submitted to the RCVD, Arthur Newsholme lamented that the chief difficulty in tackling syphilis was the failure to identify infection, especially in its primary stage before infection could take hold and become constitutional.¹³⁰ The earlier a patient's treatment commenced, the more likely they were to be cured. Yet Fildes and McIntosh insisted that even the most experienced doctors could pronounce on a case of syphilis only with 'comparative certainty'. Many continued to make the 'fatal mistake' of waiting for the appearance of secondary-stage symptoms to confirm an empirical diagnosis.¹³¹

The Wassermann reaction was therefore another important laboratory-based development that English doctors optimistically expected would have significant influence over the prevalence and treatability of venereal diseases. The research of men such as Frederick W. Mott, Bulloch, McIntosh, Fildes and Harrison constituted important examples of how knowledge of the Wassermann reaction permeated English venereology and was integrated into wider professional practice.

The reliability of the reaction was a source of ongoing concern among doctors, as well as a subject of historical inquiry in subsequent decades.¹³² Yet few historians have considered how debate over reliability affected the development of knowledge and the integration of that knowledge into wider clinical practice. Early twentieth-century studies of the Wassermann reaction are important for understanding what doctors understood about the reaction's potential and limitations, as well as laboratory-based medicine more broadly. The reaction was not simply a diagnostic tool. It was also an important subject of research as doctors sought to augment their knowledge and refine their diagnostic techniques.

As seen in discussion of vaccine therapy, a body invaded by a bacterial pathogen responds by producing antibodies. At the turn of the twentieth century, doctors believed that the antibody contained two key parts: amboceptor and complement. Amboceptor, in this theoretical framework, 'anchored' the antibody to the antigen. According to F.W. Andrewes, no one was entirely certain what complement was, other than 'a certain property' present in the patient's blood serum responsible for breaking down the antigen in a process called hæmolysis.¹³³ The Wassermann reaction was a test designed to detect the presence of antibodies specific to a patient with syphilis. By the First World War, the majority medical opinion in England (as well as other parts of Britain) was that the *spirocheate pallida*

was the causative microorganism of syphilis. Debate therefore focused on the reliability of the Wassermann reaction to detect the presence of infection caused by the *spirochaete pallida*. Patients were assumed to have the antigen if antibodies were detected in their blood serum.¹³⁴ However, many variables could produce a false negative or false positive. The reaction was initially performed using only extracts of syphilitic liver, which were added to the patient's blood serum. But several different extracts would eventually be used as antigens.¹³⁵

The antigen was not specific and doctors performing the reaction did not comprehend fully the nature of the antibody produced in response to the chosen antigen. Although few records of the methodologies adopted at each laboratory survive, it is clear that each laboratory prepared its chosen antigen in unique ways. Ivy McKenzie and Browning preferred liver extract after finding that heart lecithin produced false positives in some non-syphilitic sera.¹³⁶ Francis Thiele and Dennis Embleton, bacteriologists from University College Hospital Medical School, preferred ox heart trimmed of fat and finely minced, allowed to stand at room temperature for thirty-six hours and then completely dried in an evacuated desiccator over sulphuric acid.¹³⁷ How they settled on this method is unclear. J. Henderson Smith of the Lister Institute and J.P. Candler from the CPL used extract made from the liver of syphilitic fetuses.¹³⁸ By contrast, Fildes and McIntosh's research into salvarsan led them to conclude that Hans Sach's cholesterinised human heart extract was the most reliable antigen. They would use this standardised method in their specially commissioned study of the Wassermann reaction for the RCVD.¹³⁹ Their success also persuaded Mott to use Sach's method in his RCVD-commissioned study, which he performed at the CPL. Such multiplicity of methods was indicative of contradiction and inconsistency as each laboratory searched for the most efficient and reliable way to perform the Wassermann reaction.

The Committee of the Society on Venereal Diseases instructed the pathological subcommittee of the Royal Society of Medicine to assess the effectiveness of the different methods of performing the Wassermann reaction. They were to then recommend standardisation according to one specific method. At the time, however, Andrewes, as chairman of the subcommittee, rejected standardisation because 'everyone is at sixes and sevens'. Knowledge of the reaction at the time of the RCVD was so limited that any attempt at standardisation would hinder rather than promote further developments.¹⁴⁰ The subcommittee reported that standardisation could be recommended only after extensive and comparative trials using

both syphilitic and non-syphilitic samples.¹⁴¹ In keeping with modern scientific practice, the subcommittee agreed that such comparative trials needed to be conducted on a suitably large scale and over an extended length of time. Questions of standardisation consequently continued to dominate discussion well into the interwar years.¹⁴²

Different laboratories developed their own techniques and consequently obtained unique patterns in their results. Fildes and McIntosh concluded that the large variety of potential antigens (of varying suitability) was the principal cause of the diverse results obtained from numerous laboratory experiments with the Wassermann reaction.¹⁴³ Burnett Ham recommended to the RCVD that, given the number of variables and a desire to avoid further inconsistency, the reaction should be performed only by one specially trained laboratory worker in each laboratory.¹⁴⁴ Results may have been consistent within any given laboratory but were not necessarily reproducible between laboratories.¹⁴⁵ McDonagh claimed to have carried out over 16,000 reactions between 1908 and 1914, and expressed concern about the variability of the results obtained using different techniques: 'I have been surprised lately while experimenting upon the modus operandi of the reaction at the extraordinarily little differences that suffice to give different results.'¹⁴⁶ Such variability, along with the inability to reproduce results between laboratories, increased concerns and divided medical opinion over the reaction's reliability.

Many doctors believed that the Wassermann reaction enabled diagnoses in cases of latent infection, allowing them to diagnose up to a month earlier than would have been possible using empirical practices. Even those doctors with specialist knowledge of venereal diseases often awaited the development of secondary symptoms before prescribing treatment, meaning that 'much precious time was lost'.¹⁴⁷ Despite her scepticism over its reliability, Florence Willey conceded that the reaction had revolutionised diagnostic practice because it allowed doctors to diagnose cases that would have otherwise been missed.¹⁴⁸

Although the ability of the Wassermann reaction to obtain results divided opinion, it nonetheless facilitated more efficient diagnoses and the development of more effective treatment methods.¹⁴⁹ Doctors were also better able to determine whether, at the end of a course of treatment, patients had achieved a complete cure.¹⁵⁰ The reaction was thought to have revealed a disturbingly large number of patients who did not present characteristic physical symptoms but were being insidiously attacked at a microbial level. John Collie asserted that a positive reaction many years

after an initial infection demonstrated that syphilis was still present in some latent form. One such case had, according to Collie, given a positive result following infection twenty-nine years earlier. At the time of the RCVD the patient was in the early stages of GPI.¹⁵¹ Developing knowledge of disease latency prompted a search for new treatment regimes that attempted to effect a cure at a bacteriological level and according to the evidence of a Wassermann reaction. Although the introduction of salvarsan and neo-salvarsan would eventually streamline treatment, early Wassermann trials at Rochester Row had convinced Harrison that treatment needed to be continued for a year after positive reactions were no longer obtainable.

A reaction was often performed to confirm a tentative empirical diagnosis. Browning argued that clinical evidence derived from empirical practices was too variable because it depended upon the knowledge and observation of individual doctors. Advocates of the reaction thought that its use reduced the chance of cases going undiagnosed and untreated, and lessened the risk of distressing treatments being wrongly administered to patients free of the infection. Before the advent of bacteriological and serological testing, the examination of suspected venereal cases followed a standard pattern. The doctor might make a tentative diagnosis, but syphilis, being what Hutchinson described in 1879 as ‘an imitator’, required a protracted period of observation to exclude other contributory factors.¹⁵² By this time the ideal stage for commencing treatment was likely to have passed.

Many doctors believed the Wassermann reaction to be an important diagnostic development. Others such as Clifford Allbutt, Victor Horsley and McDonagh thought that it was too unreliable. They continued instead to base their diagnoses upon physical symptoms.¹⁵³ By 1912 Power admitted that, although it was ‘repugnant’ to his ‘surgical instinct’, he had begrudgingly placed his trust in the results of the Wassermann reaction. In earlier years he had found it very difficult to accept pathological reports that young patients in seemingly ‘perfect health’ were infected with the *spirochaete pallida*. Even though Power had constantly taught that syphilis was a ‘deceitful disease’, he could not bring himself to rely upon tests made by others, however skilled in the performance of the Wassermann reaction.¹⁵⁴ Similarly, F.R. Cross, William Osler and J. Galloway accepted its diagnostic value, but also stressed that the results should not be universally accepted.¹⁵⁵ Willey also believed that negative results did not conclusively demonstrate that a patient was free from infection, unless the diagnosis could be confirmed by supporting clinical evidence.¹⁵⁶

Despite greater understandings of micrococcal causation and latent or asymptomatic infection, many doctors continued to rely upon empirical practices to arrive at conclusive diagnoses, believing that clinical examinations provided important information with which to assess the reliability of a negative or positive reaction.¹⁵⁷ They also continued to associate the alleviation of symptoms with cure and effective treatment. Such reliance was in keeping with wider clinical practice. Many doctors at the turn of the century used laboratory tests to reinforce or adjust diagnostic and clinical decisions that had already been made using more traditional methods.¹⁵⁸

In some institutions the Wassermann reaction was performed only in cases with exacerbating physical symptoms that strongly suggested the presence of syphilis. Symptomatology remained central to the diagnostic process. As we have seen in Chapter 2, the limited pathological facilities available to the gynaecological department of the Royal Free Hospital meant that few reactions were performed on patients who demonstrated none of syphilis's common symptoms, such as genital sores, rashes and discharges.¹⁵⁹ Yet these were the very same symptoms often cited as conclusive proof that the results of the reaction were accurate.

While the reaction was quickly taken up among specialist researchers who experimented with different techniques, its application in wider general practice was not straightforward. Beyond practice in a handful of institutions, it is difficult to determine how widely the Wassermann reaction was employed before the First World War. As Simon Szreter demonstrates, the problems surrounding the reliability of the Wassermann reaction were not solely epidemiological or statistical. Of more immediate concern for doctors were the devastating implications of incorrect or uncertain test results for their own patients.¹⁶⁰ Power's hesitancy in diagnosing a young patient in seemingly perfect health demonstrates the fundamental problem faced by doctors in the early years of serological testing. How could doctors, especially those trained before the advent of serology, diagnose in good conscience an apparently healthy patient as having syphilis? Doctors did not wholly understand the theory and practice of the reaction, but they probably knew that its accuracy and reliability were in question.

As with the cautious reception of salvarsan, doctors' responses to the Wassermann reaction were also coloured by past diagnostic and therapeutic developments that had proven unreliable. Some who expressed concern over the reaction's reliability did so with reference to opsonisation,

while others referenced the problems of Koch's tuberculin. At the heart of this criticism were fears that these technologies had been adopted too rapidly and were unproven in clinical trials.¹⁶¹ Confronted with a patient who insisted that they could not possibly have syphilis, and knowing the potential social and familial damage of a positive diagnosis, doctors were faced with a moral and professional dilemma. They may have been growing increasingly reliant upon laboratory practices but this reliance was tempered by social, professional and clinical considerations. Doctors would not wish to expose fee-paying patients to social stigma and a protracted, distressing course of treatment. Moreover, they would not risk their professional reputations by taking responsibility for a diagnosis arrived at in a laboratory using new technology that they did not wholly understand.

Although the reaction could potentially reveal cases of latent infection, testimony given before the RCVD suggests a rather cautious reception of the positive results obtained. The opinions of some doctors changed as their inquiries progressed. McDonagh initially believed that a positive result meant the patient was 'necessarily actively syphilitic'. After further investigation, however, he claimed that a positive result would no longer convince him that a patient was actively syphilitic at the time their blood serum was tested.¹⁶² A growing number of doctors shared the view that McDonagh came to hold. They had not only to account for potential inconsistencies in the results obtained between laboratories. Other diseases, such as leprosy, scarlet fever, pneumonia, typhoid fever and malaria, could also cause false positives.¹⁶³ Doctors were nonetheless cautious in accepting laboratory results as conclusive.¹⁶⁴ The risks of incorrect or delayed diagnoses that supporters claimed were minimised by the Wassermann reaction were the same risks cited by sceptics in their arguments against the widespread use of the reaction. Reliance upon laboratory results, without due recourse to traditional empirical practices, would result in a swathe of incorrect diagnoses. False positives might lead to unnecessary and debilitating treatment. Equally problematically, false negatives might result in patients being left untreated.

Just as doctors and laboratory workers were thought to require a certain level of intuitive skill to undertake vaccine therapy, opsonic indexing and salvarsan treatment, so too did the specially trained pathologists responsible for performing the Wassermann reaction require precision of technique and a unique sensitivity.¹⁶⁵ The delicate nature of the reaction meant that its performance was beyond the practical knowledge and capability of the average doctor.¹⁶⁶ Even the most skilled pathologists might produce

negative results in samples taken from syphilitic patients and positive results in samples taken from non-syphilitic patients. These false negatives and positives could occur without any obvious error in technique. Pathologists needed what Ludwik Fleck described as the 'serological touch', which could not be taught but rather acquired through many hours of practical experience.¹⁶⁷

Most doctors may have lacked the specialist skill necessary to perform the reaction, but they were expected to know which cases would benefit from testing and to ensure that those tests were made.¹⁶⁸ Doctors seeking Wassermann reactions for their patients were instructed to send no less than 1 c.c. of blood serum for analysis. But the methods for collecting serum were delicate.¹⁶⁹ In cases of suspected deterioration of the central nervous system, a sample of cerebro-spinal fluid was required.¹⁷⁰ The method for extracting this fluid through lumbar puncture was even more delicate, because the doctor risked damaging the patient's spine. The doctor needed enough familiarity with the technique to know by touch when the needle was inserted correctly into the spinal cavity. When inserting the needle, Harrison described 'an indiarubbery' resistance. Pushing past this resistance, the doctor would then experience 'an indescribable feeling', indicating that the point of the needle had entered the spinal cavity.¹⁷¹ Reliance upon such ambiguous or intuitive sensations, which could not be conveyed theoretically to students and inexperienced doctors, inevitably limited the number of doctors capable of safely and effectively extracting the required pathological samples.

Even if samples were properly collected and reliable results obtained, the attending doctor was not necessarily in a position to interpret the results. As in the performance of vaccine therapy and opsonic indexing, the effective performance of the Wassermann reaction, and the ability to act upon its results, depended greatly upon cooperation and communication between laboratory workers and doctors. Harrison observed that the unskilled general practitioner might struggle to translate the pathologist's 'hieroglyphics' and so fail to modify their diagnosis and prescribed treatments.¹⁷² This failure was attributed, in part, to a fundamental lack of knowledge of bacteriology and complement fixation. Even if the doctor could translate laboratory reports, they needed sufficient knowledge and experience to make appropriate clinical decisions based upon the results in those reports.

Witnesses who testified to the professional capabilities of general practitioners based their estimations upon standards of training among younger

doctors, who had qualified when knowledge of the Wassermann reaction was beginning to enter medical practice and education. Even if they could not perform the reaction themselves, these young men and women were thought to possess a theoretical understanding of how it was performed, its diagnostic value and how to go about obtaining tests for their patients.

Any student now in training, any student who has qualified within the last half dozen years, knows that such tests exist. He has seen them demonstrated, and if he can get them carried through, and recognises when they ought to be tried ... that is as much as I think we should ask in a minimum curriculum.¹⁷³

Salvarsan and the Wassermann reaction transformed the treatment of syphilis, but the extent to which these developments were circulated among general practitioners before the First World War varied considerably. Young doctors who learnt about this new technology would probably have found its employment prohibitively expensive. As will be seen in the next chapter, the National Health Insurance Act of 1911 (NHI) did not cover subscribers for laboratory tests. Several historians argue that the cost (at between 10s.6d. and £2.2s. per reaction) made it an impractical tool for most panel doctors and general practitioners working outside the larger general hospitals.¹⁷⁴ Sequeira, for example, ordered Wassermann reactions for his private patients at a cost of two guineas for each test.¹⁷⁵ His private fees and professional links to the London Hospital allowed him to call upon the resources of its pathological laboratory. However, most general practitioners, even if they were trained in modern methods, did not have such resources at their disposal. General practitioners and panel doctors who requested a Wassermann reaction were often obliged to cover the cost on behalf of poorer patients. Doctors were obliged to rely upon empirical evidence unless they could perform the test themselves, pay for the test to be performed or find someone to perform it gratuitously.¹⁷⁶

General practitioners who were educated before the advent of serology could remain abreast of current literature on the Wassermann reaction through regular consumption of medical periodicals. They may have had some knowledge of the theory underpinning the reaction but were not necessarily equipped to employ that knowledge, confidently utilise it in their own cases or even know how to arrange for it to be performed. They probably did not appreciate its diagnostic potential or see it as a tool suitable for day-to-day practice. Sequeira lamented that he was

... constantly coming across men, even in good practices, who have not any idea of the value ... of a test like the Wassermann test or of the demonstration of the *spirochete* in a chancre, things which are everyday knowledge to our third, fourth, and fifth-year students. It is very difficult of course to keep these men up to date.¹⁷⁷

As we have seen in Chapter 3, there were very few means of reaching these doctors. Indeed, Sequeira's only solution was to wait until the older generation had been replaced by younger doctors with more extensive and up-to-date knowledge.¹⁷⁸

Although general practitioners were interested in new ideas and practices that would improve patient care and, by extension, enhance their professional status, such enthusiasm was not universal. Medical education exposed students to the ideas and technologies in vogue at the time of their training but these were the knowledge claims to which many adhered throughout their professional lives. The gaps in their knowledge would widen with each new development.

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Vaccine therapy, salvarsan and the Wassermann reaction all resulted from, and augmented, new bacteriological understandings of venereal diseases, and began slowly to alter the nature of patient care. Their expanding application in clinical practice is further evidence of what some historians have identified as the increasing complementarity of, and cooperation between, laboratory and bedside medicine.¹⁷⁹ Laboratory science was exploited not only for its practical diagnostic value, but also for its rhetorical potential to reinforce the authority and professional status of doctors.¹⁸⁰ The sensitivity and skill necessary for employing these technologies certainly began to carry a degree of prestige. Doctors relied upon intuitiveness in their performance of the clinical 'art'. Likewise, the employment of laboratory-based technologies required a deftness of touch that could be acquired only through experience.¹⁸¹ The acquisition of such sensitivity created a professional exclusivity akin to that which characterised clinical practice. Laboratories may have been unfamiliar spaces for doctors entrenched in generalist practice but, as evidenced in the diagnosis and treatment of venereal diseases, laboratory-based technologies increasingly carried their own professional status.

The process of diagnosis and treatment was increasingly characterised by specialist knowledge, along with a new technical vocabulary and custom-designed apparatuses. This would make it incomprehensible to

most lay patients.¹⁸² Yet it must be remembered that vaccine therapy, salvarsan and the Wassermann reaction were almost as perplexing to many doctors, at least before the First World War. Despite the growing centrality of laboratory-based work to the study, diagnosis and treatment of venereal diseases, general practitioners were not expected to have a thorough knowledge of bacteriology or pathology. They needed to know enough to determine the best form of care for their patients and, when necessary, to rely upon the specialist skill and greater experience of laboratory workers.

The extent to which vaccine therapy, salvarsan and the Wassermann reaction informed the day-to-day care of venereally diseased patients by general practitioners is difficult to determine. These were very new technologies, so it is unsurprising that their theory and method of application were unfamiliar to many in general practice. Their limited pre-war application is examined further in the next chapter through case studies of club and panel practice, special hospitals and the Poor Law. These technologies had their avid supporters as well as their staunch opponents, but the majority view among doctors was one of cautious optimism. Most doctors probably acquired some theoretical knowledge of these technologies, through either lectures or medical literature. Some even employed them in the care of patients, measuring their reliability against tried-and-tested empirical diagnostic practices and older forms of treatment. Yet many more lacked the necessary practical knowledge and resources to employ these new technologies effectively.

NOTES

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2. See, for example, Charles R. Drysdale, *The Nature and Treatment of Syphilis and the Other So-Called 'Contagious Diseases'* (London: Ballière, Tindall and Cox, 1880); Alfred Cooper, *Syphilis and Pseudo-Syphilis* (London: J. and A. Churchill, 1884); Jonathan Hutchinson, *Syphilis* (London: Cassell, 1887); Jonathan Hutchinson, *Syphilis* (London: Cassell and Co., 1909).

3. See, for example, John K. Barton, *The Pathology and Treatment of Syphilis, Cancroid Ulcers and Their Complications* (Dublin: Fannin and Co., 1868). The copy cited is held by Fisher Library, University of Sydney. It was annotated heavily by Alexander MacCormick, who took his medical degree in Edinburgh in 1880 and then immigrated to Australia to become lecturer on surgery at the University of Sydney and surgeon to the Royal Prince Alfred Hospital. His annotations describe his own experimentation with iodides and mercurial treatments and include notes that formed the basis of lectures.
4. Almroth Wright, *Vaccine Therapy: Its Administration, Value and Limitations. A Discussion Opened by Sir Almroth E. Wright* (London: Longmans, Green and Co., 1910), 126.
5. Thomas J. Horder, 'Vaccines from the Standpoint of the Physician', *Lancet* (31 January 1914), 312.
6. J. Rosser Matthews, 'Major Greenwood versus Almroth Wright: Contrasting Visions of "Scientific" Medicine in Edwardian Britain', *Bulletin of the History of Medicine* (1995), 38.
7. Christopher Lawrence, 'Incommunicable Knowledge: Science, Technology and the Clinical Art in Britain 1850–1914', *Journal of Contemporary History* (1985), 514–15; John Pickstone, *Ways of Knowing: A New History of Science, Technology and Medicine* (Manchester: Manchester University Press, 2000), 17–20; Jay Cassel, *The Secret Plague: Venereal Disease in Canada, 1838–1939* (Toronto: University of Toronto Press, 1987), 34; L.S. Jacyna, 'The Laboratory and The Clinic: The Impact of Pathology on Surgical Diagnosis in the Glasgow Royal Infirmary, 1875–1910', *Bulletin of the History of Medicine* (1988), 405.
8. Christopher Lawrence, 'A Tale of Two Sciences: Beside and Bench in Twentieth-Century Britain', *Medical History* (1999): 421–49.
9. Wright, *Vaccine Therapy*, 112.
10. Rosemary Wall, 'Using Bacteriology in Elite Hospital Practice: London and Cambridge, 1880–1920', *Social History of Medicine* (2011): 776–95.
11. Simon Szreter, 'The Prevalence of Syphilis in England and Wales on the Eve of the Great War: Revisiting the Estimates of the Royal Commission on Venereal Diseases 1913–1916', *Social History of Medicine* (2014), 518.
12. Christopher Crenner, 'Private Laboratories and Medical Expertise in Boston circa 1900', Carsten Timmermann and Julie Anderson (eds), *Devices and Designs: Medical Technologies in Historical Perspective* (New York: Palgrave Macmillan, 2006), 62.
13. Rosemary Wall, *Bacteria in Britain, 1880–1939* (London: Pickering and Chatto, 2013), 13–25.

14. Dorothy Porter and Roy Porter, 'The Politics of Prevention: Anti-Vaccinationism and Public Health in Nineteenth-Century England', *Medical History* (1988): 231–52; R.J. Lambert, 'A Victorian National Health Service: State Vaccination, 1855–71', *Historical Journal* (1962): 1–18; Nadja Durbach, "'They Might as Well Brand Us": Working-Class Resistance to Compulsory Vaccination in Victorian England', *Social History of Medicine* (2000): 45–62.
15. Michael Worboys, 'Vaccine Therapy and Laboratory Medicine in Edwardian Britain', John V. Pickstone (ed.), *Medical Innovations in Historical Perspective* (London: Macmillan, 1992), 85–86.
16. R.W. Allen, *Vaccine Therapy: Its Theory and Practice* (London: H.K. Lewis, 1912), 7–17; Wai Chen, 'The Laboratory as Business: Sir Almroth Wright's Vaccine Programme and the Construction of Penicillin', Andrew Cunningham and Perry Williams, *The Laboratory Revolution in Medicine* (Cambridge: Cambridge University Press, 1992), 261. Today, antibodies are understood to be proteins, and categorised collectively as immunoglobins. Antibodies are produced in response to infection or immunisation and combat pathogens in three different ways: by binding to, and isolating, pathogens in a process called neutralisation; by recruiting immune cells to destroy pathogens in a process called opsonisation; and by a process of complement activation that enables phagocytosis. See Kenneth Murphy, *Janeway's Immunobiology* (London: Garland Science, 2012), 26–27.
17. Wright, *Vaccine Therapy*, 1–2.
18. Arthur Loxton, 'The Treatment of Chronic Gonorrhoea by Antigonococcal Vaccine', *BMJ* (27 February 1909), 531.
19. Michael Worboys, "'The Wright Way": The Production and Standardization of Therapeutic Vaccines in Britain, 1902–1913', Christoph Gradmann and Jonathan Simon (eds), *Evaluating and Standardizing Therapeutic Agents, 1890–1950* (Basingstoke: Palgrave Macmillan, 2010), 154.
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21. R.W. Allen, *The Opsonic Method of Treatment: A Short Compendium for General Practitioners, Students, and Others* (London: H.K. Lewis, 1907), 107–15; Peter Keating, 'Vaccine Therapy and the Problem of Opsonins', *Journal of the History of Medicine and Allied Sciences* (1988), 278–86; Chen, 'The Laboratory as Business', 266.
22. Almroth Wright, *Handbook of the Technique of the Teat and Capillary Glass Tube and Its Application in Medicine and Bacteriology* (London: Constable and Co., 1912), 124–25.

23. Hewlett, *Serum and Vaccine Therapy*, 253–55, 260–61.
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28. Heaman, *St Mary's*, 133–34.
29. Worboys, "'The Wright Way'", 154–56. Among those who also received early trial samples of salvarsan were William Bulloch in the London Hospital's Bacteriological Laboratory, and L.W. Harrison at Rochester Row Military Hospital. See James McIntosh and Paul Fildes, *Syphilis from the Modern Standpoint* (London: Edward Arnold, 1911); L.W. Harrison, 'Ehrlich Versus Syphilis as it Appeared to L.W. Harrison', *British Journal of Venereal Disease* (30 March 1954), 2–6.
30. Horder, 'Vaccines from the Standpoint of the Physician', 311; Wright, *Vaccine Therapy*, 10.
31. David Watson, *Gonorrhoea and Its Complications in the Male and Female* (London: Henry Kimpton, 1914), 358.
32. Watson, *Gonorrhoea and Its Complications in the Male and Female*, 358–59.
33. Axel C. Hüntelmann, 'Evaluation as a Practical Technique of Administration: The Regulation and Standardization of Diphtheria Serum', Christoph Gradmann and Jonathan Simon (eds), *Evaluating and Standardizing Therapeutic Agents, 1890–1950* (Basingstoke: Palgrave Macmillan, 2010), 39; John W.H. Eyre and Bernard H. Stewart, 'The Treatment of Gonococcus Infections by Vaccines', *Lancet* (10 July 1909), 76–81; Horder, 'Vaccines from the Standpoint of the Physician', 311; Loxton, 'The Treatment of Chronic Gonorrhoea by Antigonococcal Vaccine', 531.
34. Wright, *Vaccine Therapy*, 78–79; Worboys, "'The Wright Way'", 158.
35. Wright, *Vaccine Therapy*, 9.
36. *Ibid.*, 78–79.
37. Worboys, "'The Wright Way'", 153.
38. See, for example, Wellcome Trust Library, Burroughs Wellcome and Co., *Price List of Fine Products* (1910–13) WF/M/PB/32/01/28–31; Thackray Medical Museum, Allen and Hanbury's Ltd, *General List of Drugs, Pharmaceuticals, and the 'Allenbury's' Specialties* (1908, 1911); Thackray Medical Museum, *Chemists and Druggists' Diary* (1911); Thackray Medical Museum, *Parke, Davis and Co. Catalogue* (1908–09, 1913–14).

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40. Worboys, "'The Wright Way'", 158.
41. See, for example, Thackray Medical Museum, Allen and Hanbury's Ltd, *General List of Drug Pharmaceuticals and the 'Allenbury's' Specialties* (1911), 253–55; Thackray Medical Museum, *Chemists and Druggists' Diary* (1911), 162.
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43. Horder, 'Vaccines from the Standpoint of the Physician', 310.
44. Allen, *Vaccine Therapy*, 118–21; Wright, *Vaccine Therapy*, 119.
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54. Ernest S. Reynolds, 'An Address on the Practice of Medicine as a Fine Art', *BMJ* (9 March 1912), 529–31; Lawrence, 'Incommunicable Knowledge', 507.
55. Keating, 'Vaccine Therapy and the Problem of Opsonins', 291.
56. Royal Commission on Venereal Diseases, PP 1913–16 Cd 8190 (Appendix to Final Report of the Commissioners, Minutes of Evidence), q. 16089 (henceforth, Royal Commission on Venereal Diseases, Appendix to Final Report, Cd 8190).

57. Hugh W. Bayly, 'The Diagnosis and Treatment of Chronic Gonorrhoea and its Local Complications', *BMJ* (14 March 1914), 585.
58. Wright, *Vaccine Therapy*, 79.
59. Heaman, *St Mary's*, 133.
60. Wright, *Vaccine Therapy*, 78–79.
61. *Ibid.*, 139.
62. *Ibid.*, 139.
63. Eyre and Stewart, 'The Treatment of Gonococcus Infections by Vaccines', 76–81.
64. *Ibid.*, 76–82.
65. *Ibid.*, 77.
66. Loxton, 'The Treatment of Chronic Gonorrhoea by Antigonococcal Vaccine', 531.
67. Chen, 'The Laboratory as Business', 269.
68. Wright, *Vaccine Therapy*, 121.
69. *Ibid.*, 74.
70. E.C. Hort, 'Can Opsonic Estimations Be Relied on in Practice?' *BMJ* (13 February 1909), 400.
71. *Ibid.*, 400.
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88. George Stopford-Taylor and Robert William Mackenna, *The Salvarsan Treatment of Syphilis in Private Practice, with Some Account of the Modern Methods of Diagnosis* (London: William Heinemann, 1914), 83–84.
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92. Royal Commission on Venereal Diseases, PP 1913–16 Cd 7475 (Appendix to First Report of the Commissioners, Minutes of Evidence), qq. 8680–83 (henceforth, Royal Commission on Venereal Diseases, Appendix to First Report, Cd 7475).
93. McDonagh, *Salvarsan in Syphilis and Allied Diseases*, 6.
94. Stopford-Taylor and MacKenna, *The Salvarsan Treatment of Syphilis in Private Practice*, 77.
95. Local Government Board Report on Venereal Diseases, PP 1913 XXXII Cd 7029, iii.
96. *Ibid.*, 20.

97. Royal Commission on Venereal Diseases, Appendix to First Report, Cd 7475, q. 7407.
98. St Bartholomew's Hospital Archives, St Bartholomew's Hospital Medical Committee Minutes (1912) SBHB/MC1/4.
99. Stopford-Taylor and MacKenna, *The Salvarsan Treatment of Syphilis in Private Practice*, 45; McIntosh and Fildes, *Syphilis from the Modern Standpoint*, 187.
100. Royal Commission on Venereal Diseases, Appendix to First Report, Cd 7475, q. 11854.
101. Paul Ehrlich and J.E.R. McDonagh, '606' in *Theory and Practice* (London: Oxford University Press, 1911), 31–34; McDonagh, *Salvarsan in Syphilis and Allied Diseases*, 40.
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103. Royal College of Surgeons, London Lock Hospital Committee Minutes (21 December 1911) MS0022/1/1/34, 66.
104. Stopford-Taylor and MacKenna, *The Salvarsan Treatment of Syphilis in Private Practice*, 69.
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115. Ross and Tomkins, 'The British Reception of Salvarsan', 413–14.
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117. London Hospital Archives, Reports from the Outpatient Committee to the House Committee, 'A Report on Syphilis' (November 1913) RLH/LH/A/17/31, 9.
118. London Hospital Archives, Medical Council: Volume Containing Various Reports, Papers and Letters, 'Resolutions on the Use of Salvarsan with Syphilis Cases' (April 1911) RLH/LM/5/1; London Hospital Archives, London Hospital Medical Council Minutes (May 1911–April 1913) RLH/LM/1/10.
119. London Hospital Archives, London Hospital Medical Council Minutes (May 1911–April 1913) RLH/LM/1/10.
120. Although previously reluctant to admit patients for salvarsan treatment, the London Hospital in 1913 deemed it necessary for beds to be allotted to cases of primary- and secondary-stage syphilis. McIntosh and Fildes, *Syphilis from the Modern Standpoint*, ix–x; James McIntosh and Paul Fildes, 'An Investigation of the Value of Certain Antigens for Use in the Wassermann Reaction, in Particular Sach's New Antigen', *Zeitschrift für Chemotherapie* (1912), 88.
121. See, for example, returns compiled in Appendix VII of the Final Report. Royal Commission on Venereal Diseases, PP 1913–16 Cd 8189 (Final Report), 118–19 (henceforth, Royal Commission on Venereal Diseases, Final Report, Cd 8189).
122. Royal Commission on Venereal Diseases, Appendix to First Report, Cd 7475, q. 4529; Harrison, 'Ehrlich versus Syphilis', 2.
123. Bayly, 'The Intravenous Method of Treatment of Syphilis with Salvarsan ("606")', 153–54; T.W. Gibbard and L.W. Harrison, 'Observations on the Use of Salvarsan in Syphilis', *Lancet* (18 March 1911), 726–31; T.W. Gibbard and L.W. Harrison, 'A Summary of Results Obtained by the Use of Salvarsan in Syphilis', *BMJ* (23 September 1911), 679–86; Royal Commission on Venereal Diseases, Appendix to First Report, Cd 7475, q. 12234; Local Government Board Report on Venereal Diseases, PP 1913 XXXII Cd 7029, iii.
124. McIntosh and Fildes, *Syphilis from the Modern Standpoint*, 215.
125. *Ibid.*, 185–86.
126. *Ibid.*, 186.
127. L.W. Harrison, *The Diagnosis and Treatment of Venereal Diseases in General Practice* (London: Oxford University Press, 1918), 279.
128. Harrison, 'Ehrlich versus Syphilis', 4.
129. *Ibid.*, 5; Harrison, *The Diagnosis and Treatment of Venereal Diseases in General Practice*, 362–75.
130. Royal Commission on Venereal Diseases, Final Report, Cd 8189, 104.

131. McIntosh and Fildes, *Syphilis from the Modern Standpoint*, vii. Own emphasis.
132. Sharon E. Mathews, 'Matter Over Mind: The Contributions of the Neuropathologist Sir Frederick Walker Mott to British Psychiatry, c.1895–1926' (unpublished PhD thesis, University of Manchester, 2006), 126–64; Henk van den Belt, 'The Collective Construction of a Scientific Fact: A Re-Examination of the Early Period of the Wassermann Reaction, 1906–1912', *Social Epistemology* (2011): 311–39; Ludwik Fleck, *Genesis and Development of a Scientific Fact* (Chicago: University of Chicago Press, 1979); Mazumdar, "'In the Silence of the Laboratory'": 437–59; Szreter, 'The Prevalence of Syphilis in England and Wales on the Eve of the Great War': 508–29.
133. Royal Commission on Venereal Diseases, Appendix to Final Report, Cd 8190, q. 13238.
134. *Ibid.*, q. 13239.
135. Local Government Board Report on Venereal Diseases, PP 1913 XXXII Cd 7029, 12.
136. Royal Commission on Venereal Diseases, Appendix to First Report, Cd 7475, q. 7122; Carl Browning and Ivy McKenzie, *Recent Methods in the Diagnosis and Treatment of Syphilis: The Wassermann Serum Reaction and Ehrlich's Salvarsan* (London: Constable and Company Ltd, 1911), viii–xii.
137. Francis Thiele and Dennis Embleton, 'A Method of Increasing the Accuracy and Delicacy of the Wassermann Reaction', *Lancet* (11 April 1914), 1032–34.
138. J. Henderson Smith and J.P. Candler, 'On the Wassermann Reaction in General Paralysis of the Insane', *BMJ* (24 July 1909), 198.
139. McIntosh and Fildes, 'An Investigation of the Value of Certain Antigens', 79–93.
140. Royal Commission on Venereal Diseases, Appendix to Final Report, Cd 8190, qq. 13225–26, 13266.
141. *Ibid.*, 160.
142. Mazumdar, "'In the Silence of the Laboratory'": 437–59.
143. McIntosh and Fildes, 'An Investigation of the Value of Certain Antigens', 81.
144. Royal Commission on Venereal Diseases, Appendix to First Report, Cd 7475, q. 1903.
145. Szreter, 'The Prevalence of Syphilis in England and Wales on the Eve of the Great War', 515–16.
146. Royal Commission on Venereal Diseases, Appendix to Final Report, Cd 8190, q. 16153.

147. Local Government Board Report on Venereal Diseases, PP 1913 XXXII Cd 7029, 11.
148. Royal Commission on Venereal Diseases, Appendix to First Report, Cd 7475, q. 11758.
149. For debate over the earliest stage of infection at which a Wassermann reaction was thought to be reliable, see McDonagh, *Salvarsan in Syphilis and Allied Diseases*, 72–82; Marshall, *Syphilology and Venereal Disease*, 53; McIntosh and Fildes, *Syphilis from the Modern Standpoint*, 135.
150. Local Government Board Report on Venereal Diseases, PP 1913 XXXII Cd 7029, 12.
151. Royal Commission on Venereal Diseases, Appendix to Final Report, Cd 8190, q. 17571.
152. Jonathan Hutchinson, ‘An Address on Syphilis as an Imitator’, *BMJ* (5 April 1879), 499–501; Jonathan Hutchinson, ‘An Address on Syphilis as an Imitator (Concluded)’, *BMJ* (12 April 1879), 541–42.
153. Royal Commission on Venereal Diseases, Appendix to First Report, Cd 7475, qq. 11384–86; Royal Commission on Venereal Diseases, Appendix to Final Report, Cd 8190, qq. 13645–46, 15922–26, 18560–61.
154. D’Arcy Power, ‘On the Treatment of Syphilis’, *BMJ* (22 June 1912), 1418.
155. Royal Commission on Venereal Diseases, Appendix to First Report, Cd 7475, qq. 9720, 11952, 14034.
156. *Ibid.*, qq. 11756–57, 15511.
157. Harrison, *The Diagnosis and Treatment of Venereal Diseases in General Practice*, 269–73.
158. Jacyna, ‘The Laboratory and The Clinic’, 391–92.
159. Royal Commission on Venereal Diseases, Appendix to First Report, Cd 7475, q. 11569.
160. Szeleter, ‘The Prevalence of Syphilis in England and Wales on the Eve of the Great War’, 518, 529.
161. Royal Commission on Venereal Diseases, Appendix to First Report, Cd 7475, q. 4972.
162. Royal Commission on Venereal Diseases, Appendix to Final Report, Cd 8190, qq. 16027–29, 16061–64.
163. Royal Commission on Venereal Diseases, Appendix to First Report, Cd 7475, qq. 4664–68, 6841–43; Royal Commission on Venereal Diseases, Appendix to Final Report, Cd 8190, qq. 13315–17, 16093, 18474; Harrison, *The Diagnosis and Treatment of Venereal Diseases in General Practice*, 275; McIntosh and Fildes, *Syphilis from the Modern Standpoint*, 150–51.
164. Royal Commission on Venereal Diseases, Appendix to First Report, Cd 7475, q. 6841.

165. Royal Commission on Venereal Diseases, Appendix to Final Report, Cd 8190, q. 13247; Worboys, “‘The Wright Way’”, 154.
166. Royal Commission on Venereal Diseases, Appendix to Final Report, Cd 8190, qq. 13246, 13251.
167. Fleck, *Genesis and Development of a Scientific Fact*, 53.
168. Royal Commission on Venereal Diseases, Appendix to First Report, Cd 7475, qq. 6583, 10908–11; Royal Commission on Venereal Diseases, Appendix to Final Report, Cd 8190, qq. 14562–64.
169. Harrison, *The Diagnosis and Treatment of Venereal Diseases in General Practice*, 228–34.
170. *Ibid.*, 280; Smith and Candler, ‘On the Wassermann Reaction in General Paralysis of the *Insane*’, 198.
171. Harrison, *The Diagnosis and Treatment of Venereal Diseases in General Practice*, 237.
172. *Ibid.*, 269.
173. Royal Commission on Venereal Diseases, Appendix to First Report, Cd 7475, q. 10908.
174. Michael Worboys, ‘Unsexing Gonorrhoea: Bacteriologists, Gynaecologists, and Suffragists in Britain, 1860–1920’, *Social History of Medicine* (2004), 51; Ross and Tomkins, ‘The British Reception of Salvarsan’, 403; Royal Commission on Venereal Diseases, Appendix to First Report, Cd 7475, q. 4655. See also Jesse Olszynko-Gryn’s work on the interwar employment of the Wassermann reaction in pregnancy testing. Jesse Olszynko-Gryn, ‘The demand for pregnancy testing: The Aschheim–Zondek reaction, diagnostic versatility, and laboratory services in 1930s Britain’, *Studies in History and Philosophy of Biological and Biomedical Sciences* (2014), 233–47.
175. Royal Commission on Venereal Diseases, Appendix to Final Report, Cd 8190, qq. 14709, 14711.
176. *Ibid.*, qq. 14873–77.
177. *Ibid.*, q. 14411.
178. *Ibid.*, qq. 14414–15.
179. Wall, *Bacteria in Britain*; Wall, ‘Using Bacteriology in Elite Hospital Practice’; Sturdy, ‘Looking for Trouble’.
180. S.E.D. Shortt, ‘Physicians, Science and Status: Issues in the Professionalization of Anglo-American Medicine in the Nineteenth Century’, *Medical History* (1983): 51–68; Steve Sturdy, ‘The Political Economy of Scientific Medicine: Science, Education and the Transformation of Medical Practice in Sheffield, 1890–1922’, *Medical History* (1992), 127–28.
181. Reynolds, ‘An Address on the Practice of Medicine as a Fine Art’, 529–31.
182. Ross and Tomkins, ‘The British Reception of Salvarsan’, 411; Shortt, ‘Physicians, Science and Status’: 51–68.

Clinical Practice and Patient Care

Between the repeal of the CD Acts and the establishment of the RCVD, public health policy became increasingly interventionist. During this period public health administration also continued to professionalise and specialise. Yet few measures to combat civilian rates of venereal diseases made it on to the statute books in England.¹ Responsibility for diagnosis, treatment and prevention fell instead to medical professionals engaged in curative medicine in private practice or within one of several different institutional settings. Their work was guided by few centralised state objectives or policies. Nevertheless, wider changes in public health legislation and infrastructure indirectly facilitated venereological practice. Venereal diseases may not have been addressed explicitly by pre-war public health measures but they were falling increasingly within the remit of doctors involved in various forms of institutional practice.

Against the backdrop of the ubiquitous rhetoric of liberal individualism and ongoing reliance upon voluntary medical services, the state was gradually becoming interventionist and collectivist on issues of health and welfare. Important and incremental steps were taken towards controlling the movement of individuals whose infectious diseases were a danger to society. Legislation resulting from this shift, such as the Infectious Disease (Notification) Act of 1889 (IDNA), demonstrated an inherent tension between collectivist and individualist ideas of healthcare. The work of Medical Officers of Health (MOHs) increasingly impinged upon social

policies and individual liberties, supposedly for the well-being of the community.² After five decades of public health campaigning and gradual increases in the range of preventative legislation, there was little public opposition akin to that raised against either the Vaccination or CD Acts. There was certainly a long tradition of medical surveillance over the health of the population, especially the working-class population through, for example, the organisation of friendly societies and club practice. However, the public health lobby was also becoming adept at reshaping methods of infectious-disease surveillance to conciliate liberal sensitivities, as demonstrated in the terms of the RCVD, which unequivocally resisted any return to the regulationism of the CD Acts.³ On top of this, the value of health-preserving legislation was becoming increasingly apparent, especially with growing understandings of disease transmission.

But if public recognition of the value of health-preserving legislation was growing, why did venereal diseases continue to be omitted from the expanding remit of public health and the collectivist state? Developments in bacteriological knowledge had persuaded subsequent generations of doctors that the methods of examination and diagnosis employed under the auspices of the CD Acts had been unscientific and, more importantly, unreliable.⁴ It had become clear that attempts to control venereal diseases were futile if regulatory and punitive measures were imposed, especially upon only one gender or class. However, as we have seen in Chapter 2, it was also apparent that the implementation of a more liberal and coordinated system of treatment, based neither upon regulation nor notification, would be frustrated by a public that still thought about venereal diseases in highly moralistic terms.⁵ Venereal diseases posed a danger to the health of individuals and, by extension, the health of the state. The public had also become more accustomed to routinised interventionist measures designed to protect their health. Yet attempts to implement initiatives based upon new bacteriological knowledge, rather than moral considerations, were hampered. They were hampered by a public with deep-seated distrust of medical intervention sponsored by the state (left over from the time of the Vaccination and CD Acts, and reignited during the 1890s with debate over colonial Contagious Diseases Ordinances), as well as prevailing social prejudices against those suffering from venereal diseases.⁶

In 1904 the Interdepartmental Committee on Physical Deterioration (PDC) identified venereal diseases (along with insanity) as important exceptions to a general dissatisfaction with hereditarian interpretations of degeneration. Syphilis was identified as a factor in congenital weakness

and a variety of other conditions, especially neurological conditions, that had not previously been identified as venereal.⁷ Medical witnesses testified that there was no discernible increase in the prevalence of syphilis and, if anything, a decrease in its virulence. But Victor Horsley and Frederick W. Mott nonetheless recommended that syphilis be made notifiable, suggesting that some within the medical profession were contemplating the logistics of controlling venereal diseases within the existing legislative framework of the IDNA.⁸

The passing into law of the IDNA was motivated by new bacteriological theories and practices. It was designed to curtail the spread of highly infectious diseases that had high rates of morbidity and posed serious public health risks.⁹ The identification of the *gonococcus* and *spirochaete pallida*, along with growing understandings of their transmissibility and effects upon the body, led doctors to search for more effective methods of treatment and prevention. This knowledge influenced ideas and practices among those engaged in curative medicine. However, its influence upon the trajectory of preventative medicine and interventionist policies was limited before the First World War.

Despite the attention given to venereal diseases in eugenic discourse around the turn of the twentieth century, little was made of its perceived effects upon national health at a policymaking level.¹⁰ Although it was generally agreed that venereal diseases needed to be combated, there was little consensus about how this should be accomplished. The PDC made the only sensible recommendation under these circumstances: the appointment of a 'commission of inquiry into the prevalence and effects of syphilis, having special regard to the possibility of making the disease notifiable and to the adequacy of hospital accommodation for its treatment'.¹¹

The first part of this recommendation was eventually realised with the appointment in 1913 of the RCVD. In 1914 gonorrhoeal ophthalmia neonatorum was the first venereal condition to be made notifiable. The LGB's first concerted attempt to address the public health implications of venereal diseases was the Johnstone Report (commissioned by Arthur Newsholme, then Chief Medical Officer of the LGB and, later, a significant figure in the RCVD). It concluded that venereal diseases were a serious threat and that any programme of treatment would prove ineffective if not backed up by a complementary and comprehensive programme of prevention.¹² Newsholme supported the report's findings and emphasised the need for preventative approaches—a view reiterated by several witnesses before the RCVD.¹³ Apart from these measures, it was not until

1916, when the RCVD published its Final Report, that venereal diseases were finally brought under the auspices of public health.

As seen in Chapters 2 and 3, complex educational frameworks allowed doctors to incorporate (albeit opportunistically) the study of venereal diseases. But how did they apply this knowledge in their professional practice? The often-contentious place of the medical profession in public health programmes has been an important subject of historical scholarship.¹⁴ However, their role in the management of venereal diseases prior to the First World War has not been addressed in any detail. There was no 'typical' doctor at the turn of the twentieth century. Increasing numbers assumed various roles and responsibilities in their local areas.¹⁵ This chapter examines the nature and limitations of the venereological work conducted by those engaged as MOHs, as club (and, later, panel) doctors and as medical officers in Poor Law institutions and special hospitals. There was considerable variation in their levels of knowledge and experience, and in the forms of treatment they employed.

Although these were not the only professional channels through which doctors encountered venereal diseases, they constitute important case studies for the ways that venereal diseases were studied, diagnosed and treated during decades otherwise devoid of state intervention. This chapter presents a mosaic of patient care and clinical practice by examining different interconnected medical spheres, situated within a wider framework of healthcare provisions. It is divided into three substantive sections that accord with the professional groups outlined by Newsholme in his memorandum submitted to the RCVD: 'public health authorities', 'general medical practitioners', 'panel doctors under the National Insurance Act' and 'Poor Law authorities'.¹⁶ Although not comprehensive, Newsholme's categories provide a neat breakdown of some of the commoner medical spaces within which a cross-section of doctors undertook venereological work.

PUBLIC HEALTH AUTHORITIES AND PREVENTATIVE MEDICINE

Although not directly encompassing the diagnosis or treatment of venereal diseases, the work of public health authorities, most notably MOHs, demonstrates the limited place of venereal diseases within the wider framework of preventative medicine before the First World War. Local sanitary authorities would employ part-time and full-time MOHs as technical advisors in all matters pertaining to public health. They were tasked with the

surveillance of population health; investigating the causes of illness and death; and overseeing the implementation of preventative measures mandated by central government for the protection of districts from exposure to contagious diseases and unsanitary conditions.¹⁷ Local authorities could also acquire additional powers through the passing of local or private legislation. These powers were sometimes used to combat venereal diseases, as with the proctorial system of regulation in Cambridge, under which prostitutes were registered, inspected and detained.¹⁸ Certain minority groups including merchant seamen, servicemen, unmarried mothers and the mentally ill, who were thought to be at greater risk of contracting and spreading infection, also remained subject to special measures enacted by various benevolent, voluntary, statutory and military organisations.¹⁹ Yet, on the whole, syphilis and gonorrhoea did not occupy as much attention or concern in the sphere of public health as diseases such as smallpox, cholera, measles, diphtheria, tuberculosis, scarlet fever and typhoid—diseases that were to come under the control of the IDNA.

With the passing of the 1888 Local Government Act and the 1891 Public Health (London) Act, doctors seeking to enter the burgeoning sphere of public health and preventative medicine were required to possess an appropriate specialist qualification. These qualifications, commonest among them being the DPH, represented increasing professionalisation. They also highlighted the limited place of venereal diseases in preventative medicine.²⁰ Although venereal diseases were addressed by the Diploma in Tropical Medicine and Hygiene, candidates sitting for the DPH were rarely asked specifically about venereal diseases. All candidates were expected to have qualified as doctors and so would have possessed at least foundational knowledge of venereal diseases. However, training for the DPH did not require candidates to think about venereal diseases within a wider and constantly expanding corpus of knowledge pertaining to public health and preventative medicine.

Although some of the more general questions about bacteriology and epidemiology might have given candidates scope for addressing venereal diseases, there were few direct references.²¹ This contrasted markedly with other forms of postgraduate study and examination. The qualifying examinations for Membership of the Royal College of Physicians regularly tested candidates on the various manifestations of, and treatments for, venereal diseases.²² As we have seen in Chapter 3, the MGC offered subscribers an extensive series of lectures and demonstrations. By contrast, only one question in the DPH examinations at the University

of Cambridge between 1887 and 1913 specifically tested candidates' venereological knowledge. In 1900 candidates were asked to differentiate the morphology, staining and cultural reactions of the *gonococcus* and *staphylococcus aureus*.²³ But the otherwise complete omission of venereal diseases from the DPH examinations suggests that the primary aim of this question was to test candidates' knowledge of *staphylococcus aureus*, a microbe that was of much greater concern to public health officials.

Venereal diseases were similarly absent from the MOH annual reports. To remain abreast of the health and sanitary problems of their district, MOHs made regular inspections and investigations, noting any outbreaks of contagious diseases and reporting them to local health authorities and the LGB. These activities were recorded annually in the MOH reports. Yet the true effect of venereal diseases before the First World War went unrecorded.

Reports between 1886 and 1913 regularly recorded deaths attributed to venereal diseases. However, with the exception of cases of ophthalmia neonatorum from the early 1900s onwards, these statistics were rarely accompanied by any qualitative information.²⁴ There was little discussion of whether infected persons had died at home or in institutions; whether they were receiving treatment at the time of death or at any time before death; and the particulars of treatment regimes they underwent. These records do not indicate how venereal diseases were diagnosed during life or how they were ascribed as causes of death. Often, there was no indication whether a post-mortem had been performed or whether new diagnostic and therapeutic technologies had been employed. Neither were rates of infection among living persons recorded. A large minority of deaths attributed to venereal diseases were congenital, occurring among infants under one year of age.²⁵ At least one of the parents was likely to have had a diagnosable infection, but these were not recorded in statistics concerned only with rates of mortality.

Returns for rates of venereal infection were notoriously unreliable—a problem that would concern the RCVD.²⁶ The PDC had found in 1904 that, 'owing to the insidious forms that the later stages of the malady assume, the official returns are far from representing the true extent of mortality from syphilis.'²⁷ Since this disease was not subject to notification or regulation, and given the social stigma of infection, there was little motivation to report cases to MOHs.

Suffers of venereal diseases may have died from another, apparently unrelated condition. Thomas H. C. Stevenson, Superintendent of Statistics

for the Registrar General, testified that death certification, especially outside of workhouses, infirmaries and asylums, was notoriously unreliable. Doctors, beholden to their fee-paying patients, were reluctant to register venereal diseases as causes of death.²⁸ The MOH for Kensington speculated in his annual report for 1888 that, 'if the truth could be discovered, it would probably appear that this protean malady was accountable, directly or indirectly, for a number of deaths considerably in excess of the record'.²⁹ For example, the MOH for Fulham reported in 1896 that 186 persons had died from 'diseases of the nervous system', forty-three from 'diseases of the urinary system' and another 104 from 'ill-defined and not specified causes'.³⁰ All three categories could conceivably have included undiagnosed cases of syphilis and gonorrhoea. Similarly, throughout the late-1880s and 1890s the MOH for Liverpool included tables documenting causes of death according to 'classes' of disease. These included zymotic diseases (under which syphilis was often explicitly listed), constitutional diseases, diseases of the nervous system, urinary system and the reproductive system. Again, all of these categories could have included venereal cases.³¹ Given the effect of venereal diseases upon various organs and functions of the body, and given the aetiological uncertainty that still surrounded conditions such as GPI and tabes dorsalis, at least some of these deaths were probably attributable to an underlying, undiagnosed and unreported venereal infection.

Following the interwar establishment of state-subsidised treatment clinics, MOH reports began to include returns for the numbers of venereally diseased persons treated annually, along with breakdowns of different treatments.³² However, pre-war MOH reports contain little information about the use of therapeutic and diagnostic technologies such as mercury, salvarsan and the Wassermann reaction. One of the few references is found in the 1914 report for Heston and Isleworth, where the MOH appealed for facilities for the bacteriological diagnosis of gonorrhoea and syphilis. The MOH recognised the serious public health implications of venereal diseases. However, a lack of facilities, along with the absence of any centralised programme of prevention and treatment, meant that venereal diseases could not be effectively dealt with under the auspices of preventative medicine.³³

As demonstrated by specialist examinations and annual reports, venereal diseases were coming to the attention of MOHs and did fall within their sphere of responsibility to a limited degree before the First World War. Attention to venereal diseases varied greatly between cities and districts

and according to the professional circumstances of individual MOHs. This was a professional body stratified by whether individual MOHs were part-time or full-time, provincial or metropolitan, and whether they had attained a specialist public health qualification.³⁴ Part-time MOHs encountered venereal diseases in the performance of other medical duties but most full-time MOHs engaged wholly in preventative medicine would have had little direct involvement.

A lack of attention to treatment and diagnosis is not entirely surprising since the duties of MOHs were preventative rather than curative. This was an increasingly distinct professional group that relinquished the treatment of individual patients in favour of administrative power over a wider framework of disease control, placing greater emphasis upon notification, isolation and disinfection.³⁵ It would not be until 1914, with the mandatory notification of ophthalmia neonatorum, that venereal conditions began to fall within the purview of preventative medicine.

GENERAL PRACTITIONERS, CLUB PRACTICE AND NATIONAL HEALTH INSURANCE

In the absence of public health measures prior to the establishment of the RCVD, it is important to consider how venereal diseases were dealt with in the privacy of general practice, club practice and a variety of institutional settings. Yet few sources pertaining to the diagnosis and treatment of venereal diseases in general practice have survived, making it difficult to determine the clinical experiences of most general practitioners.

Articles and editorial correspondence in medical journals offer important glimpses into the world of private practice. As we have seen in Chapter 2, in the letter written to the *BMJ* in 1885 by the ‘junior member’ seeking advice for his soon-to-be-married patient, general practitioners faced many challenges in the diagnosis and treatment of venereal diseases.³⁶ Ten years later Arabella Kenealy, a doctor and eugenicist, also wrote to the *BMJ*, recounting a house call. According to Kenealy, the diagnosis was ‘indubitable’. The patient, ‘a wreck of a young woman’, had suffered three miscarriages and borne a child who demonstrated clear symptoms of congenital syphilis. Pregnant again, the young woman was haemorrhaging. The letter is interesting for a variety of reasons, not least because it is the first known example of a woman doctor treating venereal diseases in private practice.³⁷ Although Kenealy’s account drew heavily upon medical,

pseudo-scientific and social debates over hereditary and racial decline, it also demonstrated some of the problems encountered when treating venereal diseases in private practice.

Textbooks written by doctors such as Jonathan Hutchinson and Alfred Cooper also contained accounts of venereal cases treated in private practice.³⁸ But most general practitioners did not enjoy the same facilities as these noted authorities, who held hospital appointments that brought them into regular contact with venereal diseases, as well as cutting-edge knowledge claims and technological developments. The evidence that emerges from private practice is impressionistic, making it difficult to draw definitive conclusions about how venereal cases were diagnosed and treated. Diagnosis and treatment depended greatly upon the knowledge possessed by individual doctors, the facilities at their disposal, the class of patients they attended and the extent to which they encountered venereal diseases. It also depended upon the individual doctor's willingness to experiment with new ideas and technologies.

Witnesses before the RCVD were divided over whether general practitioners encountered venereal cases with sufficient regularity to develop their knowledge and clinical skills in any meaningful way. Some assumed that general practitioners had limited access to venereal cases and therefore limited means of augmenting and refreshing their knowledge. Others argued that doctors working in urban areas would probably encounter a number of venereal cases across the course of their careers. However, most thought that doctors had little opportunity to make full use of such cases to enrich their knowledge and experience. James Sequeira cited an example of a general practitioner under his medical care who had

... an ordinary crack alongside one of his fingernails and he had a little sore there which did not heal. He put on ordinary antiseptic dressings; and then he came to me because a rash had come out on his body. Although he had had this going on for six weeks he did not know what it was.³⁹

This anonymous doctor saw few venereal cases in his own practice and Sequeira supposed that he had never encountered a case of extra-genital syphilis since concluding his hospital training.⁴⁰ The systemisation of clinical work in teaching hospitals was absent from general practice. As we have seen in Chapter 3, self-motivated learning, undertaken primarily through the consumption of medical journals and textbooks, did not

necessarily equip doctors with the ability to employ new technologies or techniques. Please note that endnotes 41, 152, 156, 172, 174, 176, 182, and 191 have been repeated in the list. Hence we have renumbered subsequent notes. Please check and confirm the numbering of notes and their text citations. These renumbered endnotes are correct.

In the absence of a more extensive collection of sources pertaining to general practice, the responsibilities and experiences of those employed as club doctors, and, later, as panel doctors under the National Health Insurance Act (NHI), are especially important. The rules to which club and panel doctors were obliged to adhere gave their practice a degree of uniformity and structure otherwise absent from general practice. Witnesses before official inquiries were able to speak with much more certainty about the nature and limitations of club and panel practice and, specifically, the place of venereal diseases in that practice. Over 15,000 of the approximately 24,000 doctors in England and Wales were engaged in some form of club practice by 1911.⁴¹ The work of these rank-and-file doctors was reflective of some of the more significant problems attendant upon diagnosing and treating venereal diseases among working-class patients.

The NHI emerged from a long-established voluntary system of support offered to the sick poor through a variety of institutions including insurance companies, trade unions and friendly societies.⁴² Clubs of working-class subscribers contributed regular payments to secure a form of insurance against illness, injury and death. Under the NHI contributions were automatically deducted from subscribers' wages and augmented by employer and state contributions.⁴³ These clubs appointed doctors who determined when subscribers were suitably incapacitated to warrant medical and financial support. By 1900 over four million members of friendly societies were eligible for medical care while nine million could claim sickness benefits.⁴⁴ However, hospital care and laboratory testing were rarely covered. The unemployed, and those needing institutional treatment, remained reliant upon other forms of charitable provision.⁴⁵

The NHI was passed through parliament in 1911 and took effect in 1913, so little can be said about its effect upon the treatment of venereal diseases prior to the First World War. However, the structure of the NHI was heavily influenced by the pre-existing club system.⁴⁶ Doctors were urging friendly societies, such as the Medical Sickness Annuity and Assurance Society, throughout the 1880s and 1890s to withhold sick pay from 'men suffering from diseases wilfully brought on themselves'.⁴⁷ Societies approved under the new Act were, with certain adjustments, permitted to maintain such pre-existing rules. The rules for the NHI and those of

existing societies were very similar, with the majority agreeing to insure persons who had had syphilis but only if they were ‘completely cured’.⁴⁸ Such policies seemingly took little consideration of the medical view that, in many cases, mercury (still the treatment of choice in the 1890s and early 1900s) could ameliorate but not necessarily ‘cure’ syphilis.⁴⁹ As one anonymous correspondent to the *BMJ* lamented in 1916,

... a large majority of societies had a rule depriving their members of sick pay during incapacity from disease due to misconduct ... [and] the Commissioners, wishing to interfere as little as possible with societies, sanctioned the continuation of such rules, and themselves issued a model rule to the same effect.⁵⁰

The model rule published by the National Insurance Commission stipulated that ‘no members shall be qualified for sickness or disablement benefit in respect of injury or disease caused by his own misconduct’.⁵¹ There were many troubling parallels between the old and new systems of sickness benefit, not least the way that societies treated (or failed to treat) venereal diseases. Although the RCVD and the Departmental Committee on Sickness Benefit Claims under the National Insurance Act (DCSBC) recommended repeal, these restrictions continued to be in operation for many years. The NHI, like other legislation passed at the turn of the twentieth century, largely excluded venereal diseases from its remit. The decision actively to exclude venereally diseased persons from this form of health-care was part of a wider system of surveillance over the sick poor. Clubs and societies actively sought to prevent the ‘undeserving’ from claiming benefits.⁵² Although motivated by moral objections, the exclusion of venereal cases also demonstrated the state’s reluctance to interfere in the private lives and, more specifically, the sexual practices of individuals.

However, T.M. Tibbetts, member of the Staffordshire Insurance and Panel Committee, admitted in 1918 that the exclusion of venereal diseases from sickness benefits applied only to gonorrhoea and primary- and secondary-stage syphilis.⁵³ Likewise, the National Insurance Commission withheld sickness benefits only for twelve months, suggesting a deliberate attempt to exclude those passing through the primary and secondary stages of syphilis.⁵⁴ These measures were criticised by a number of doctors, including J.A. MacDonald, chairman of the Insurance Acts Committee, who lamented the ‘disastrous effect on the health of the race’ that could have been avoided had subscribers with venereal diseases been treated immediately and openly.⁵⁵

Under the terms of NHI insured persons were entitled to select the doctor from whom they wished to receive treatment. However, this choice was subject to the doctor's willingness.⁵⁶ The majority of societies and insurance committees exercised discretionary power to withhold sickness benefits for illnesses deemed to be the result of 'vicious conduct'.⁵⁷ Those denied treatment under club practice and, later, through the NHI, could seek care as private patients, or turn to the general hospitals or Poor Law.⁵⁸

Little consideration was given to those infected through non-sexual means. If panel doctors thought a 'less precise' sickness certificate was 'desirable' in certain cases, they would draw it up in accordance with provisions in the Insurance Act. At least some doctors were using a legislative loophole to assist patients whom they considered to be 'innocent' victims of infection.⁵⁹ Panel doctors often elected to withhold the true nature of a married woman's condition (thought to have been contracted 'innocently') because informing her and officially notifying the society might cause marital disharmony. The solution employed by panel doctor Alfred Cox was to give the husband 'a very severe talking to' and to impress upon him the need to obtain treatment for himself and his wife. However, Cox admitted that this did not always result in efficient treatment.⁶⁰ It is unclear whether panel doctors retained responsibility for the treatment of venereally diseased patients in a private capacity, being otherwise unable to treat them under the panel system. Unless such panel patients (or their husbands) elected to pursue treatment as private fee-paying patients, there was little that panel doctors such as Cox could do.

Some patients, aware of the restrictions governing the treatment of venereal diseases, elected not to seek medical care or at least medical care from particular panel doctors. In 1879 Frederick W. Lowndes, surgeon to the Liverpool Lock Hospital, was called to the house of just such a patient, who was dying of tertiary syphilis. Her friends were anxious that her condition be omitted from the death certificate, fearing that such information would entail a forfeiture of club money and condemn her to an anonymous pauper funeral.⁶¹ Over three decades later medical witnesses before the RCVD and DCSBC testified that large numbers of patients were still not going to their panel doctors for treatment of venereal diseases.⁶² A.J. Harrison saw no more than three cases of gonorrhoea each year in his capacity as a panel doctor, though he believed infection rates in his district to be much higher.⁶³ W. Holder, former MOH and panel doctor in Hull, believed that embarrassment and fear discouraged patients from seeking treatment.⁶⁴ Those who suspected the nature of their condition, knowing

that they would be denied sickness benefits, probably forewent treatment or sought it elsewhere.⁶⁵ Venereal diseases would not have ordinarily incapacitated subscribers, so they would not necessarily have sought sickness certificates to cover lost earnings.⁶⁶

The numbers of insured persons who chose not to seek treatment through panel practice is unclear.⁶⁷ There was often a disconnect between the availability and consumption of healthcare, with many poor persons preferring self-treatment or reliance upon irregular or traditional healing practices.⁶⁸ Just as doctors were at liberty to refuse treatment to venereally diseased patients, so too were panel patients able to choose from any approved panel doctor working under the scheme in their area.⁶⁹ This degree of choice meant that patients were becoming consumers of a state-subsidised, but largely private, healthcare system.⁷⁰ Although some insured persons suffering from venereal diseases may have elected to go without treatment, others probably consulted doctors who were more willing to treat them.

Many club and panel doctors were frustrated by the regulations under which they were required to operate. Tibbetts openly criticised the regulations that encouraged the spreading of disease by forcing infectious persons to go out to work.⁷¹ Faced with such scenarios, panel doctors sometimes circumvented regulations by registering ambiguous or incorrect conditions on sickness certificates.⁷² For example, A.E. Broster, panel doctor and MOH for Wirksworth, attempted to help one patient with gonorrhoea by certifying that he was suffering instead from 'septic arthritis'.⁷³

However, many more doctors were simply unable to diagnose a venereal condition correctly. As the *Lancet* observed in 1916, a large number of conditions associated with venereal diseases (such as GPI, stricture and various forms of arthritis and rheumatism) were treated under the auspices of club practice and the NHI. Examinations performed in club and panel practice were often inadequate. Moreover, the fragmented venereological knowledge with which many doctors qualified and commenced professional practice suggests that some conditions, especially the more remote sequelæ, were simply not recognised as venereal. As we have seen in Chapter 3, the aetiology of GPI and tabes dorsalis was only beginning to be identified in the years immediately before the First World War. The venereal nature of some cases remained uncertain and panel doctors may have given patients the benefit of the doubt.

Several witnesses before the RCVD cited cases where panel doctors had proven themselves 'lamentably ignorant' of venereal diseases in their

various manifestations.⁷⁴ Sequeira recounted the case of a woman who came to the London Hospital covered with characteristic syphilitic eruptions. Her panel doctor had visited twice daily for fifteen weeks but had been unable to diagnose or treat her. Sequeira concluded that this was ‘simply a matter of ignorance’, since the woman was clearly syphilitic and highly infectious. Despite seeing his patient over thirty times, the panel doctor could not recognise a characteristic case of secondary-stage syphilis, which, Sequeira believed, would have been ‘quite obvious’ to the final-year medical students in his skin department.⁷⁵ He concluded that this was not an isolated case and that many older panel doctors and general practitioners were ill-equipped to diagnose and treat venereal diseases.⁷⁶

Club and panel practice may have provided poor patients with unprecedented access to the services of general practitioners, but the quality of this care was a subject of ongoing debate and concern. On the one hand, large numbers of doctors entering panel practice were thought to ensure a satisfactory level of care.⁷⁷ On the other hand, the combined pressures of panel and private practice, along with implicit class-based judgements about acceptable standards of health provisions for poor patients, meant that many panel doctors limited themselves to signing certificates and prescribing treatment.⁷⁸ Despite the large numbers of doctors entering panel practice, some panel doctors still saw over 130 cases a day, at a rate of at least eighteen patients each hour. When questioned on these figures during his testimony before the RCVD, John Collie believed that there was little chance that cases of venereal diseases were being diagnosed correctly.⁷⁹ The *Lancet* interviewed one general practitioner in 1914 who refused to take up panel practice because, without a list of at least one-thousand insured persons, it was not worth his time.⁸⁰ It was in the interests of club and panel doctors to secure the greatest number of patients while providing a minimum standard of care.⁸¹

Despite restrictions on the care available to venereally diseased patients, the passing of the NHI meant that more general practitioners probably came into regular contact with venereal diseases. However, in those rare cases when a venereally diseased panel patient was able to access diagnostic and therapeutic services, there was often little systematisation of those services. Even if panel doctors had a thorough working knowledge of venereal diseases, their limited access to adequate diagnostic and therapeutic facilities meant that they could seldom employ that knowledge effectively. As we have seen in Chapter 4, the administration of salvarsan required special training and much practical experience. The majority of

panel doctors would have been unable to administer salvarsan safely before the First World War.⁸² Even if panel doctors were able safely to administer salvarsan, the cost of this drug, along with the period of required bed rest, made it an unrealistic option for working-class patients under the panel system and before the establishment of specialised treatment clinics. In 1914 the London Panel Committee and the Pharmaceutical Committee investigated the drugs and appliances ordered by panel doctors and found that the average cost of prescriptions was 1s.1d.; this was a small fraction of the price of a single injection of salvarsan, which was typically between 7s. and 10s.⁸³ Under the terms of the NHI most panel patients were not covered for hospital care. A panel doctor might refer a patient to the out-patient or special departments of hospitals for salvarsan injections, but in so doing would lose control of that particular case.⁸⁴

Since laboratory testing was not covered under the NHI, the Wassermann reaction was also beyond the reach of many doctors. According to F.R. Cross, an ophthalmic surgeon, panel doctors could not be expected to make scientific investigations because they could not perform the reaction themselves and could seldom afford to have it done on behalf of their patients.⁸⁵ Although James S. Whitaker, medical member and deputy chairman of the National Health Insurance Commission for England, claimed to have known doctors who covered the expense of the reaction themselves, he emphasised that they were under no obligation to do so.⁸⁶ Unless a doctor could find someone to perform the reaction gratuitously, diagnoses would have to be based solely upon empirical evidence.

POOR LAW PROVISIONS AND SPECIAL HOSPITALS

Functioning concomitantly with club and panel practice were special hospitals, Poor Law infirmaries, workhouse sick wards and asylums. These institutions cared for persons suffering from a variety of chronic or incurable conditions, including venereal cases excluded from inpatient care in voluntary hospitals and denied sickness benefits under club and panel practice.⁸⁷ Special hospitals and Poor Law institutions offered the largest number of beds for venereal cases in England before the First World War, although there are no reliable statistics on treatment.⁸⁸

At the time of the RCVD, 114 of Fulham Infirmery's 500 beds were occupied by venereal cases.⁸⁹ In 1909 J. Allan, medical superintendent of the Leeds union infirmery, testified before the Royal Commission on the

Poor Laws and Relief of Distress (RCPL) that his infirmary treated annually at least 120 cases of primary- and secondary-stage syphilis. A large number of additional cases also demonstrated venereal sequelæ, such as stricture and nervous disorders.⁹⁰ Poor Law inspectors also reported that, on 1 July 1911, 187 of 643 unions were treating venereal cases while another fifty-one unions sent such cases to special hospitals. On that day 846 venereal cases were charged to boards of guardians. However, Arthur Downes, medical inspector for the Poor Law in the metropolis, believed this to be a great underestimation, since it was arrived at solely by clinical observation and did not include tertiary or ‘parasyphilitic’ cases. He concluded that, if all union patients were subjected to the Wassermann reaction, a much larger proportion would be found to be suffering from syphilis.⁹¹

Persons seeking Poor Law medical relief for any illness, including venereal diseases, would present themselves to the relieving officer to obtain an order for attendance by a doctor who might then send them to a dispensary for intermittent treatment or remove them to an infirmary or sick ward.⁹² Private practice was beyond the means of most persons seeking Poor Law relief and those who did not obtain relief probably sought treatment from outpatient departments, special hospitals or chemists.⁹³

Patients were often transferred between institutions. For example, in March 1910, Gordon, a clerk from East Ham, having been turned out of his lodging house, was found wandering in Blackheath by the police. They deemed him insane and sent him to Greenwich Infirmary, from which he was transferred to Bexley Asylum. There he was admitted with ‘delusional insanity’ and a history of syphilis. The ongoing cost of his care was charged initially to the Greenwich Union and then transferred to the Lambeth Union in 1914.⁹⁴ Workhouses and infirmaries sent their lunatic (and later neurosyphilitic) patients to asylums.⁹⁵ Occasionally, boards of guardians provided beds for venereal cases from other smaller unions. For example, the Bow Institute of the City of London Union made twenty beds available for male venereal patients from other unions.⁹⁶ Paddington Infirmary acted as the maternity ward for the London Lock Hospital, while pregnant women admitted to the Manchester and Salford Lock Hospital were transferred to the workhouse.⁹⁷ Challenging venereal cases were often removed to lock hospitals and Poor Law guardians would pay fees to cover the cost of care.⁹⁸ In 1890 the London Lock Hospital allocated beds for patients transferred from Poor Law infirmaries and charged 16s. per patient each week.⁹⁹

Many Poor Law medical officers, as part of a profession that was increasingly status-conscious, were keen to raise the standards and improve the reputations of infirmaries, which accounted for approximately one-third of institutionalised Poor Law patients.¹⁰⁰ Infirmaries sought to improve the quality of nursing and medical care and increase the availability of newer and more effective diagnostic and therapeutic facilities. Standards had been improving since 1871, when the Poor Law was subsumed under the LGB and made part of its wider policy of public health reform.¹⁰¹ Johnstone found that, compared to workhouse sick wards, the venereal wards of infirmaries were generally more modern, well equipped and efficiently organised. By the turn of the twentieth century, these institutions were beginning to resemble hospitals in their organisation and clinical practice, with many taking on more patients and medical staff.¹⁰² In the early twentieth century, salvarsan was administered and Wassermann reactions were performed on a small scale.¹⁰³ The RCPL found in 1909 that, with improvements in facilities and the admission of non-pauper patients, resistance towards infirmary-based care was also lessening, especially in cities such as Plymouth where the infirmary was not in close proximity to the workhouse.¹⁰⁴

Conditions in infirmaries were generally improving but these developments were not universal.¹⁰⁵ On the whole, Poor Law institutions remained understaffed, badly funded and lacking the facilities, both diagnostic and therapeutic, to care for venereal cases.¹⁰⁶ Many medical officers had not the initiative necessary to reform their institutions. Those who were keen to improve standards could exercise control only over infirmaries unattached to workhouses.¹⁰⁷ By 1892 there were twenty-four infirmaries in London alone, containing a total of 12,445 beds. But large numbers of persons treated under the Poor Law were still entering workhouse sick wards.¹⁰⁸ Downes lamented that patients were faced with the double stigma of having venereal diseases and being treated under the Poor Law.¹⁰⁹ The RCPL concluded that, although public resistance towards infirmaries had diminished, workhouses were still seen as draconian and many among the sick poor eschewed indoor medical relief.¹¹⁰ For example, persons with primary- and secondary-stage syphilis seeking treatment at the Liverpool Stanley Hospital were advised instead to apply to the Poor Law, but many chose to forgo treatment.¹¹¹

Limited funding and facilities in lock hospitals and special hospitals, such as St Paul's Hospital for the treatment of venereal diseases, meant that their medical officers were also constantly overstretched and

having to make do.¹¹² For example, in 1891 Berkley Hill, a surgeon to the London Lock Hospital, requested that the hospital Board purchase a microscope, at a cost of £8.10s. The Board agreed to his request, but Hill had to meet the cost of extra necessary parts, which amounted to £5.5s.¹¹³ Although the Lock Hospital had adopted salvarsan by 1911, this new treatment was used at the Manchester and Salford Lock Hospital only in ‘bad cases’ of tertiary syphilis, by which point the optimal time for treatment had passed.¹¹⁴ The London Lock Hospital saw the adoption of new technologies as a way of enhancing its reputation. It even placed a weekly advertisement in the *Times* to publicise that the hospital was ‘open for salvarsan treatment’.¹¹⁵ But this view was not universal. The Birmingham Skin and Urinary Hospital refused to employ the Wassermann reaction because it was too expensive.¹¹⁶ These institutions may have offered their medical staff a steady supply of venereal cases for observation and treatment but they did not always offer adequate care and were not sites of systematised research.¹¹⁷

Increasing availability of salaried Poor Law appointments gave more doctors access to a greater assortment of patients with a variety of conditions. From as early as the 1870s medical graduates were encouraged to take up appointments in workhouses, infirmaries and special hospitals, in which they would have encountered cases of syphilis and gonorrhoea.¹¹⁸ By 1914 doctors working at least part time in the Poor Law service numbered 4841 (one-sixth of the medical profession), at least one in five of whom were responsible for a Poor Law institution.¹¹⁹

Yet many doctors saw Poor Law appointments merely as stepping stones towards more prestigious and lucrative positions. Most combined Poor Law duties with private practice, the latter being a more reliable channel for remuneration and professional advancement.¹²⁰ In 1909 Major Greenwood, Secretary to the Poor Law Medical Officer’s Association, criticised calls for a full-time Poor Law Service, which he believed would deter many doctors from taking up Poor Law appointments.¹²¹ C. Thackeray Parsons, medical superintendent of the Fulham Infirmary, was just one of the many superintendents who had trouble retaining good assistant medical officers: ‘you get the very best man for the head, but you get whoever you can for the second and third’.¹²² Such difficulties were generally attributed to poor working conditions and remuneration. In 1892 the salary of a full-time Poor Law medical superintendent was between £300 and £500.¹²³ However, in 1889 Menston Asylum appointed a full-time assistant medical officer on a salary of £120, increasing by £10 per annum to £150.¹²⁴ The average salary for part-time medical officers in West Riding was recorded at £59 per annum

in 1903.¹²⁵ Some asylums were so hard-pressed to retain assistant medical officers that they were forced to rely on locums.¹²⁶ Although some institutions, such as the Wadsley Asylum, were beginning to offer more competitive salaries to full-time assistant medical officers (capped at between £275 to £350 per annum in 1913), most did not offer salaries sufficient to attract and keep ambitious young doctors.¹²⁷

In many institutions the overwhelming numbers of patients prevented medical officers offering more than basic care.¹²⁸ Country unions were normally attended only by local general practitioners, who balanced commitments as medical officers with private practice.¹²⁹ By 1900 only seven per cent of unions enjoyed the services of resident medical officers and few district medical officers outside of London were employed on a full-time basis.¹³⁰ In 1894 the medical officer lived a mile from the Bath Infirmary, while in Mitford and Launditch the medical officer lived two-and-a-half miles from the infirmary and needed to be sent for by messenger.¹³¹ Larger infirmaries with upwards of two hundred patients employed a full-time medical superintendent and up to three assistant medical officers.¹³² Parsons may have had only three assistant medical officers for 500 beds but Fulham Infirmary was nonetheless considered well staffed.¹³³ Several witnesses testified to the poor quality of care in many Poor Law institutions, leading the RCVD to conclude that existing medical provisions were inadequate for the thorough treatment of venereal diseases and the systematic development of medical officers' knowledge.¹³⁴

The sheer size of Poor Law institutions meant that individualised care was often unfeasible and systematised research seldom undertaken.¹³⁵ In 1894, for example, Charles Mercier, lecturer on neurology and insanity at Westminster Hospital, reported that assistant medical officers in some asylums complained of being discouraged from research.¹³⁶ Two decades later S. Coupland and C.H. Bond, the commissioners in lunacy, testified before the RCVD that some medical officers sought to have Wassermann reactions performed to improve patient care and gather reliable information about the numbers of patients suffering from syphilis. However, they also acknowledged that this enthusiasm was not universal and, as a result, the information obtained was in no way representative of the actual proportion of syphilis among asylum inmates.¹³⁷ Asylum medical officers, like their counterparts in infirmaries, differed greatly in their intellectual interests, willingness to conduct concerted studies of patients' suspected venereal conditions and confidence administering treatments for these conditions. Large numbers of medical officers continued to rely upon older, empirical diagnostic classifications. In the absence of new technologies,

they could do little more than speculate. Poor Law medical officers had more opportunities for practical experience of venereal diseases in all their obscure and chronic manifestations, but the large caseloads made difficult the allotment of much time or attention to each patient.

Record-keeping in most workhouse sick wards was inadequate, and surviving records contain little information beyond basic diagnostic observations. For example, twenty-year-old Lavender was admitted to the Liverpool Select Vestry Workhouse Lock Ward in November 1894 and discharged in January 1895 but, like thousands of other persons admitted to workhouses, there is no record of her treatment.¹³⁸ It is difficult to determine how venereally diseased patients were treated, or how medical officers were able to augment their knowledge by treating patients. Assistant medical officers were often newly qualified, lacking practical knowledge and accustomed to the superior facilities of their teaching hospitals.¹³⁹ As we have seen in Chapter 2, medical students graduated with only foundational knowledge of venereal diseases. Those appointed as assistant Poor Law medical officers often had limited time to attend each patient and compile medical histories from which they might augment their knowledge.¹⁴⁰ Medical officers had access to large collections of clinical material but they had little time, ability or inclination to draw meaningful or instructive conclusions from it. Only a handful of medical officers published on their work in Poor Law institutions and special venereal hospitals and, as James Ernest Lane lamented in 1907, few made use of the clinical material at their disposal.¹⁴¹

Most Poor Law institutions and special hospitals were not open to undergraduate medical students or qualified doctors seeking postgraduate study. Indeed, the secretary of the Workhouse Nursing Association regretted that students could not take advantage of the 'enormous' volume of clinical material in infirmaries and that consultants' expert knowledge and experience could not be brought to bear in the treatment of patients.¹⁴² One notable exception was the London Lock Hospital when, in October 1894, Lane was granted permission to take a small number of students on his ward rounds.¹⁴³ However, this did not become established practice. Resistance towards opening up these institutions for teaching meant that their role in the development and circulation of venereological knowledge was limited. Among the reasons given for the debarment of students was that patients, especially women, resented being intimately examined by young, mostly male students. In 1910 St Paul's Hospital recorded a marked decline in female patients, which was attributed to women mistaking clinical assistants for students and refusing to be examined by them.¹⁴⁴

Despite such objections support increased for teaching in Poor Law institutions and special hospitals. In a letter to the *BMJ* in 1895, Louisa Twining, a philanthropist and Poor Law guardian, called for the teaching of medical students in infirmaries.¹⁴⁵ She was reiterating a recommendation made by the Select Committee on Metropolitan Hospitals, Provident and other Public Dispensaries and Charitable Institutions for Sick Poor (SCMH) in 1892—a recommendation that was made again in 1909 by the RCPL.¹⁴⁶ The RCPL recommended that the ‘considerable’ number of chronic cases, including venereal diseases, in Poor Law infirmaries made them ideal sites for teaching.¹⁴⁷ Several representatives of the BMA repeated this view, claiming that voluntary hospitals could not furnish medical students with sufficient experience of the types of cases they would probably encounter in private practice and that they would gain far more practical experience in Poor Law infirmaries.¹⁴⁸

Since infirmaries were obliged to accept venereal cases in any stage of infectivity, many medical superintendents preferred to segregate gonorrhoeal and primary- and secondary-stage syphilitic cases from the general wards to reduce the chance of transmission. Although Parsons believed such risk to be minimal, he nonetheless preferred segregation.¹⁴⁹ The mingling of venereal and non-venereal cases was deemed suitable only in cases of tertiary-stage syphilis—a policy similar to that of most general hospitals.¹⁵⁰ Although a number of medical superintendents shared Parsons’s views about the low risk of transmission, segregation was common in Poor Law infirmaries with some even equipped with special isolation blocks.¹⁵¹ All but five of the forty-six English and Welsh unions that furnished the RCVD with particulars of their facilities had special ‘foul’ wards for venereal diseases.¹⁵²

There were no mechanisms to compel venereally diseased persons to commence treatment or persist with the entire course of their treatment.¹⁵³ Fulham Infirmery, like many Poor Law institutions, lacked an outpatient department and the means of monitoring patients after their discharge.¹⁵⁴ Unlike those diseases controlled under the IDNA, venereal diseases could not be isolated compulsorily. Medical officers had no authority to detain patients for treatment and observation. Johnstone reported to the LGB that venereally diseased patients often discontinued treatment and disappeared, only to return for further treatment once their symptoms reappeared.¹⁵⁵ Venereal cases treated in infirmaries were regularly transferred to sick wards for periods of convalescence but as

Downes admitted, many preferred to be discharged rather than enter workhouses.¹⁵⁶

In 1910 the RCPL recommended compulsory detention in Poor Law institutions of persons suffering from venereal diseases: ‘An order for detention should be obtainable whenever sufficient proof is adduced that an individual suffering from venereal disease is in such a condition as to be a danger to the community.’¹⁵⁷ This view had been regularly expressed by sections of the medical profession since the repeal of the CD Acts. Writing to the *Lancet* in 1887, Arthur F. Mickle criticised what he saw as the recklessness of abrogating the CD Acts. He called for compulsory detention in workhouses and infirmaries of patients, who, he believed, insisted on being discharged before they were cured.¹⁵⁸ It was a view reiterated by the SCMH in 1892.¹⁵⁹

Although many Poor Law medical officers, matrons and venereal-ward attendants believed that such measures would only deter people from seeking treatment, the SCMH and the RCPL both concluded that the benefits of compulsory detention outweighed its evils.¹⁶⁰ Such legislation may have infringed personal liberty and patient autonomy, but supporters justified compulsory detention by arguing that infringement of individual liberty was foundational to legislation combatting infectious diseases.¹⁶¹ The RCPL played upon hereditarian fears of degeneration by asserting that unchecked venereal diseases threatened the health of future generations. Yet public hostility towards any whiff of regulation following the success of the anti-CD campaign meant that, despite the recommendations of the SCMH and RCPL, the powers of the Poor Law were never extended to facilitate compulsory detention or treatment of venereal cases.

Of the twenty-six metropolitan infirmaries that submitted particulars of their pathological and clinical facilities to the RCVD, fourteen treated venereal diseases in-house.¹⁶² Although the Fulham guardians allowed Parsons to employ, within reason, the diagnostic and therapeutic practices he deemed necessary, such support was not universal. The remaining twelve metropolitan infirmaries transferred their venereal cases to the Lock Hospital.¹⁶³ Before the Lambeth Infirmary adopted salvarsan, it transferred all cases of syphilis with ‘severe symptoms’ and the guardians paid a guinea per week for the maintenance of each case.¹⁶⁴ Medical staff would have encountered venereal cases but the policy of referral at these infirmaries meant that they had little experience of modern therapeutic methods.

The nature and extent of treatment varied greatly between infirmaries, with some medical officers severely restricted in their clinical practices. The SCMH considered that most medical superintendents had complete discretion, ordering the drugs and equipment they deemed necessary for the care of infirmary patients. But such discretion was tempered by the expectations of guardians keen to minimise expenditure.¹⁶⁵ Although some boards of guardians were accommodating of the need for newer, disease-specific treatments, salvarsan, at a cost of up to 10s. per dose, was beyond the means of most institutions. For example, the London Lock Hospital calculated in October 1912 that the cost of salvarsan injections over the preceding year had amounted to the large sum of £127.¹⁶⁶ Although not cheap, with a dozen bottles of twenty-five grains of mercury chloride costing as much as 6s. in 1900, it is likely that mercury remained the treatment of choice in many institutions.¹⁶⁷ Poor Law institutions may have contained a greater number of venereal cases than general hospitals but, as Malcolm Morris reported in 1913, their facilities for treating venereal diseases by ‘modern methods’ were not as up to date as those found in general or voluntary hospitals.¹⁶⁸

Medical officers at the Fulham Infirmary were administering salvarsan from 1911 and had adopted, on Parsons’s own initiative, the combination salvarsan–mercury treatment developed at Rochester Row Military Hospital.¹⁶⁹ Although Parsons claimed that his use of this method was as yet too short to determine its true effectiveness, he believed that the results were ‘certainly better’ than when he and his assistant medical officers had used only salvarsan.¹⁷⁰ He was so impressed by the method that he recommended that the LGB circulate information about the treatment employed at Rochester Row, lest infirmaries go ‘rather off the rails’ and potentially endanger patients through ill-informed experimentation with a volatile new drug.¹⁷¹ Despite his general concern over experimentation, Parsons also acknowledged that further research was required to find the most effective concentrations and modes of administration.¹⁷² He believed that he and his fellow Poor Law medical officers had ‘all been finding our way’ with salvarsan and so their methods still varied considerably.¹⁷³ Medical officers at different infirmaries were developing their own systems of treatment based upon first-hand clinical experience. Some persisted with older mercurial treatments, while others negotiated with guardians to administer salvarsan.

Salvarsan was administered with increasing regularity in Poor Law infirmaries, but the Wassermann reaction was utilised on a much smaller scale

before the First World War. Although half of the twenty-six London infirmaries employed the Wassermann reaction on a regular basis, only eight of the forty-six English and Welsh unions did so.¹⁷⁴ Parsons initially doubted that frequent performance of the reaction would reveal many additional latent cases. However, he eventually conceded its diagnostic value, especially when determining the need for continued treatment among symptomless patients.¹⁷⁵

Most metropolitan infirmaries that employed the reaction sent their samples to the CPL, which also serviced the hospitals of the Metropolitan Asylums Board.¹⁷⁶ However, as we have seen in Chapter 4, the cost often made it an impractical diagnostic tool. Poor Law infirmaries occasionally had a pathologist with the necessary training, as at the Birmingham Infirmary, where the guardians' own pathologist had performed the reaction in over 500 cases. However, this was not normally the case, and guardians would not pay to have the reaction performed.¹⁷⁷ Testimony before the RCVD suggests that such reluctance was due more to cost than to ignorance or scepticism of the reaction's diagnostic potential.¹⁷⁸ The unit costs were lower for multiple tests performed simultaneously, but Poor Law institutions rarely had enough samples to take advantage of this.¹⁷⁹ Downes complained that individual unions would not have enough cases at any given time to develop 'special lines of treatment and special lines of diagnosis'.¹⁸⁰ As we have seen in Chapter 4, the Wassermann reaction was often employed during post-mortems to confirm earlier clinical diagnoses in cases that had demonstrated clear clinical symptoms.¹⁸¹ But if a patient demonstrated clear physical symptoms, why perform the reaction?

Asylum medical officers were monitoring venereal diseases among inmates and speculating upon the venereal aetiology of neurological conditions, such as GPI and tabes dorsalis. Yet few definite conclusions regarding aetiology, diagnosis or treatment could be drawn from clinical material in English asylums until the turn of the twentieth century. During the 1880s and 1890s, English asylums were admitting large numbers of cases of GPI and tabes dorsalis.¹⁸² Most returns were compiled through the observation of physiological symptoms such as tremors, delusions and the Argyll-Robertson pupil.¹⁸³ As demonstrated in a letter written by Gordon's brother, asylum medical officers also relied upon accounts furnished by family members regarding patients' past health and behaviour.¹⁸⁴ Available records indicate that large numbers of inmates were identified as having or having had syphilis at the time of their admission.¹⁸⁵ Yet there is little indication why syphilis was listed as a primary or contributory cause



Fig. 5.1 Bexley Asylum patient demonstrating keratitis and necrosis of the nasal bones, 1909 (London Metropolitan Archives, City of London)

of insanity or death in some cases, but not in others. The reasons behind certain diagnostic and clinical decisions were not always explained in the case notes.¹⁸⁶

In 1909 Jim, a photographer, was admitted to Bexley Asylum. He had been admitted twice before, on the first occasion with ‘active syphilis’. He was convinced that people were reading his thoughts and that he was the victim of ‘mesmeric interference’. The bridge of his nose was depressed and he was diagnosed with necrosis of the nasal bones and keratitis—characteristic indicators of syphilis (Fig. 5.1). Yet his altered mental state was attributed primarily to ‘stress’, with syphilis listed as only one of several contributory factors.¹⁸⁷ Gordon also had suspected congenital syphilis as well as an additional attack of acquired syphilis but, like many inmates before the First World War, this was only one of several suspected factors.¹⁸⁸ He demonstrated characteristic mood fluctuations, persecutory delusions, exaltation and delusions of wealth and power that had become diagnostic of GPI. Yet, as we have seen, Gordon was diagnosed instead with a more ambiguous condition: ‘delusional insanity’. His diagnosis could have been linked to the more specific diagnostic category of ‘delusional *syphilitic* insanity’, but this connection was not made clear in his case notes.¹⁸⁹ Such generalised diagnostic categories suggest prevailing uncertainty surrounding the causes of insanity.¹⁹⁰

It was not until the development in the early decades of the twentieth century of ideas regarding neurosyphilis, along with the wide application of the Wassermann reaction in asylum practice, that rates of diagnosable syphilitic insanity began to increase. Between 1881 and 1888, Wakefield Asylum recorded only twenty-eight cases in which syphilis was a contributory cause. This constituted only 0.7 per cent of total admissions during those eight years.¹⁹¹ Yet the number of male asylum cases identified as syphilitic jumped in England and Wales from 1.8 per cent in 1888 to 11.8 per cent in 1912—an increase attributed to improvements in diagnostic technologies.¹⁹² By 1908 the West Riding Asylums had begun to tabulate the numbers of general paralytics among their direct admissions, recording whether any were suffering from syphilis and the age at which syphilis had been contracted.¹⁹³ The medical officers were attempting to determine the length of time that might elapse between the contraction of syphilis and the development of neurological symptoms. They were drawing upon new diagnostic technologies as well as new aetiological understandings of GPI.

Venereal diseases were being treated extensively through existing health provisions before the First World War, but there was little systematisation to this work. Treatment under the Poor Law and through club and, later, panel practice was disjointed: it lacked clear policy objectives and an overarching administrative framework to ensure cohesive and uniform practices. Some official inquirers called for the isolation and compulsory treatment of infectious venereal cases within Poor Law institutions, but these recommendations were never implemented. Regulation and notification would have deterred many from seeking treatment. Moreover, the logistics of implementing such measures were thought to be impractical. Medical officers instead continued to treat only those who sought treatment.

The quality of medical care was generally assumed to be low, and the treatment of venereally diseased patients particularly bad. This was certainly the case in many workhouse sick wards, but superintendents of infirmaries made concerted efforts to improve their facilities and as a result the diagnosis and treatment of venereally diseased patients began slowly to improve. Some doctors found the parameters of institutional work frustrating and attempted to circumvent various regulations governing the care of venereally diseased patients. Before the establishment of state-subsidised treatment clinics, the quality of institutional care depended upon the policies and internal politics of individual institutions, as well as the attitudes of individual doctors. Some societies offered sickness benefits to venereally diseased subscribers. Others did not. Some boards of guardians actively sought newer and more effective treatments for their patients. Others did not. Some panel doctors and medical officers attempted to provide their patients with the best forms of care. Others were more apathetic, doing the minimum required under their terms of employment.

NOTES

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147. Royal Commission on the Poor Laws and Relief of Distress, PP 1909 Cd 4499 (Majority Report), 277.
148. Royal Commission on the Poor Laws and Relief of Distress, PP 1909 Cd 4499 (Majority Report), 277; Royal Commission on the Poor Laws and Relief of Distress, PP 1909 Cd 4835 (Appendix Vol. IV: Minutes of evidence for days 72 to 89), qq. 39239–40.
149. Royal Commission on Venereal Diseases, Appendix to First Report, Cd 7475, q. 12473.
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152. Royal Commission on Venereal Diseases, Final Report, Cd 8189, Appendix VII, 118–19; Lowndes, *Lock Hospitals and Lock Wards in General Hospitals*, 25–26.
153. Royal Commission on Venereal Diseases, Appendix to First Report, Cd 7475, qq. 12232, 12273–78.
154. *Ibid.*, qq. 5107–08.
155. Local Government Board Report on Venereal Diseases, PP 1913 XXXII Cd 7029, 21.
156. Royal Commission on Venereal Diseases, Appendix to First Report, Cd 7475, qq. 5060–64.
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158. Arthur F. Mickle, ‘On the Necessity of Obtaining Powers to Detain in Workhouses and Infirmaries Patients Affected with Venereal Diseases’, *Lancet* (7 May 1887), 954–55; Arthur F. Mickle, ‘The Compulsory Detention in Workhouses of Patients with Venereal Disease’, *Lancet* (21 May 1887), 1063.
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160. Local Government Board Report on Venereal Diseases, PP 1913 XXXII Cd 7029, 21.
161. Royal Commission on the Poor Laws and Relief of Distress, PP 1909 Cd 4499 (Majority Report), 276.

162. Royal Commission on Venereal Diseases, Appendix to First Report, Cd 7475, q. 12233.
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164. A. Lionel Baly, 'Poor Law Infirmaries and the Treatment of Syphilis', *Lancet* (19 July 1913), 174.
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166. London Lock Hospital Committee Minutes (17 October 1912) MS0022/1/1/34, 102.
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168. Malcolm Morris, 'Poor Law Infirmaries and the Treatment of Syphilis', *Lancet* (26 July 1913), 253.
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170. *Ibid.*, q. 12234.
171. *Ibid.*, qq. 12237–39.
172. *Ibid.*, q. 12236.
173. Royal Commission on Venereal Diseases, Final Report, Cd 8189, Appendix XIII, 120.
174. *Ibid.*, 118–20.
175. Royal Commission on Venereal Diseases, Appendix to First Report, Cd 7475, q. 12253, 12348–49.
176. The Metropolitan Asylums Board, established following the passing of the Metropolitan Poor Act (1867), combined the London parishes and unions into a single Metropolitan Asylums District for the reception and relief of poor and diseased persons. It attempted to compensate for shortcomings in treatment offered under the Poor Law by isolating persons suffering from infectious diseases such as smallpox. Royal Commission on Venereal Diseases, Appendix to First Report, Cd 7475, q. 4976.
177. Royal Commission on Venereal Diseases, Appendix to First Report, Cd 7475, qq. 12295, 12309; Royal Commission on Venereal Diseases, Final Report, Cd 8189, Appendix XIII, 120.
178. Royal Commission on Venereal Diseases, Appendix to First Report, Cd 7475, q. 12385.
179. *Ibid.*, qq. 694–96.
180. *Ibid.*, q. 4962.
181. Mathews, 'Matter Over Mind', 49–51; Royal Commission on Venereal Diseases, Appendix to First Report, Cd 7475, qq. 2180–82; Royal Commission on Venereal Diseases, Appendix to Final Report, Cd 8190, q. 13140.

182. Gayle Davis, *'The Cruel Madness of Love': Sex, Syphilis and Psychiatry in Scotland, 1880–1930* (Amsterdam: Rodopi, 2008), 15.
183. Royal Commission on Venereal Diseases, Appendix to First Report, Cd 7475, qq. 6040, 6161–65; Davis, *'The Cruel Madness of Love'*, 90.
184. Bexley Asylum Casebook of Male Patients Admitted from 1909 to 1910 H65/B/10/014; Ellis, 'The Asylum, the Poor Law and a Reassessment of the Four-Shilling Grant', 66.
185. See, for example, London Metropolitan Archives, Bexley Asylum Patient Records H65/B/10; London Metropolitan Archives, Banstead Asylum Patient Records H22/HT/B/26; West Yorkshire Archive Service, West Riding Asylum Medical Case Files (1889–1905) C85/3/6/148–64.
186. Davis, *'The Cruel Madness of Love'*, 29.
187. Bexley Asylum Casebook of Male Patients Admitted from 1909 to 1910 H65/B/10/014.
188. *Ibid.*
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190. Melling and Forsythe, *The Politics of Madness*, 178.
191. West Yorkshire Archive Service, 'Table Showing the Probable Causes of Insanity in the Patients Admitted into Wakefield Asylum during the Period 1881 to 1888 Inclusive' (1889–92) C85/1/6/1.
192. Royal Commission on Venereal Diseases, Appendix to First Report, Cd 7475, qq. 6063–66, 6260.
193. See, for example, West Yorkshire Archive Service, Reports: Statistical Tables and Abstracts of Accounts of the West Riding Asylums at Menston, Wadsley, Wakefield, Storthes Hall, and Scalebor Park (1909) C416/1/34, 91.

Nursing Knowledge

While residing in Oxford, Albinia Broderick, a qualified nurse and niece of the Warden of Merton College, arranged an afternoon tea for the wives of the college scouts. She explained this as an attempt to befriend these women ‘in a practical sense’, and for a very specific reason. After tea one of the women revealed that she had developed ‘certain ulcers’ and sought Broderick’s medical opinion on their cause. Having trained in a system that prohibited nurses from even discussing diagnoses with patients, Broderick declined to speculate on the nature of the woman’s condition. But the woman was insistent: ‘I have asked my doctor, and he refuses to tell me’. The illness, she continued, ‘seems to me important.’ Broderick agreed that the woman’s condition was indeed serious. Prevented from diagnosing or prescribing treatment herself, Broderick took the woman to a doctor who would speak more candidly. ‘If you ask him the question point blank’, Broderick advised, ‘he will give you an answer.’¹

When recounting this story before the RCNVD Broderick, representative of the National Council of Trained Nurses of Great Britain, justified her actions by asserting her belief that women had the right to know whether they were suffering from a venereal disease. Broderick claimed to have sought another more forthright medical opinion because she was genuinely uncertain about the cause of the woman’s illness. However, her decision also illustrates professional tensions between nurses and doctors. Although Broderick insisted that she was not acting in her capacity as

a nurse, her story elicited antagonistic responses from the commissioners that revealed ambivalence over the acceptable parameters of nursing knowledge and practice. As a nurse, Broderick was in no position to speculate upon a diagnosis, especially for a disease as stigmatising as syphilis. Neither would she have been able to secure the required mercurial or arsenobenzol treatments.² Although Broderick insisted that she had been uncertain about the woman's condition, her actions do appear to have been motivated by suspicion that the woman had contracted syphilis. The knowledge underlying this notion was not common among Broderick's nursing contemporaries. Indeed, as we shall see throughout this chapter, the degree of knowledge of venereal diseases considered suitable for nurses varied greatly and was a subject of ongoing debate.

This book has thus far looked at the professional and educational structures through which medical students and qualified doctors were able to access knowledge of venereal diseases, and augment their clinical experience. This chapter instead focuses on the state of knowledge among a professional group rarely associated with the study or treatment of venereal diseases. It examines how probationers and qualified nurses acquired practical and theoretical knowledge, and how they were able to apply this in the care of patients.

Nurses, like doctors and medical students, have traditionally occupied the negative space in historical scholarship on venereal diseases. Their training and practice has been overlooked, in part, on the assumption that female medical professionals played a generally incidental role in the treatment and prevention of venereal diseases; the stigma surrounding these conditions is thought to have made them an exclusively male sphere of medical study and practice. Moreover, the records pertaining to nurses' involvement in the treatment and study of venereal diseases are scarcer even than records of doctors' venereological work. This chapter is therefore an important counterpoint to an otherwise predominantly male sphere of clinical research and practice.

Such omissions are symptomatic of wider gaps in historical scholarship, which has been preoccupied principally with the lack of standardisation in nursing training and a professionally delineated knowledge base.³ Such a focus obscures the important role of nurses in the study, treatment and prevention of venereal diseases. This chapter seeks to fill some of these gaps by examining the institutional frameworks within which knowledge of venereal diseases was circulated and assimilated into nursing practice. It begins with nurses' fragmented theoretical knowledge,

acquired opportunistically through lectures and private study. In wider nursing practice, such study would have been underpinned ideally by practical experience on the wards. But as we will see, probationers had few opportunities for acquiring practical knowledge of venereal diseases during their ward rotations. Likewise, nurses in the Poor Law Service, although exposed to larger numbers of venereal cases than their counterparts in voluntary hospitals, also faced significant institutional difficulties that limited their ability to care for patients and augment their knowledge.

Nursing became increasingly systematised and professionalised during the late nineteenth and early twentieth centuries. Most voluntary hospitals extended their probationary training from three months to three years, at the end of which newly qualified nurses were retained for ward duty, sent into private nursing or joined the Poor Law Service. Voluntary hospitals, along with a growing number of Poor Law infirmaries, were establishing themselves as central sites of nursing training and qualification.⁴ These changes were part of the wider shift towards scientific medicine, which we have seen in previous chapters. Developments in public health management, bacteriology and therapeutic technologies were all brought to bear upon nursing training and practice.⁵

Despite such consolidation, resistance towards standardisation and regulation remained. Pro-registrationists and anti-registrationists continued to squabble over the suitability of a uniform and centrally regulated qualification for all nurses.⁶ Before the passing of the Nurses' Registration Act in 1919, each training school chose its own textbooks, designed its own syllabus, set its own examinations and awarded its own certificates.⁷ Although most voluntary hospitals had settled on a minimum level of training for their probationers, considerable variation persisted in the training probationers could expect from the Poor Law Service. Moreover, many Poor Law unions resisted the employment of hospital-trained nurses, preferring instead to retain cheaper, untrained auxiliary nursing staff.

Such fragmentation meant considerable variation in the amount of venereological knowledge available to probationers and nurses, both in voluntary hospitals and the Poor Law Service. As Florence Willey lamented, it was 'not at all general' for nurses to be taught about venereal diseases.⁸ Lecture notes, nursing manuals, journals and official enquiries contain fragmentary information about the degree of venereological knowledge available to nurses, and the means by which they acquired that knowledge. These sources show that nurses received 'hints' in the orders given by doctors on the wards, heard 'tales from ignorant sources' and

acquired ‘very imperfect knowledge’ by trying to read up independently on the subject.⁹ Their knowledge was acquired often opportunistically and circumscribed by what was thought professionally and morally suitable for probationers and nurses to know. Yet despite such limitations, some nurses were slowly building up theoretical and practical knowledge of syphilis and gonorrhoea. They were circulating this knowledge among their fellow nurses, and drawing upon it in the care of their patients.

CIRCUMSCRIBED THEORETICAL KNOWLEDGE

In the absence of more detailed information, Willey’s address to the pro-registrationist Matrons’ Council of Great Britain and Northern Ireland offers one of the clearest indications of the state of venereological knowledge among nurses in the decades before the First World War. In January 1912 the Matrons’ Council met to discuss the state of training in venereal diseases, and Willey was invited to present an assessment of available training and to recommend improvements.

Although Willey’s extensive recommendations addressed many key aspects of nursing training and practice, she identified three areas of particular concern. First, syphilis and gonorrhoea were to be recognised as distinct diseases, caused by two separate microorganisms. Nurses needed to have explained to them in detail the course of each disease, including its common symptoms and characteristic periods of latency. Second, nurses should understand that syphilis and gonorrhoea were not divine punishment for promiscuity, but diseases transmitted via sexual *and* non-sexual contact. Of particular importance was an awareness of the various ways in which nurses might be infected, such as during the dressing of a patient’s sores. Willey advised that they acquire practical experience of the precautions necessary when nursing patients with venereal diseases. And third, when caring for district patients or outpatients, nurses needed to be able to convey clear instructions about treatment and how patients might prevent the spread of infection.¹⁰

That Willey needed to make such recommendations suggests that many nurses were ill-equipped to care for patients with syphilis and gonorrhoea before the First World War. She feared that nurses were unable to recognise common symptoms and were ignorant of the means and dangers of transmission, as well as the precautions necessary to protect themselves against infection. Nurses acquired practical and theoretical knowledge of venereal diseases in the same sporadic, opportunistic way as medical students. They

depended for their knowledge upon the particular interests, attitudes and expertise of the nursing and medical staff responsible for training at each school. Some nurses who trained in the voluntary hospitals received specific (although not specialised) instruction and would have encountered venereal cases on the wards, in outpatient departments and in the course of district and private nursing. As a young nurse, Amy Hughes, superintendent of the Queen Victoria Jubilee Institute for Nurses, was given an 'object lesson' by a doctor. He told her candidly that a patient was syphilitic and infectious.¹¹ Likewise, by the early twentieth century, third-year probationers at St Bartholomew's Hospital were being taught how to nurse cases of syphilis and gonorrhoea.¹² However, Willey's recommendations suggest that a significant number of nurses remained unaware of the basic epidemiology and symptomatology of syphilis and gonorrhoea. Her insistence that nurses be taught about non-sexual modes of transmission was intended to counteract ingrained misconceptions, such as those in the 1878 nursing manual written by Catherine Wood, lady superintendent of Great Ormond Street Hospital, which described syphilis only as 'the result of sexual debauchery and prostitution.'¹³

Variation in the instruction available to nurses was attributable to a number of interconnected factors, among the most prominent being the moral ambiguity of teaching respectable women about venereal diseases. Although nursing remained throughout the nineteenth century a profession largely of the working classes and lower-middle classes, it was conceptualised increasingly as a charitable vocation akin to the philanthropic work of middle-class women.¹⁴ Indeed, increasing numbers of 'lady probationers' were recruited to the profession on the understanding that, after completing their training, they would be promoted over 'ordinary probationers' to senior nursing positions.¹⁵ Moreover, complex codes of etiquette were implemented to secure the legitimacy and respectability of nursing. The profession became ideologically invested in, and defined by, middle-class models of morality, gentility, obedience and hygiene. Ideally, these qualities would be brought to bear in the nursing of morally dubious working-class patients.¹⁶

Yet attempts to style nursing as a sacred duty also undermined and devalued its professionalism and clinical expertise.¹⁷ Venereal diseases were among a number of topics to which probationers and qualified nurses were exposed haphazardly and opportunistically. Articles in the *Nursing Record* (later renamed the *British Journal of Nursing*) reveal that doctors, for professional and prudish reasons, withheld information about

a variety of conditions.¹⁸ Pro-registration campaigners, such as Ethel Gordon Fenwick, sought to transform nursing into a high-status profession for educated women. They criticised a system in which technical training and practice was undermined by medical authority and hospital administration.¹⁹

Limitations in nurses' venereological training revealed concerns about respectable unmarried women ministering to patients with syphilis and gonorrhoea. On the one hand, virtuous women were styled as moral and biological guardians against a corrupt and degenerate society, tempering what Mona Caird described as man's 'primitive nature'.²⁰ On the other hand, the very same qualities that secured women this mantle were especially vulnerable to the insidiousness of venereal diseases.²¹ Nurses were not immune to infection, whether moral or microbial. The holding of venereological knowledge by nurses, who were expected to exert a reforming moral influence over their patients, was problematic. How could a nurse minister to the intimate bodily ailments of such patients, especially male patients, without, as the matron of the Chelsea Infirmary put it, 'blunting the finesse of her natural sense of purity'?²² When it came to recognising and treating venereal diseases, many doctors viewed nurses, especially middle-class 'lady probationers', not as medical professionals but as gentlewomen.

Despite the increasing attention to venereal diseases in the study and clinical practice of medical students and qualified doctors, nursing training remained largely unaffected by the debates over nosology, aetiology, diagnosis, treatment and prevention. Few of the published volumes of medical and surgical lectures delivered to nurses at various training schools throughout England (as well as the training schools in Edinburgh and Glasgow) touched upon the subject of venereal diseases.²³ Representative of such omissions were the lectures of James Anderson and A. Knyvett Gordon.²⁴ Both neglected even to mention syphilis or gonorrhoea, in stark contrast to the extensive attention they gave to other infectious diseases. Anderson, in his lectures to probationers at the London Hospital during the 1890s, covered at length conditions such as typhoid fever.²⁵ But it would be another decade before the hospital offered lectures on the practicalities of nursing syphilitic patients.²⁶ Like Anderson, Gordon, lecturer on infectious diseases at the University of Manchester, spoke to nurses in great detail about the 'cocci or germs' that caused diseases such as malaria and diphtheria, along with methods of fighting infection, such as vaccine therapy.²⁷ As we have seen in Chapter 4, antigonococcal vaccines

were among the commonest of these therapeutic vaccines, but Gordon did not discuss gonorrhoea or its available treatments. The lecture notes compiled by Mable Sleight, a probationer at St Bartholomew's Hospital in the late 1880s, were also silent on the subject of venereal diseases. It is unlikely that Sleight neglected to take notes. The detail with which she recorded the aetiology, symptomatology and treatments for diseases such as tuberculosis and typhoid fever suggests that her lecturers were simply unforthcoming on the subject.²⁸ In each instance, the omission of information about venereal diseases was not motivated entirely by concerns about nurses receiving too much technical information. There was also a strong moral dimension to this decision.

Practical experience of nursing technique, gained by working alongside ward sisters, was supplemented by theoretical instruction. This instruction was given through lectures by medical and surgical staff. However, some doctors were uncomfortable lecturing to nurses about diseases imbued with such stigma and immorality, and opted instead to avoid the subject.²⁹ As a probationer Hughes had heard venereal diseases spoken of by the medical staff, but there was often a 'veil drawn over it'. She and her fellow probationers were left to 'imagine' and acquire information for themselves.³⁰ On many occasions doctors would say only that certain patients were infectious and that nurses needed to protect their hands.³¹ Doctors' uneasiness about discussing venereal diseases extended beyond just nurses. Lay women were even less likely to receive candid explanations from their doctors. Indeed, Broderick believed that doctors regularly treated female patients without disclosing the nature of their disease because they felt it 'impossible' to talk as openly as they could with men.³² Just as some doctors obfuscated when treating venereally diseased women, such as the scout's wife at Merton College, so too did they censor their instructions to nurses.

Moral qualms and persisting conceptions of gender-normative behaviour undoubtedly influenced the nature and limitations of nursing training, but the decision to withhold knowledge of venereal diseases cannot be explained wholly by a desire to protect nurses' sensibilities. It is also important to contextualise this fragmented and opportunistic instruction within a wider professional framework of knowledge dissemination. Instructional literature produced for nurses before the First World War included few references to the identification or treatment of syphilis and gonorrhoea. Some of these omissions were probably prudish attempts to protect the sensibilities of nurses, but some were motivated also by professional self-interest.

Nurses had to contend with hospital medical staff who were ambivalent about nurses acquiring technical or specialist knowledge. Doctors' greater clinical knowledge and role as disseminators of that knowledge helped to establish their professional authority over nurses. They controlled the level of information available to nurses, and in so doing maintained a professional hierarchy based upon the acquisition and application of clinical knowledge and skill. Some knowledge of technical diagnostic terms was thought to be a necessary addition to nursing vocabulary. But nurses were not to use these terms, even if they were familiar with them, if ordinary or vernacular language sufficed.³³ By placing such rigid restrictions upon the very language of nursing, doctors sought to preserve their own professional authority. They either withheld information, or ensured that nurses conceptualised and communicated information in the most simple terms.³⁴

Concerns about professional territory were raised repeatedly before the Select Committee on the Registration of Nurses in 1904 and 1905.³⁵ Eva Lückes criticised the modern 'fetish' for expanding nurses' technical training.³⁶ She, along with several other anti-registration witnesses, feared that it would bring nurses into conflict with doctors by producing supplementary medical staff rather than more proficient nurses: 'We are very much afraid of their getting to feel that by a certain period of training they should become the same as doctors.'³⁷

Such concerns were influenced, in large part, by the belief that nurses had, as Willey described several years later, a great influence over patients.

To them her word often stands for the opinion of one to whom all medical knowledge is available, but who is free from the imaginary prejudices and reserves of the medical profession. This very confidence of the public makes it the more important that what knowledge nurses have of these [venereal] diseases should be sound and useful.³⁸

This influence over patients, which Willey cited as an important reason for educating nurses about venereal diseases, was the same reason that others resisted nurses' acquisition of such knowledge. Opponents feared that nurses, already seen by some patients as a more affordable or desirable source of care, would encroach upon doctors' professional territory by assuming diagnostic and therapeutic responsibilities.³⁹ Concern for nurses' ability to recognise venereal diseases was demonstrated by antagonism towards Broderick during her testimony before the RCVD. The

commissioners believed her actions risked destroying familial happiness and hindering the patient's recovery by causing unnecessary anxiety.⁴⁰ In his criticism of Broderick's stance, John Collie questioned the ethical and moral propriety of disclosing to a mother that her young child had contracted congenital syphilis from its father.⁴¹ Mary Scharlieb also issued a mild reprimand by reiterating that nurses were to leave such responsibilities to doctors, whose greater knowledge and clinical experience made them better judges of the suitability of such disclosures.⁴² Collie and Scharlieb, like many of their colleagues, feared that nurses in possession of too much technical knowledge might forget themselves and vocalise opinions regarding a patient's condition and prognosis.⁴³ This concern was raised repeatedly during the RCVD. The commissioners questioned witnesses about the level of venereological knowledge suitable for nurses. 'Supposing', hypothesised Arthur Newsholme, that 'the doctor does not wish the nurse to know, lest she should be indiscrete and tell the patient'?⁴⁴

Among the reasons cited for restricting training in venereal diseases was that nurses' partial knowledge would be dangerous to patients. If nurses were to receive only the most foundational knowledge, conveyed in the simplest terms, they might employ it clumsily. Yet those who supported greater training argued that such foundational theoretical and practical knowledge, conveyed as clearly and completely as possible, would instead produce better nurses and improve the quality of patient care.⁴⁵ Willey concluded that the two principal reasons for instructing nurses in venereal diseases were to protect them from infection and to avoid their spreading incorrect information. Rather than deliberately leaving nurses ignorant of venereal diseases, Willey recommended that they be taught 'very clearly' how to deal diplomatically with questions about the nature and prognosis of patients' conditions.⁴⁶ Nurses were already taught about other prevalent infectious diseases. As such, Willey questioned why they should remain ignorant of syphilis and gonorrhoea, which, she believed, had more serious implications for public and individual health than all other infectious diseases combined.⁴⁷ She insisted that nurses not simply be told when special precautions were needed, but instead be taught to nurse venereal cases, just as they were taught to nurse other diseases: 'I think it is very difficult to expect the nurse to nurse well unless she knows really exactly what she is trying to do; and my own opinion is that a nurse ought to know what case she is nursing.'⁴⁸ Willey deemed it cruel that nurses, ignorant of the means of transmission and prevention, should be forced to seek medical advice, fearing

that they had contracted syphilis or gonorrhoea in the performance of their nursing duties.⁴⁹ As we shall see, she was among a number of medical witnesses before the RCVD who believed that such ignorance might give rise to disproportionate fear among nurses that would make them averse to nursing venereal cases.

The delineation of knowledge along professional, as well as gendered, lines is best demonstrated by the limited training given to nurses at the Royal Free Hospital. Even in hospitals staffed by women doctors, there was little guarantee that nurses and probationers would receive instruction on venereal diseases. Willey believed that nurses at the Royal Free Hospital possessed only a fraction of the knowledge they needed. When asked by the hospital's matron to lecture to nurses on diseases of women, Willey recommended that one of her lectures be devoted to the nursing of venereal diseases.⁵⁰ Until that point, however, nurses at the Royal Free Hospital had received no formal venereological instruction. Historians are right to attribute the slow development of a professionally delineated knowledge base to an anti-intellectual perception of 'women's work'. As demonstrated by Dyce Duckworth's inaugural lecture to probationers at the opening of St Bartholomew's Nursing School, the belief that women were intellectually inferior and more susceptible to enervation certainly held currency among doctors.⁵¹ However, Scharlieb's attitude during Broderick's testimony indicates that other important factors also determined the boundaries of acceptable nursing knowledge and skill.

These boundaries were part of a wider system of nursing training that privileged the performance of rigidly defined duties, rather than the acquisition of theoretical knowledge. It was a demarcation of professional roles based upon perceptions of intellectual ability and specialist skill. Gaps in nursing training were representative of a professional hierarchy that subordinated vocational nursing care to more specialised scientific medical practice.⁵² This demarcation was not always straightforwardly gendered. As we have seen in previous chapters, a growing number of women were qualifying as doctors and would have encountered venereal diseases either in the course of their training or in professional practice. Having acquired scientific medical knowledge, some women doctors, such as Willey and Scharlieb, assumed roles as disseminators of medical knowledge and, like their male counterparts, deliberately limited and simplified the technical information conveyed to nurses.

TEACH YOUR NURSES TO 'TEACH THEMSELVES'

In addition to lectures, practical instruction and observation, nurses were expected to revise and augment their knowledge by reading nursing manuals and journals. Information about venereal diseases was increasingly common in nursing publications in the years immediately preceding the First World War. The reasons for this increase were probably the same as those that prompted an increase in the discussion of venereal diseases among doctors and medical students: the important diagnostic and therapeutic developments of Schaudinn, Hoffmann, Ehrlich and Wassermann. The subject matter of the articles included the common manifestations of syphilis and gonorrhoea, new methods of treatment and the necessary precautions when nursing infected patients. From 1910 the *British Journal of Nursing* (*BJN*) included a regular selection on venereal diseases: 'The control of venereal diseases', 'Recent developments in the diagnosis and treatment of venereal diseases', 'Venereal disease: its present and its future', 'Salvarsan' and 'On the treatment of syphilis'.⁵³ It also reported the proceedings of the RCVD, including nursing practice and wider issues of disease prevalence, diagnosis, treatment and prevention.⁵⁴

These articles offered readers detailed information on venereal diseases, including their common symptoms, modes of transmission and modern methods of diagnosis and treatment. Many were reprinted directly from medical journals, such as the *BMJ* and the *Lancet*. It is unsurprising that the *BJN*, as a mouthpiece for Fenwick's pro-registration campaign, sought to furnish its readers with detailed scientific information that might help establish a professionally delineated knowledge base. By reprinting articles from medical journals, it sought to establish a sturdier theoretical foundation for nursing practice. Importantly, the large number of articles about venereal diseases were part of a new and concentrated effort to bring these diseases to the attention of nurses. The *BJN* was attempting to redress a significant gap in most nurses' theoretical and practical knowledge.

Manuals and journals seemingly offered one of the best means for nurses to remain au fait with constantly changing clinical practices and ideas. From one perspective, the increasing number of nursing textbooks written during the late nineteenth and early twentieth centuries showed that nurses were no longer passive recipients of knowledge.⁵⁵ Russell Howard, in his collection of published lectures delivered to probationers at the London Hospital, congratulated the nursing profession

for having ‘passed beyond the stage of passive obedience’. He believed that developments in medicine and surgery obliged nurses actively to acquire new knowledge and refine their practical skills, independent of instruction from medical and nursing staff.⁵⁶ ‘Lady probationers’ were especially encouraged to pursue independent study by reading the latest nursing manuals.⁵⁷ Self-directed learning was important for those, such as Isla Stewart, matron of St Bartholomew’s Hospital, who questioned the educational value of lectures. Stewart doubted whether nurses benefitted from information conveyed only once or twice during their probationary training. Such knowledge was so ‘evanescent’ that there was no guarantee that nurses would remain properly equipped to care for patients.⁵⁸ Willey believed retention required reiteration, including from different points of view.⁵⁹ But Stewart thought that impractical, arguing instead for heuristic instruction: lecturers needed to teach probationers to ‘teach themselves’.⁶⁰ This, however, was not straightforward. Although some nurses, such as Broderick, claimed to have taught themselves about venereal diseases, opportunities for study, whether guided or auto-didactic, were limited.⁶¹

Testimony given before the RCVD suggests that self-directed learning was far from universal and especially problematic for those trying to acquire knowledge of venereal diseases. The commissioners were incredulous that nurses would not have access to textbooks that included information about venereal diseases. As one commissioner asked Hughes exasperatedly, ‘there must be some handbook for nurses?’ But Hughes believed that, although various manuals were available, the ‘ordinary nurse’ lacked the time and motivation to read them.⁶² Moreover, even if nurses were assiduously reading manuals and journals, they would not have necessarily acquired knowledge of venereal diseases. Articles on this subject began appearing in the *BJN* only after 1910, and there was no guarantee that manuals would include venereological information. Of the thirty nursing manuals sampled for this chapter, which included published volumes of medical and surgical lectures, only eight discussed one or more venereal conditions. For example, it was not until the ninth edition of Lückes’s *General Nursing*, published in 1914, that discussion of syphilis and ophthalmia neonatorum was included.⁶³

Nurses were thought to be dissatisfied with the simplistic information available in nursing manuals. Indeed, Willey lamented the ‘very imperfect knowledge’ acquired by those who tried reading up on venereal diseases with manuals containing rudimentary information.⁶⁴ Dissatisfied nurses might turn to medical textbooks written for doctors and medical

students, which would have been wholly unsatisfactory.⁶⁵ One anonymous correspondent to *Nursing Notes* believed that it would have been almost impossible for nurses, presented with such dense technical information, to determine what was applicable to nursing practice.⁶⁶ Neither would they have been called upon to employ the diagnostic or therapeutic technologies discussed in these articles. In other instances, the problem was not of too much detail, but of too little. The authors of one article provided only an outline of venereal diseases—‘a rough sketch without colour’—but believed that their intended readership of doctors would be able to ‘fill in the colour’ from their own experience.⁶⁷ Even the most educated nurses reading such reprints in the *BJN* would have had no such experience.

The disparity between theoretical knowledge and its application in nursing practice was most evident in an article on gonorrhoeal conjunctivitis, reprinted from the *Lancet*. The authors included a section on ‘the importance of scientific nursing’, which they wrote to accompany the *BJN* reprint. Here they shifted from detailed technical discussion to a simpler explanation of the nurse’s responsibilities in cases of gonorrhoeal conjunctivitis. They stressed the importance of nurses’ ministrations being ‘conducted with quietness, delicacy and promptitude’ and the changing of dressings around a patient’s eyes not being undertaken without the attending doctor first having been notified.⁶⁸ Such articles reprinted from the *BMJ* and the *Lancet* were intended to improve the knowledge base of the *BJN*’s readership. But they instead muddied the waters. By reprinting such technically dense articles, the *BJN* was doing precisely what many feared would undermine the coherent and systematised development of nurses’ theoretical knowledge. Beyond Fenwick’s pro-registrationist circles, nurses were not thought to benefit from such detailed theoretical instruction. Such articles may have been academically interesting, but they had little practical application for nurses, whose work was defined according to strict rules and procedures.

Nursing manuals that contained information about venereal diseases varied considerably in their level of detail.⁶⁹ Some authors instructed nurses to protect themselves, but neglected to describe the diseases against which they needed protection. Discussion of venereal diseases was confined often to single-sentence definitions, with little information of any practical assistance. Honnor Morten’s *Nurses’ Dictionary* was in the pocket format that was increasingly popular and an important addition as a reference book in nursing training.⁷⁰ It described gonorrhoea’s characteristic genital inflammation and pus. Nurses were advised to burn all soiled dressings,

use forceps and watch for inflammation of the external genitals. Morten also explained that syphilis had three stages and a congenital mode of transmission but did not describe its various symptoms. Again, nurses were instructed simply to burn soiled dressings and use forceps.⁷¹ Like Morten, Charles Cullingworth also stressed the importance of precautionary measures. His 1876 *Nurses' Companion* advised readers who came into contact with patients' venereal sores or discharges to take special care to protect their hands, and to wash their hands thoroughly before touching other patients. However, neither Morten nor Cullingworth included information about how their readers might identify patients whose sores and discharges were venereal.⁷² Reference to such manuals would have furnished nurses with a definitional understanding of venereal diseases, but with little practical application.

A small number of manuals were much more forthcoming. Morten's *A Complete System of Nursing*, published in 1898, contrasted strongly with her dictionary of seven years earlier. It explained that doctors and nurses could contract syphilis by accidental inoculation of their hands and offered readers descriptive explanations of characteristic chancres, skin eruptions, condylomata, gummata, neurological dysfunction and the Hutchinsonian triad.⁷³ Morten impressed upon her readers that the disease was especially contagious in its primary and secondary stages, and that extra precautions were required. Howard's *Surgical Nursing*, published in 1905, also included four pages of detailed instructions for nursing syphilitic patients. He described the symptoms characteristic of each stage of acquired and congenital infection and cautioned nurses about the periods of latency between each stage. Importantly, Howard included a photograph of a young boy with congenital syphilis (Fig. 6.1). Nurses would, ideally, map the described physiological symptoms onto the young patient's face and go on to utilise this knowledge in the course of their nursing duties. Nurses were also furnished with information about GPI and locomotor ataxia, which, even among manuals that discussed venereal diseases, was uncommon. Like Morten, Howard emphasised the contagiousness of syphilis and recommended extreme caution when touching infected patients. Nurses should wash their hands using a 1:1000 perchloride of mercury solution: 'otherwise the nurse may contract a loathsome disease—the consequences of which will poison the rest of her life, even if it does not directly cause her death.'⁷⁴ Using equally emotive language, he described how nurses could, 'by a carelessness which is criminal, help to spread a disease which is one of the curses of modern life.'⁷⁵



Fig. 6.1 'Congenital syphilis', 1905 (Russell Howard, *Surgical Nursing*, 1905; Bodleian Library, University of Oxford)

Some nursing manuals also emphasised the contagiousness of gonorrhoea. As nurses were thought to be more likely to encounter gonorrhoea among female patients, Morten concentrated upon symptoms such as purulent inflammation of the vagina, salpingitis (infection and inflammation of the fallopian tubes) and ophthalmia neonatorum among newborns.⁷⁶ Netta Stewart's *Gynaecological Nursing*, published in 1903, similarly included a detailed explanation of gonorrhoea's effects

upon women's genito-urinary organs. Stewart, a sister in the gynæcological wards of the Royal Edinburgh Infirmary, impressed upon her readers their important role in monitoring and treating patients, and preventing the spread of gonorrhoeal infection. Her thorough instructions on the application of antiseptic vaginal douches were accompanied by equally comprehensive explanations of the importance of such measures, emphasising the therapeutic effects upon the 'infective organism'. Stewart concluded her discussion with a stern reminder that nurses needed to exercise considerable discretion because gonorrhoea was commonly found among married women. Nurses were to say nothing to patients about the nature and probable origin of their condition: 'It does not mend matters, and can only cause additional misery to one already in a most sad and distressing condition.'⁷⁷

These manuals were intended to be of practical application when nursing venereal cases.⁷⁸ Howard, Morten and Stewart all provided their readers with descriptions of common symptoms and treatment regimes. However, the level of theoretical detail was tempered by an implicit expectation that nurses would seek knowledge, not to satisfy academic curiosity, but to assist the performance of their nursing duties. Howard lectured probationers at the London Hospital about venereal diseases, and included this lecture material in his manual, because he expected them to encounter cases of syphilis and gonorrhoea on the wards. Morten and Stewart probably developed knowledge of venereal diseases in the course of their nursing practice and expected that their readers would also encounter such cases. Probationers would therefore need practical knowledge about symptoms, treatments and preventative measures.⁷⁹

But despite the best efforts of such authors, nurses' practical knowledge of venereal diseases was, on the whole, inadequate. Detailed theoretical information was of limited educational value because it was rarely accompanied by sufficient practical instruction. Hughes's scepticism about the value of nursing manuals was due, in large part, to her belief that nurses' practical instruction in venereal diseases was lacking. She believed that nurses would benefit more from seeing venereal cases and having those cases explained to them.⁸⁰ For nurses who received little practical instruction, no amount of theory would equip them to care for patients suffering from syphilis or gonorrhoea.

PRACTICAL KNOWLEDGE AND WARD WORK

Ideally, theoretical training was underpinned by practical experience of nursing technique on the wards and in outpatient departments. But when it came to venereal diseases, nurses' practical experience was often as fragmented as their theoretical knowledge. Probationers were rotated through hospital wards to broaden their practical knowledge of a diverse range of diseases.⁸¹ As we have seen in Chapter 2, some wards and departments contained larger numbers of venereal cases. Ward sisters, unlike probationers, were assigned more permanently to their respective wards, on which they developed special expertise in the types of cases commonly admitted. They used this expertise in the supervision and practical instruction of probationers, demonstrating practical duties and explaining the reasons for those duties.⁸² Nurses circulated knowledge among themselves, advising those less experienced to take special care with patients suffering from syphilis or gonorrhoea.⁸³ This channel of knowledge exchange, although uncharted in most surviving sources, was an important means by which nurses acquired information about venereal diseases. Probationers who encountered cases of syphilis and gonorrhoea during their rotations probably received additional information from ward sisters about those cases.

However, the length of time spent on each rotation was not always sufficient to develop working knowledge. Rebecca Strong, matron of the Royal Infirmary in Glasgow, regretted the constant rotation of probationers. It was 'well enough in theory, but unworkable in practice'.⁸⁴ Strong found that her probationers were not on any ward long enough to learn anything substantial. Moreover, the ward sisters responsible for their instruction felt unable to provide adequate teaching because probationers would soon be rotated again. Fenwick expressed similar dissatisfaction with Lückes's two-year system of training at the London Hospital because probationers were hurried through its twenty different wards in twelve months, limiting the amount of practical knowledge that could be acquired.⁸⁵ Her criticism was motivated in part by her desire to establish nursing along standardised professional lines, which Lückes, as an anti-registrationist, resisted. However, it also reflected Fenwick's underlying concern for the quantity and quality of nursing training. She was critical not only of the London Hospital's training scheme, but also the wider problems of decentralised nursing training. Some nurses, she claimed, did not understand fully what 'gynæcological' meant, having received only ten days of training on that ward.⁸⁶ The focus on gonorrhoea in

manuals of gynaecological nursing indicates that some probationers and qualified nurses encountered such cases during their ward work. But in a system of quick rotations, nurses would acquire only a superficial understanding of diseases associated with gynaecology, such as syphilis and gonorrhoea.

Their limited training in venereal diseases was also symptomatic of wider curricular constraints and a dearth of suitably instructive clinical material. As we have seen in Chapter 2, voluntary hospitals preferred inpatients whose conditions were neither chronic nor incurable. Difficult and morally dubious cases were admitted only reluctantly. As in the training of medical students, nurses' practical knowledge of venereal diseases was impeded by the limited numbers of cases on the wards.⁸⁷ There would have been few opportunities to build up knowledge of disease prevalence, characteristic symptoms or treatment methods.⁸⁸ Just as single lectures on any subject were of limited educational value, so too were the small numbers of inpatients insufficient for probationers to develop working knowledge of the multiple and often obscure symptoms displayed by patients with syphilis and gonorrhoea.⁸⁹

Nurses and probationers encountered greater numbers of venereal cases in outpatient departments than on the wards. Gonorrhoeal ophthalmia neonatorum, for example, was so common among outpatients that in 1905 the *BJN* offered its readers a detailed explanation of nurses' duties when caring for these patients.⁹⁰ Yet in some outpatient departments, nurses were not permitted to care for patients seeking treatment for syphilis and gonorrhoea. Hughes described how, in one of the larger provincial hospitals, venereally diseased outpatients were sent into a segregated room for treatment. It was not thought 'fit' for nurses to enter this room.⁹¹ Moreover, as we have seen in Chapter 2, the hustle and bustle of outpatient departments often made it impossible to provide adequate care or deliver effective teaching.

Despite such problems, lecturers continued to urge probationers actively to seek information on any subject that they did not understand. In her 1884 lectures to probationers at the London Hospital, Lückes encouraged them to ask questions if they encountered patients whose conditions were unfamiliar or if instructed to undertake ward duties they did not fully comprehend. They were to keep asking questions until they received adequate answers.⁹²

But when flummoxed by patients presenting unfamiliar rashes, sores or discharges, nurses were not always furnished with the satisfactory answers

that Lückes envisaged. Doctors obfuscated not only during lectures. Many also avoided diagnosing cases of syphilis and gonorrhoea in front of nursing staff.⁹³ This culture of secrecy was so ubiquitous that Hughes, as superintendent of the Queen Victoria Jubilee Institute for Nurses, felt unable to address openly the subject of venereal diseases. Her probationers rarely encountered cases during their practical training, but when they did come across a case of syphilis or gonorrhoea, she could not instruct them as she would cases of other infectious diseases.⁹⁴ As a young nurse, she had herself come across an inpatient with 'terrible chancres' and, not knowing what they were, asked the attending doctor for more information. He would say only that Hughes needed to take care of her hands and to apply 'a certain ointment' to the patient's skin.⁹⁵ It was not until several years later that she learned her patient had been suffering from syphilis. More experienced nurses attempted to fill the gaps in probationers' knowledge, but many nurses, faced with such secrecy and obfuscation during their ward work, probably lacked the practical knowledge to recognise that they were nursing patients with syphilis and gonorrhoea.⁹⁶

The very nature of nursing training reinforced these problems. One of the earliest lessons given to probationers was how to safeguard themselves against infection.⁹⁷ Repeated warnings to protect their hands were part of a wider shift towards the principals of asepsis and antisepsis in nursing practice.⁹⁸ But nurses were not making discretionary clinical decisions about disease prevention based upon a comprehensive body of bacteriological knowledge. Their duties were rigidly defined by a set of mandatory preventative procedures. Warnings and reminders were issued so frequently, and in so many different cases of infectious disease, that many nurses probably saw nothing odd or suspicious about receiving them in cases presenting unfamiliar symptoms.

Such protocols were another manifestation of the gendered and professional boundaries between medical and nursing practice. Nurses were not permitted to exercise discretion when employing preventative and therapeutic practices. As in the protection of their hands when touching patients and soiled dressings, nurses were also expected to work within a set of clearly defined boundaries when tasked with the administration of treatment and the observation of patients' reactions to treatment. Qualified nurses were responsible for administering treatments, but a source of ongoing concern was their ability to measure out chemical compounds. Lückes impressed upon her probationers the importance of scientific precision by describing emotively the fatal consequences of inattentiveness

and inaccuracy.⁹⁹ Nurses working in the London Lock Hospital and St Paul's Hospital were thoroughly equipped to administer pills, douches, ointments and injections to the many venereally diseased patients seeking treatment.¹⁰⁰ Although not equipped to prepare or administer salvarsan, nursing sisters at the larger voluntary hospitals were tasked with administering most other treatments for venereal diseases. Probationers were taught about the various treatments they would be called upon to administer as qualified nurses.¹⁰¹ They would also have undertaken basic therapeutic duties when nursing 'special cases', including patients with gonorrhoeal discharge, ophthalmia neonatorum and a variety of other venereal conditions.¹⁰²

Lückes cautioned her probationers against expecting standardised responses to treatments because patients' 'special idiosyncrasies' greatly influenced their recuperation.¹⁰³ As we have seen in Chapter 4, doctors adjusted prescribed treatments on the understanding that neither the curative effect nor toxicity of those treatments was uniform. Like doctors and medical students, nurses were expected to develop intuition when administering treatments and observing their effects upon patients. But whereas doctors increasingly based their intuitive practices upon a body of bacteriological knowledge, nurses were confined to the performance of set procedures. Given that many nurses were unable to recognise cases of syphilis or gonorrhoea, it is unlikely that they would have realised that the treatments they were instructed to administer were for the alleviation of venereal symptoms. Doctors were taught to conceptualise infection and treatment at a microbial level. Nurses were taught to observe specific physical responses. Moreover, they were not permitted to interpret those observations.

Some doctors saw value in producing highly trained and observant nurses, who would be of greater assistance in clinical practice. But as demonstrated during the nursing dispute at Guy's Hospital in 1879 and 1880, many doctors were also ambivalent about nursing training.¹⁰⁴ On the one hand, a highly trained nurse with well-developed observational skills would be an asset to doctors' clinical practice.¹⁰⁵ As we have seen in Chapter 4, nurses were tasked with the observation of patients receiving salvarsan injections. Probationers were also responsible for the observation of special cases with syphilis and gonorrhoea. Nursing manuals reiterated the importance of observing and recording accurately the full range of a patient's symptoms, and reporting these observations to the doctor in charge of the case.¹⁰⁶ Since nurses were in constant contact with

patients, they were best placed to observe changes in their conditions.¹⁰⁷ On the other hand, such training posed a threat to the professional territory and authority of the medical profession. Nurses were expected to observe patients' symptoms and the effects of treatment, but they were not to speculate upon the underlying cause of those symptoms. As one medical author admonished, 'if you have an opinion regarding the disease of your patient, keep it to yourself.'¹⁰⁸ It was the doctor's responsibility to interpret nurses' observations and make appropriate decisions regarding treatment.¹⁰⁹

Medical staff were in a difficult situation. If nurses were to become useful aids in the observation of patients, then they would need to understand the therapeutic effects that they were observing. However, as Lückes put it, 'it is almost dangerous to tread upon ground so nearly bordering on the lines of where doctor's work begins and nurses' work ends.' Nursing and medical staff tried to get around this by advising nurses to read up independently about the effects of 'certain drugs', but premised this advice with a stern warning that such knowledge was for guidance only, and not 'for display' in nursing practice. Demonstrating scientific knowledge would, according to Lückes, reveal 'deplorable' ignorance of 'the nurse's place'.¹¹⁰

NURSING IN THE POOR LAW SERVICE

The final decades of the nineteenth century witnessed a steady increase in the number of trained nurses working in the Poor Law Service. As we have seen in Chapter 5, these institutions admitted many more cases of gonorrhoea and primary- and secondary-stage syphilis. The few surviving records of Poor Law nursing practice indicate that Poor Law nurses had far greater opportunities than their counterparts in voluntary hospitals for developing practical knowledge of the various manifestations of venereal diseases, as well as the best preventative and therapeutic practices.¹¹¹

However, although more nurses were training and working in the Poor Law Service, it still employed fewer trained nurses overall than the voluntary hospitals. Many unions struggled to retain nurses or find suitable replacements, as indicated by the numerous advertisements for probationers and nursing staff that appeared in journals such as the *BJN* and confirmed by testimony given before the Departmental Committee on Nursing the Sick Poor in Workhouses (DCSPW) in 1902.¹¹² Lower rates of pay and inferior working conditions made the Poor Law Service an

unappealing career choice.¹¹³ Probationers in voluntary hospitals performed a great deal of manual labour, but the menial work expected of Poor Law nurses was at odds with an increasingly status-conscious profession.¹¹⁴ Although, as we have seen in Chapter 5, conditions in some newer infirmaries were improving, Poor Law medical infrastructure was still largely adapted from workhouses and remained several decades behind equivalent facilities available in voluntary hospitals.¹¹⁵ The DCSPW concluded that many nurses who trained in voluntary hospitals would have viewed such appointments as a step down from the facilities and professional status to which they were accustomed.¹¹⁶ Poor Law nursing offered greater opportunities to become thoroughly acquainted with the symptoms and treatment of venereal diseases, but many trained nurses were deterred from taking up available posts in workhouses and infirmaries.

As in the voluntary hospitals, many nurses were thought to be deterred from nursing chronic conditions, especially venereal diseases, because they were highly infectious and stigmatising. Miss Garrett, matron of the women's lock hospital, claimed to have little difficulty appointing hospital-trained nursing staff. However, she believed that many young probationers, fearful of infection and social stigma, sought training elsewhere. The word 'lock' had proven 'a great hindrance' to the attraction of probationers and patients alike, so the hospital was renamed the Hospital for Women and Children.¹¹⁷ Sequeira had made similar observations about nurses at the London Hospital. But whereas he encouraged what he saw as 'a very wholesome fear', Garrett attributed such aversion to ignorance.¹¹⁸ Her trained nurses, fully aware of the dangers of infection, but also able to employ effective methods of protection, were far less squeamish. Her testimony seemed to reinforce Willey's assertions that nurses could not be equipped, mentally or practically, to care for venereal cases without adequate training. Although Sequeira encouraged nurses to fear venereal diseases, without theoretical and practical instruction, this could become yet another barrier to effective nursing.

Nurses encountered far greater numbers of venereal cases in Poor Law infirmaries and workhouses, but many were thought to be nonetheless ambivalent about treating these cases. As we have seen in Chapter 5, patients with syphilis and gonorrhoea were segregated often in isolation or foul wards. Some unions that retained female paupers or male attendants as auxiliary nursing staff appear to have delegated the care of patients in these wards. The male lock ward at the Great Yarmouth Union, for example, was housed in a separate building and staffed by

male attendants.¹¹⁹ Although the LGB prohibited boards of guardians after 1897 from employing such auxiliary staff as nurses, many unions retained pauper women informally to undertake various nursing duties. In 1902, 222 paupers continued to nurse fellow inmates in the union workhouses of Gloucestershire, Herefordshire, Somerset, Staffordshire, Wiltshire and Worcestershire.¹²⁰ Even if a union employed a qualified nurse, her workload was often so great that she would have been reliant upon untrained assistants.¹²¹ Poor Law nurses would have observed a wide variety of venereal cases but they may not have had direct responsibility for the day-to-day management of these patients in unions that retained untrained auxiliary nursing staff.

Poor Law nurses also had to contend with matrons who lacked medical training, but who could nonetheless overrule them on matters of nursing practice.¹²² In 1890 only ten of twenty-four metropolitan infirmaries had appointed a medically trained matron.¹²³ Such problems were even more pronounced in provincial and country unions and persisted into the early twentieth century. For example, in 1902, the Port Sanitary and Hospitals Committee in Liverpool advertised the post of assistant matron at the Infectious Diseases Hospital. Applicants needed experience in housekeeping and the management of servants, but the advertisement said nothing about nursing qualifications.¹²⁴ Repeated calls were made for Poor Law unions to appoint qualified matrons or superintendent nurses, who would neither regard with suspicion nor attempt to undermine the work of hospital-trained nurses.¹²⁵

But the absence of trained matrons and superintendent nurses did more than just hinder the performance of nursing duties. It also meant a lack of proper supervision and instruction. Many nurses completed their training in voluntary hospitals without a working knowledge of venereal diseases. Those who then moved into the Poor Law Service would have been ill-equipped, at least initially, to recognise and care for the many cases of syphilis and gonorrhoea they encountered. For example the *BMJ* reported in 1894 that the qualified nurse recently employed by the Plymouth Union to oversee its workhouse's male wards was wholly unaccustomed to the requirements of Poor Law nursing.¹²⁶ The only other nurse had 'long experience' but was untrained. Without a matron who was trained and experienced in both Poor Law nursing and the care of venereally diseased patients, inexperienced nurses would have had to call upon the received wisdom and traditional healing practices of untrained pauper women, or acquire piecemeal knowledge for themselves. Under such circumstances a nurse's only

recourse would have been to nursing manuals and Poor Law medical officers. But as we have seen, nursing manuals would not necessarily contain information about syphilis or gonorrhoea. Moreover, the DCSPW found that many medical officers were overworked or inattentive, and not in a position to provide adequate practical instruction to nursing staff.¹²⁷

Unable to find a sufficient supply of nursing staff, the LGB, with financial support from Louisa Twining's Association for Promoting Trained Nurses in Workhouse Infirmaries, began authorising the establishment of Poor Law training schools from the late 1870s.¹²⁸ However, the quantity and quality of this training was even less regulated than in the voluntary hospitals. The DCSPW found that there was no clear understanding of what constituted a nursing training school in the Poor Law Service. Neither had any thorough assessment been made of existing provisions for probationers' training.¹²⁹ The DCSPW therefore recommended the establishment of 'minor' and 'major' training schools, the latter modelled on the three-year system employed by most voluntary hospitals.¹³⁰ Although a standardised system of training was not employed until after the First World War, these recommendations were part of wider concerns for ensuring a basic level of practical and theoretical knowledge among Poor Law nurses.

In her testimony before the Select Committee on the Registration of Nurses in 1904, Hughes advocated that the Poor Law Service become a key channel for nursing training, believing that it provided probationers important opportunities to nurse chronic and infectious cases that they would not encounter in the voluntary hospitals.¹³¹ In 1902, 925 probationers were in training in provincial Poor Law institutions and over 500 in metropolitan infirmaries.¹³² Surviving syllabi from the Portsmouth Workhouse Infirmary show that probationers were taught to administer mercury and to monitor its effects upon patients.¹³³ Likewise, the Fulham Infirmary's twenty-one probationers would have assisted in the care and observation of patients, including the infirmary's many venereal cases, under the supervision of C. Thackeray Parsons, his assistant medical officers and the infirmary's twenty-five qualified nurses. Nursing staff at the infirmary would have overseen the management of the venereal cases and been responsible for the observation of patients receiving combination salvarsan-mercury treatment.

However, as in the outpatient departments of voluntary hospitals, the workload in Poor Law institutions would have severely restricted structured nursing training. Before the turn of the century, the Poor Law Service

employed only one in every fourteen qualified nurses, since many unions preferred to economise and employ cheaper, unskilled labour.¹³⁴ The Fulham Infirmary, with its forty-six nurses and probationers, was among only a handful of Poor Law institutions with adequate numbers of nursing staff. On average, one Poor Law nurse or probationer was responsible for twenty patients. In some unions it could be as many as ninety patients.¹³⁵ This compared unfavourably to most voluntary hospitals, where the average patient-to-nurse ratio on the wards was three to one.¹³⁶ Those trained and employed in the Poor Law Service encountered many more cases of venereal diseases than their counterparts in voluntary hospitals. However, facilities in Poor Law institutions were still generally inadequate and systems of nursing training had not fully developed. Under such conditions it is probable that many probationers and nurses acquired practical knowledge by virtue of the great numbers of venereal cases they encountered, rather than systematised instruction given on these cases.

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Surviving sources contain many contradictions about the state of nursing training and, specifically, nurses' practical and theoretical knowledge of venereal diseases. Not easily reconciled are the notions that nurses were both unaware that they were caring for venereal cases and fostering considerable aversion to providing such care. Some nurses received information about venereal diseases, either from doctors or fellow nurses. Some also developed their knowledge by reading nursing manuals. But many others were thought to be working in complete or partial ignorance. Knowledge of venereal diseases was withheld in lectures and during ward work. The entire subject was often 'veiled'. These inconsistencies are themselves interesting because they reveal fundamental tensions that surrounded the acceptable parameters of nursing knowledge and practice.

Tensions between developing theoretical and practical knowledge on the one hand, and the cultivation of moral character on the other, are nowhere better illustrated than in the care of patients with syphilis and gonorrhoea. These tensions were the product of a fundamental disagreement over the nature of nursing, as well as the boundaries between nursing and medical practice.¹³⁷ Was nursing a profession based upon scientific principles and technical training or a vocation based upon codes of middle-class gentility and virtue? In either case the study of venereal diseases was problematic. If nursing were a scientific discipline, the study of venereal diseases would equip nurses with the ability to assume diagnostic and therapeutic responsibilities reserved for doctors. On the other hand, if nursing were a

vocation, the study of venereal diseases would challenge a nurse's 'natural sense of purity' through the acquisition of knowledge otherwise withheld from respectable women.¹³⁸ As we shall see in the next chapter, midwifery training and practice were shaped by similar tensions and debates over the suitability of specific knowledge claims and skills. Focusing on the case study of ophthalmia neonatorum, Chapter 7 reveals how midwives negotiated the professional boundaries between midwifery and medical practice and how they sought to carve out a clearly defined sphere of knowledge and practice.

NOTES

1. Royal Commission on Venereal Diseases, PP 1913–16 Cd 7475 (Appendix to First Report of the Commissioners, Minutes of Evidence), qq. 8952–56 (henceforth, Royal Commission on Venereal Diseases, Appendix to First Report, Cd 7475).
2. Ibid.
3. Important exceptions are Rosemary Weir, 'Medical and Nursing Education in the Nineteenth Century: Comparisons and Comments', *International History of Nursing Journal* (2000): 42–47; Anne M. Rafferty, *Politics of Nursing Knowledge* (London: Routledge, 1996); Ann Bradshaw, *The Nurse Apprentice, 1860–1977* (Aldershot: Ashgate, 2001); Pamela J. Wood, 'Supporting or Sabotaging the Surgeon's Efforts: Portrayals of the Surgical Nurse's Role in Preventing Wound Sepsis, 1895–1925', *Journal of Clinical Nursing* (2009): 2739–46.
4. Sue Hawkins, *Nursing and Women's Labour in the Nineteenth Century: The Quest for Independence* (London: Routledge, 2010), 13.
5. Rosemary White, *Social Change and the Development of the Nursing Profession: A Study of the Poor Law Nursing Service, 1848–1948* (London: Henry Kimpton, 1978), 62; Michael Worboys, *Spreading Germs: Disease Theories and Medical Practice in Britain, 1865–1900* (Cambridge: Cambridge University Press, 2000), 150–92.
6. The registration debate revolved around the question of a standardised and centralised system of nursing training, along with a central register of all qualified nurses in Britain. Fundamental to this debate were conflicting views of what the nursing profession actually was. Pro-registrationists, led by Ethel Gordon Fenwick, sought to raise the professional status of nursing by establishing its more scientific foundations and technical practices. Anti-registrationists, such as Eva Lückes, feared that such changes would undermine the vocational ethos of nursing. For discussion of this debate see Bradshaw, *The Nurse Apprentice*, 54–81.

7. The Nurses' Registration Act provided for the establishment of the General Council of Nurses. The Council would oversee the training, examination and registration of all qualified nurses in England and Wales. See Nurses Registration. A Bill to Provide for the State Registration of Nurses PP 1919 II.463; Ethel Gordon Fenwick, 'The Nurses' Registration Act', *British Journal of Nursing* (10 January 1920), 20–22.
8. Royal Commission on Venereal Diseases, Appendix to First Report, Cd 7475, q. 11612.
9. Florence Willey, 'Instruction to Nurses in Regard to Some Aspects of Venereal Disease', *British Journal of Nursing* (27 January 1912), 62.
10. *Ibid.*, 63.
11. Royal Commission on Venereal Diseases, PP 1913–16 Cd 8190 (Appendix to Final Report of the Commissioners, Minutes of Evidence), q. 13760 (henceforth, Royal Commission on Venereal Diseases, Appendix to Final Report, Cd 8190).
12. Isla Stewart, 'The Education of Nurses', *British Journal of Nursing* (20 August 1904), 149.
13. Catherine Wood, *A Handbook of Nursing for the Home and the Hospital* (London: Cassell, Petter and Galpin, 1878), 263.
14. Christopher Maggs has compared the recruitment of nurses between 1881 and 1921 at the Manchester Royal Infirmary, the London Hospital, Leeds Poor Law Infirmary and Portsmouth Poor Law Infirmary. He found that the majority of probationers at all four training schools came from domestic service, trade or lower-status nursing jobs. See Christopher Maggs, *The Origins of General Nursing* (London: Croom Helm, 1983), 63–83.
15. 'Lady probationers' or 'specials' were part of a two-tiered system of nursing training, which differentiated between working-class and middle-class probationers. In some hospitals, such as St George's Hospital and the Nightingale School at St Thomas's Hospital, 'ordinary probationers' received board, lodgings and a nominal wage during their training. 'Lady probationers' were taken from the better-educated middle classes and would pay fees upwards of £30 for their training. See, Rachel Williams and Alice Fisher, *Hints for Hospital Nurses* (Edinburgh: Maclachlan and Stewart, 1877), 2–3; Geoffrey Yeo, *Nursing at Bart's: A History of Nursing Service and Nurse Education at St Bartholomew's Hospital* (London: St Bartholomew's Hospital, 1995), 39–41; Jane Brooks, 'Structured by Class, Bound by Gender: Nursing and Special Probationer Schemes, 1860–1939', *International History of Nursing Journal* (2001), 13–19; Hawkins, *Nursing and Women's Labour in the Nineteenth Century*, 56–60; Bradshaw, *The Nurse Apprentice*, 14–15.

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22. Mollett, 'Purity', 54.
23. See, for example, Laurence Humphry, *A Manual of Nursing: Medical and Surgical* (London: Charles Griffin and Co., 1889); Percy G. Lewis, *Nursing: Its Theory and Practice, Being a Complete Textbook of Medical, Surgical and Monthly Nursing* (London: The Scientific Press, 1890); James Anderson, *Medical Nursing: Notes of Lectures Given to the Probationers at the London Hospital* (London: H.K. Lewis, 1894); Charles Cullingworth, *A Manual of Nursing, Medical and Surgical* (London: J. and A. Churchill, 1889).
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108. Wise, *A Textbook for Training Schools for Nurses*, 206.

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112. See, for example, Anon., 'Vacant Appointments, Wanted &c.', *The Nursing Record* (18 January 1902), i–iii; Departmental Committee on Nursing the Sick Poor in Workhouses. Part II: Appendix and Index to Evidence, PP 1902 XXXIX.457 Cd 1367, Appendix I, 148–50 (henceforth, Departmental Committee on Workhouse Nursing: Part II).
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 132. Departmental Committee on Workhouse Nursing: Part II, Appendix V, 158; Appendix VII, 163.
 133. *Ibid.*, Appendix XXVI, 208.
 134. White, *Social Change and the Development of the Nursing Profession*.
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Midwifery and Ophthalmia Neonatorum

In September 1912 Dora gave birth at home to a daughter while under the domiciliary care of Christina Sutherland, a midwife from a maternity home in Chelsea. A conjunctival discharge was observed three days later. The child had developed ophthalmia neonatorum. Dora thought initially that ‘baby had got a cold’ and so bathed its eyes with cold tea. But the infant’s eyes did not improve. In contravention of the rules of the Central Midwives Board (CMB), Sutherland did not advise the family to obtain immediate medical assistance. Neither did she notify the Local Supervising Authority (LSA), which was responsible for monitoring practising midwives and ensuring they adhered to the regulations of the CMB. She instead treated the infant’s eyes with mercury chloride and silver nitrate. But she did not record this in her register of cases, as required under the CMB’s rules. The latter solution was prepared by chopping off a section of tablet into a ‘small drop of water’. Mary Pilliet, inspector of midwives for London County Council (LCC), criticised this imprecise method because midwives needed to know the concentrated strength of any therapeutic

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agent they administered. Sutherland compounded her breach of the regulations by delegating the administration of treatment to a pupil midwife, whom she instructed to apply a solution of boracic acid every half hour. William Evans, a local doctor, was eventually summoned by the maternity home two days after the symptoms had appeared. Evans examined the infant's eyes, which 'were sticking together and on separating them a large amount of purulent secretion exuded.' He applied a 'strong solution' of silver nitrate and instructed Sutherland to continue applying boracic lotion. He called daily for four days to 'paint the conjunctiva'.

In early October the infant was sent to the outpatient department of the Westminster Ophthalmic Hospital where she was treated six times by William Cooper, a house surgeon. Cooper explained that the infant's condition was 'very very serious', necessitating her being brought back daily for treatment. When asked at Sutherland's CMB disciplinary hearing if he considered the infant's condition to be the result of neglect on the part of the midwife, Cooper replied that this had never occurred to him because he encountered so many cases of ophthalmia neonatorum that were 'just as severe'. Sutherland responded plainly to questions about her intentions and the weight on her conscience, noting that 'the discharge was certainly getting better'. The tribunal ordered Sutherland to cease practising. Her name was removed from the Midwives Roll and her certificate was cancelled. Despite the repeated application of various therapeutic agents, the infant's corneas 'sloughed', rendering her permanently blind.¹

Ophthalmia neonatorum was understood in the late-nineteenth and early twentieth centuries to be an infective form of neonatal conjunctivitis, which was 'easily and at once recognised by the redness, swelling, and heat of the eyelids, and by the discharge of yellowish-white matter from the eye.'² It was attributed to the 'inoculation' of a baby's eyes with infective secretion conveyed to the conjunctival sac before, during or immediately after birth.³ Symptoms appeared within two to three days. If untreated or incorrectly treated, ophthalmia neonatorum often resulted in partial or complete blindness through ulceration and scarring of the cornea.

The *gonococcus*, *chlamydia trachomatis*, *staphylococcus aureus* and *streptococcus pneumoniae* are now understood to be the commonest causative microorganisms of ophthalmia neonatorum.⁴ At the turn of the twentieth century, doctors also understood that ophthalmia neonatorum was caused by one of several different micrococci. But they identified the *gonococcus* as the most common and degenerative, producing up to two-thirds of

cases. Cases with a clear gonorrhoeal aetiology were subjects primarily of obstetric and ophthalmic, rather than venereological, study. Ophthalmia neonatorum was caused by several different micrococci, but the collection of resulting physical symptoms continued to be classified as a single condition.

Doctors agreed that ophthalmia neonatorum was sufficiently common and serious to warrant ongoing attention. The BMA estimated that ophthalmia neonatorum accounted for at least ten per cent of all cases of blindness.⁵ Although not a life-threatening condition, it nonetheless represented a serious risk to public health and national efficiency. Tragically, the harm caused by ophthalmia neonatorum was entirely preventable through adherence to simple sanitary procedures. The BMA appointed a subcommittee in 1908 to investigate the prevalence, prevention and treatment of ophthalmia neonatorum. It concluded that, rather than any fundamental flaw in the forms of prescribed prophylaxis and treatment, the prevalence of ophthalmia neonatorum indicated that 'somebody is to blame, be it the medical practitioner or midwife'.⁶ In 1911, in response to the number of cases coming to their attention, the CMB's annual report also recommended that greater effort be made to correct the 'ignorance and carelessness which so frequently lead to the total destruction of the infant's eyesight'.⁷ Doctors understood the serious consequences for afflicted children, as well as the long-term social and public health costs of preventable blindness. This, combined with doctors' firm belief in the effectiveness of preventative and therapeutic measures and a need to educate medical professionals employing these measures, meant that ophthalmia neonatorum became an ongoing subject of discussion during the first decade of the twentieth century.⁸

In 1902 the Midwives Act was passed, leading to the establishment of the CMB, the first organisation with responsibility for the centralised training of midwives. It was controlled principally by members of the medical profession. After a three-month course at an approved training school, midwifery candidates were required to demonstrate their acquisition of an established body of practical and theoretical knowledge by sitting oral and written examinations.⁹ Candidates sitting the CMB's examinations came from a variety of social and professional backgrounds. Some were working-class or middle-class nursing probationers, studying for a certificate in midwifery as part of their wider course of nursing training. Others were lay women seeking the CMB's qualification, perhaps after having practiced as *bona fide* midwives.¹⁰

Various manifestations of venereal diseases have been addressed throughout this book. This chapter, however, charts how knowledge developed around one specific condition. Little is known of the process of knowledge dissemination among midwives or the development and application of practical skills pertaining to specific conditions, such as gonorrhoeal ophthalmia neonatorum. This condition provides a lens through which to examine early twentieth-century debate on the role of the *gonococcus* in the transmission of infection, the continued privileging of empirical diagnostic practices over bacteriological testing and the effectiveness of different non-specific treatments. This case study draws attention to the prescribed limitations of midwives' practical and theoretical knowledge and highlights the professional tension that existed between them and doctors. Ophthalmia neonatorum was believed to be most prevalent among the working classes—those most likely to employ the services of a midwife rather than a doctor. General practitioners, more so than specialists, saw themselves as having a stake in the diagnosis and treatment of this condition and were therefore threatened by the perceived encroachment of midwives into their professional territory.

Of the many neonatal conditions addressed by the CMB, few received more attention than ophthalmia neonatorum. In comparison to congenital syphilis, which was treated primarily by doctors, ophthalmia neonatorum figured prominently in instructional midwifery texts and the CMB's official publications. Midwives were required to take an active role in these cases. Although rates of infection were thought to be lower than other neonatal complications, the preventability of this condition and the integral role of midwives in its prevention made it a subject of ongoing discussion. Yet there was little consensus about the appropriate limitations of a midwife's role in the prevention and treatment of ophthalmia neonatorum.¹¹ Should midwives have a thorough theoretical knowledge of ophthalmia neonatorum and be allowed to administer treatment following the onset of infection? Or should they receive only basic theoretical knowledge and be restricted to the prophylactic, non-invasive cleansing of an infant's face?

Discussion of ophthalmia neonatorum appeared with increasing frequency in medical literature from the 1890s onwards. The 1889 report of the Royal Commission on the Blind, the Deaf and Dumb (RCBDD) found that in continental hospitals simply cleansing infants' eyes after birth had significantly reduced the prevalence of ophthalmia. It praised the development of the Credé method, which involved administering a two per cent

solution of silver nitrate.¹² At the Tenth International Medical Congress held in Berlin in 1890, Karl Grossmann, the first ophthalmic surgeon to the Liverpool Stanley Hospital, spoke on ‘the prophylaxis of blennorrhoea in infants’ and recommended that midwives be properly instructed regarding symptoms and treatment.¹³ The Select Committee on Midwives’ Registration in 1892 was the first official inquiry to address in detail the limitations and responsibilities of English midwives caring for infants with ophthalmia neonatorum.¹⁴ In 1897 the LGB issued a memorandum requiring MOHs to circulate information about ophthalmia neonatorum to midwives.¹⁵ The following year, the London Obstetrical Society also required that midwives holding its certificate cleanse the child’s eyes carefully and apply corrosive sublimate solution.¹⁶ These inquiries, meetings and directives foreshadowed many of the ideas that were to inform midwifery and medical practice in the early twentieth century. However, with the exception of these few sources, there is little material from which to determine how midwives understood and cared for cases of ophthalmia neonatorum in day-to-day practice prior to the establishment of the CMB.

The first decade of the twentieth century saw the appointment of official inquiries and a flurry of publications on ophthalmia neonatorum, as well as the state of midwifery training and practice more broadly. In 1914 ophthalmia neonatorum became the first notifiable venereal condition. This marked a change in the way that medical professionals monitored and conceptualised ophthalmia neonatorum within wider debates over midwifery practice, maternal care, child welfare and public health policy.¹⁷ But to understand how midwives and doctors were taught about this condition and how such training influenced their day-to-day practice we must turn to official reports, professional publications, penal records and patient case notes.

MIDWIFERY TRAINING AND PRACTICE

Prior to the establishment of a centralised examination system under the auspices of the CMB, a small number of women were awarded certificates of qualification from lying-in hospitals. The majority probably received instruction through informal and undocumented apprenticeships under more experienced women, practising midwifery only on a casual basis to supplement other sources of income.¹⁸ In the absence of archival material, it is difficult to determine what such women might have known about ophthalmia neonatorum or how they would have acquired and implemented

their knowledge. The supervisory structures implemented by the CMB demonstrated a desire to exercise greater control over midwifery practice and dissociate it from these older, unregulated practices.

Considerable emphasis was placed upon ophthalmia neonatorum in midwifery training. The Departmental Committee appointed in 1909 to consider the working of the Midwives Act (DCMA) recommended that 'special attention' be given to it on the curriculum and in the CMB's examinations.¹⁹ Midwives were instructed to douche, cleanse and send for medical assistance, regardless of the micrococcal origins of any suspicious vaginal or conjunctival discharge. CMB regulations required that 'as soon as the child's head is born and, if possible, before they are opened, its eyelids should be carefully cleansed.'²⁰ For ten days after birth, midwives were obliged to visit the mother and child to monitor for signs of infection.²¹ The DCMA and BMA subcommittee both reiterated the CMB's regulations, calling for midwives to clean infants' faces thoroughly after birth and to send for medical assistance in any case showing even the slightest conjunctival inflammation.²²

Midwives were being taught to perform basic mechanical procedures rather than more complex practices based upon a detailed theoretical understanding of ophthalmia neonatorum. By requiring adherence to procedures, the CMB was better able to regulate and monitor midwifery practice. The Midwives Act facilitated better training and a move towards professionalisation. However, it also provided for a system of supervision and disciplinary action against those who contravened the rules of the CMB.²³ William Japp Sinclair, professor of obstetrics and gynaecology at the University of Manchester and a Privy Council representative to the CMB, applauded the more rigorous training offered under the regulations of the CMB. He supported the new supervisory structures and the CMB's ability to intervene in cases of suspected malpractice. He believed that midwives would no longer be able to endanger infants' eyesight by treating ophthalmia neonatorum without medical supervision.²⁴ Sinclair was one of a small but vocal group of doctors who expressed concern over the rigour of midwifery training and the quality of practice regarding the prevention and care of such cases. In 1903 he lamented in the *BMJ* that, despite the establishment of the CMB,

... every poor woman who cannot afford to employ a doctor must see her infant start life with unnatural tears and conjunctivitis, and she and the

simplest and purest-minded of her female relations must be initiated by an ignorant midwife into the mysterious workings of venereal disease.²⁵

His emotive language and insinuations of secrecy and incompetence among Dickensian Gamp-like midwives were reminiscent of the critical accounts of quackery that appeared in the medical press.²⁶ Midwives would need to adhere to the rules of the CMB to free their practice from these associations. Sinclair was concerned by what he thought to be midwives' inadequate knowledge and potential malpractice. But he also sought to bring them firmly under the authority of the medical profession through increased supervision and intervention. Writing critically in the *BMJ* so soon after the establishment of the CMB was a calculated attempt to reinforce the necessity of this new organisation. His criticism of untrained, unqualified and unregulated midwives was designed to justify the authority of the CMB and, by extension, the authority of doctors over midwives. Just as the medical profession sought to stamp out quackery and assume control over the provision of medical care, so too did it seek to regulate midwives and thereby neutralise them as potential rivals in the medical market place.

As early as 1903, one contributor to *Nursing Notes* reminded readers that it was 'obligatory' for midwives to call upon doctors 'for *everything* that does not come under the category of normal labour'.²⁷ Even before the introduction in 1914 of compulsory notification, the Liverpool health department required that it be advised immediately of any abnormal symptoms in mothers and infants.²⁸ The CMB's 1904 regulations also required that, in abnormal labours, midwives await the arrival of a doctor and 'faithfully carry out his instructions'. Midwives were not thought 'competent' to undertake treatment without supervision.²⁹ The CMB's revised 1907 rules reiterated these rigid instructions.³⁰ Midwives were clearly not intended to make discretionary clinical decisions based upon bodies of ophthalmic, obstetric or venereological knowledge. Rather, they were required to adhere to mandatory preventative procedures.

The CMB's regulations remained a source of concern and frustration for midwives.³¹ Failure on the part of qualified midwives to adhere to regulations for the prevention and notification of ophthalmia neonatorum incurred disciplinary action. In 1907 Mary Sheppard of Birmingham was struck off the Midwives Roll for failing to send for medical help in a case of ophthalmia neonatorum and not notifying the LSA.³² The same disciplinary

measures were the following year imposed upon midwives from Leeds, Newport and Bradford.³³ By 1911 *Nursing Notes* announced that

There will be no more grace accorded to those who neglect to comply with the Rules concerning inflammation of the eyes of the newborn ... After the many warnings, which have been circulated throughout the country ... one would think there was little excuse for ignorance on the matter. Yet among the forty-three women ... to appear before the Board last month, there were ten charges of neglect to call in medical aid for inflammation of the eyes.³⁴

In September 1911 Elizabeth Jones, a midwife from Kent, was also disciplined for neglecting to send for medical assistance. Seeking to demonstrate Jones's ignorance, the inspector of midwives testified before the CMB that Jones 'had ascribed the inflammation to "cold"'.³⁵ Yet disciplinary action was taken only for failure to adhere to the regulations of the CMB. This was indicative of a wider pattern: seventy per cent of disciplinary cases were brought for the contravention of procedure, rather than any limitation of midwifery knowledge. Midwives were disciplined also for neglecting to send for medical assistance.³⁶ The CMB was less concerned about midwives' understanding of the aetiology of ophthalmia neonatorum and more about their ability to follow regulations for prophylaxis and notification. Given the quasi-judicial position of the CMB, such a focus was inevitable. Degrees of attained knowledge could not be reliably quantified, so the CMB instead attended to the policing of what they thought themselves able to prove.

The burden of proof lay with the defendant midwife, while the CMB had only to demonstrate a prima facie case whose basis could be dubious collections of hearsay and coerced testimony.³⁷ No equivalent constraints existed for doctors. For example, Evans declined to appear at Sutherland's disciplinary hearing to account for his own actions in the case of Dora's daughter. Evans's clinical practices did not deviate greatly from those of Sutherland: both administered standard treatments of silver nitrate and boracic acid. But only Sutherland was disciplined because she was found to have contravened the regulations to which midwives were bound; she had assumed diagnostic and therapeutic responsibilities that were the professional territory of doctors. Sutherland was sufficiently knowledgeable of ophthalmia neonatorum to administer silver nitrate and boracic acid. Indeed, when Evans attended the case he continued the treatment she

started. Yet her failure to notify the LSA and surrender control of the case was considered cause for her to be subjected to a disciplinary hearing.

Records of penal cases brought before the CMB are vignettes of the types of problems encountered in the care of children with ophthalmia neonatorum. They reveal important information about the types of professional and disciplinary problems that midwives encountered when caring for infected children. Moreover, they demonstrate significant biases towards protecting the reputations and professional territory of doctors. However, these records are not indicative of most midwifery practice and provide little indication of the extent to which midwives understood ophthalmia neonatorum.³⁸ Declining rates of infection, at least in some urban areas, were probably attributable to increased adherence to regulations rather than any dramatic improvements in knowledge.³⁹ The CMB's regulations required midwives to seek medical assistance in cases of ophthalmia neonatorum. But as late as 1914, witnesses before the RCVD doubted whether midwives possessed enough knowledge to identify such conditions independently.⁴⁰ Although a lack of knowledge of ophthalmia neonatorum contributed to midwives' noncompliance with CMB regulations, the shortcomings of midwifery training were rarely addressed in disciplinary hearings.

It is difficult to determine the knowledge midwives would have been deemed negligent not to possess. They were often held responsible for neonatal complications, even if the attending doctor had diagnosed or treated an infant incorrectly.⁴¹ As evidenced in the case brought against Sarah Harvey in 1910, midwives also had to deal with those unable to pay doctors' fees. CMB-trained midwives were required to introduce a new, scientific brand of healthcare to working-class families. But many families continued to favour traditional healing practices.⁴² Understanding the dangers of untreated ophthalmia neonatorum, Harvey attempted to persuade the parents of an infected infant to seek medical assistance and administer the lotion she provided.

I explained to the mother the seriousness of the complaint and asked her to send the baby to a doctor. She said there was a bill owing ... and that they could not send it until they had the money ... The child was taken on the following Monday morning [but] Mrs Webb did not tell the doctor that her husband would not let her use the lotion that was given for the baby's eyes because he thought it cruel to make it cry. Neither did she say that she used

castor oil instead ... because the grandmother thought castor oil would do them good.⁴³

With the parents having not been prevailed upon to seek medical assistance, Harvey was brought before a disciplinary tribunal.⁴⁴ These tribunals were intended to consolidate the authority and influence of the CMB. They also protected the professional territory of doctors by ensuring that midwives conformed to prescribed forms of practice, implemented correct, 'scientific' procedures and did not attempt to treat conditions such as ophthalmia neonatorum without medical supervision.⁴⁵

Disciplinary hearings provide valuable information about how some midwives thought about ophthalmia neonatorum and their reasons for contravening regulations.⁴⁶ Sutherland and Jones both refrained from seeking medical assistance because they believed the children's eyes to be improving.⁴⁷ Although Jones had been urged by the inspector of midwives to comply 'strictly' with the CMB's instructional material on ophthalmia neonatorum, her actual understanding of the condition remained unclear.⁴⁸ Likewise, in 1913 Mary Ann Baum was disciplined for advising a mother to bathe her infant's eyes with cow's milk and water, despite a special caution by the inspector of midwives.⁴⁹ Baum's recommendation of an unscientific, traditional remedy attracted questioning, but not criticism. She was reprimanded instead for non-compliance with the CMB's regulations.

TRAINING, EXAMINATION AND QUALIFICATION

Midwifery candidates could expect to be examined on the aetiology, prevention and treatment of ophthalmia neonatorum. Yet a training programme weighted towards practical experience and adherence to standardised prophylactic procedures meant that women who, for a variety of reasons, encountered fewer cases of ophthalmia neonatorum were less skilled in identifying symptoms and slower to seek assistance. CMB-trained midwives were required to have 'received a proper course of instruction and training including personal attendance under competent supervision upon at least twenty cases during and after labour'. Specific experience in cases of neonatal complication was not a requirement for qualification.⁵⁰ Sinclair believed that the vast majority of clinical demonstrations offered to pupil midwives were 'normal cases'.⁵¹ For example, of the 12,279 births in Liverpool attended by midwives during 1909,

only 161 infants developed ophthalmia neonatorum, of which only 69 were identified bacteriologically as gonorrhoeal.⁵² Such small numbers suggest that midwifery candidates' exposure to such neonatal complications was limited.⁵³

These rates of infection were low but ophthalmia neonatorum was nonetheless problematic because of the serious consequences for afflicted children. A midwife's lack of practical experience and familiarity with ophthalmia neonatorum might lead to misdiagnosis and a lack of swift treatment, which would have otherwise prevented the deterioration of an infant's eyesight. The BMA subcommittee therefore stressed that 'once the disease has broken out, it is impossible to exaggerate the importance of prompt and efficient curative treatment.'⁵⁴ The preventability of this condition, combined with its serious consequences, made ophthalmia neonatorum a subject of ongoing concern in the training of midwives. In 1909 Sydney Stephenson, chairman of the BMA subcommittee, lamented before the DCMA that midwifery training in ophthalmia neonatorum continued to be 'defective', resulting in preventable infant blindness.⁵⁵ Increasing numbers of midwives were trained and qualified under the auspices of the CMB, but their limited practical and theoretical knowledge of ophthalmia neonatorum remained a subject of concern.

Adherence to procedure took precedence over the discretionary application of theoretical knowledge. Nonetheless, examination questions set by the CMB required midwives to demonstrate basic knowledge of the theory underpinning ophthalmia neonatorum. In April 1908 and June 1910, candidates were asked to describe the causes of ophthalmia neonatorum and the CMB's rules regarding the care of infants' eyes.⁵⁶ Candidates were expected to exhibit a clear understanding of the procedures governing their practice as midwives. However, the model examination response drafted by Augustus Calder, lecturer on midwifery to the LCC and St Mary's Midwifery Training School, also indicates that they were expected to demonstrate a basic theoretical understanding of ophthalmia neonatorum. Calder described it as the result of 'gonorrhoea in the vaginal secretions irritating the conjunctiva' of the newborn.⁵⁷ However, his model response did not necessarily reflect candidates' knowledge. There was a gap between expectation and reality.

The oral dissemination of knowledge is very difficult to chart, as is the extent to which midwives were able to assimilate and apply such knowledge. Some historians have argued that the complex technical language used in midwifery examinations meant that only the more educated candidates

could hope to qualify.⁵⁸ Yet education and familiarity with technical terms did not imply an adequate understanding of the aetiology or transmissibility of ophthalmia neonatorum. Working-class midwives already in practice before the establishment of the CMB would have been less educated than their middle-class counterparts. However, they nonetheless acquired considerable practical knowledge. It is unclear if midwives of *any* educational attainment understood the theory of micrococcal causation. In the absence of surviving examination responses, we cannot know if midwives' understanding of disease causation was limited to the role of vaginal discharge and the visible transferral of that discharge to the infant's eyes.

According to the CMB, candidates failed only if their midwifery practice would endanger the life of lying-in women.⁵⁹ Ophthalmia neonatorum could damage infants' eyesight and represented a drain on the economy through the care and education of the blind. But the condition was not life-threatening and therefore lower standards of training and knowledge appear to have been acceptable.⁶⁰ Limited practical and theoretical knowledge of ophthalmia neonatorum, including prophylaxis and the role of the *gonococcus*, was not a bar to qualification.⁶¹ A midwife's failure to cleanse an infant's eyes and summon medical help in cases of abnormal labour contravened the strict regulations of the CMB and could result in her disbarment. However, these shortcomings would not have prevented her from qualifying in the first place.⁶²

THE *GONOCOCCUS*

Instructional material for midwives included few specific references to ophthalmia neonatorum's gonorrhoeal origins. In 1908 William Draper, medical officer to the Yorkshire School for the Blind and obstetrical officer to the York Dispensary, lectured to an audience of approximately eighty midwives and nurses on ophthalmia neonatorum. According to the account of his lecture published in the *BMJ*,

... the causes, symptoms, and preventative treatment ... having been plainly described, it was pointed out that by far the largest number of cases of blindness caused by this disease occurred in the practices of midwives, and that it was quite in their power to prevent it by adopting proper antiseptic measures.⁶³

It is unclear whether Draper explained that ophthalmia neonatorum was a condition caused by one of several micrococci, including the *gonococcus*. In that same year, E. Stanley Hoare also lectured on the causes, prevention

and treatment of ophthalmia neonatorum, but omitted detailed discussion of micrococcal causation. According to the transcript of his lecture it was

... a contagious disease ... caused by a bad discharge from the mother, which contains *certain virulent germs*, and these get into the child's eyes either during birth, or from carelessness on the part of the nurse in wiping the child's face ... The preventative treatment lies in washing out the vagina before the child is born with reliable antiseptic douches, in attending to the baby's eyes as soon as it is born, and in strict attention to general cleanliness.⁶⁴

Both lecturers emphasised the necessity of carrying out prophylactic procedures stipulated by the CMB. Rather than augmenting theoretical knowledge by discussing causative micrococci, Draper and Hoare criticised the laxity of midwives and encouraged the adoption of more stringent asepsis and antisepsis.

A similar focus on the development of practical skill appeared in leaflets distributed by the CMB and its approved training schools, as well as by local health authorities and MOHs. In 1909 the CMB reported that a leaflet 'adapted for the use of midwives' had been drafted. It called attention to the nature, causes and dangers of ophthalmia neonatorum. Meticulous instructions were also issued for cleansing infants' eyelids. More than 24,000 of these leaflets were distributed to local supervising authorities, nursing associations, training schools and those responsible for the supervision of pupil midwives.⁶⁵ It is difficult to determine how many such instructional leaflets included information about *gonococci*. One surviving leaflet issued by the CMB in 1911 detailed the modes of transmission of ophthalmia neonatorum and emphasised the necessity of seeking immediate medical assistance if the mother suffered from a purulent discharge.⁶⁶ The *gonococcus* was the commonest cause of ophthalmia neonatorum, but aetiological information was omitted in favour of a detailed description of expected midwifery practice. The CMB's 1909 annual report and its 1911 leaflet both emphasised the importance of skill and procedure over theoretical knowledge. This suggests that midwives had access to only a small part of the knowledge circulated among doctors and medical students.

The theoretical component of midwifery training was compulsory and inclusive of the most important aspects of pregnancy and childbirth that midwives would encounter in the course of their practice. However, this training, much like that of nursing probationers, was

neither as comprehensive nor intellectually rigorous as the instruction available to medical students. Fundamental knowledge about the role of micrococci was withheld. Moreover, the information conveyed to them was couched in the simplest and most emotive terms. In her preface to Victoria Bennett's instructional midwifery manual, *Lectures to Practising Midwives*, Mary Scharlieb congratulated Bennett for translating 'scientific truth into homely language'. Had Bennett, a LCC lecturer to midwives, used scientific language, her manual would have been unintelligible to her readers, whom Scharlieb described condescendingly as 'the simplest of minds'.⁶⁷ As in the training of nursing probationers, midwives were being taught to conceptualise and communicate information in the simplest terms.

The language in midwifery manuals was also deliberately emotive to encourage adherence to all procedural precautions.⁶⁸ Such literary devices were predicated upon the assumption that midwives were less receptive to more complex clinical expositions. In a lecture delivered at the Midwives' Institute, F. Claude Evill, assistant house surgeon at Moorfields Eye Hospital, described the swift and terrible course of ophthalmia neonatorum.

Within a very few more hours this watery secretion alters into profuse, yellowish pus. The lids become more and more swollen, and the conjunctiva becomes so thickened that the eyelids everted on themselves, the bleeding crimson mucous surface making them look more like lumps of raw flesh.⁶⁹

Midwifery texts did contain some technical terminology, such as 'secretion' and 'conjunctiva'. However, they did not explain why infants' eyelids became 'everted' to reveal the 'mucous surface'. Neither did they address in detail the chemical compounds used commonly to treat this condition. Authors were selective in their use of scientific language, which was supplemented with emotive and graphic imagery. In addition, midwifery literature placed greater emphasis than material for doctors and medical students upon the social consequences of not adhering to prophylactic regulations.⁷⁰

A clear delineation was being made between the expected knowledge and skill of midwives and the medical profession. That Scharlieb, a respected female doctor and lecturer on midwifery to the Royal Free Hospital, should make such statements about the delineation and dissemination of knowledge suggests that assumptions about scholarly and

clinical aptitude were, as in the case of nurses, based heavily upon professional and educational criteria.⁷¹ Nurses and midwives required a different form of knowledge to that of doctors. The regulations enforced by the CMB ensured that midwives undertook distinct clinical tasks and provided different forms of care.

Nurses, midwives and doctors all exercised observational skill in the prevention and identification of ophthalmia neonatorum. Doctors did so by drawing upon and augmenting a body of medical knowledge that informed diagnostic and therapeutic practice. In contrast, nurses and midwives were trained to look for specific gynaecological and ophthalmic symptoms, but lacked the theoretical knowledge and professional authority to diagnose ailments or prescribe treatments.⁷² In 1908 *Nursing Notes* reminded its readers that midwives were ‘obviously ... not supposed to be able to *diagnose* the presence of venereal disease’—a view with which many doctors, including Florence Willey, agreed.⁷³ Diagnosis was, according to Willey, ‘out of the question’.⁷⁴

Some doctors raised concerns about the confidentiality of cases attended by midwives knowledgeable enough to suspect the presence of gonorrhoea. Yet the limitations placed upon midwives’ knowledge of micrococcal causation were motivated not by a desire to withhold venereological information. As we have seen in Chapter 6, many doctors were uncomfortable about disseminating knowledge to nurses, who were obliged to care for the bodily functions of women *and* men. Such squeamishness does not appear to have been a pressing consideration in the training of midwives, who were responsible only for the care of women and children. Their training furnished them with equally fragmented knowledge of the micrococci accounting for the one-third of conjunctival infections that were non-gonorrhoeal. Such unfamiliarity suggests that lecturers deliberately withheld information that exceeded the basic aetiological knowledge needed by midwives to carry out their duties. The making of diagnoses was traditionally the guarded preserve of qualified doctors. Many doctors, such as Amand Routh, doubted the ability and desirability of midwives possessing ‘special knowledge’ of venereal diseases, akin to that of doctors. Such knowledge might enable them to ‘detect, or at any rate suspect, the presence of a taint’.⁷⁵ Doctors feared that growing numbers of scientifically trained nurses and midwives represented a cheaper and more desirable form of medical care.⁷⁶ Like nurses, midwives who possessed enough knowledge to detect the presence of infection might begin encroaching upon the professional territory of doctors.

It is probable that the acquisition of knowledge by midwives, who cared only for women and young children, was less problematic than the acquisition of such knowledge by nurses, who also cared for working-class men. That midwives received rudimentary knowledge of neonatal venereal symptoms demonstrates that the act of diagnosing venereal diseases, rather than the mere possession of symptomatological knowledge, was problematic. Gonorrhoeal ophthalmia neonatorum might cast aspersions upon an infant's parents. Doctors, who already viewed midwives as professional rivals, deployed rhetorical devices to undermine the latter's authority. They sought to dissuade midwives from speculating upon the aetiology of conjunctival conditions by invoking the disastrous consequences of unfounded imputations. *Nursing Notes* also urged midwives to

... acquaint themselves through textbooks, with all that has been discovered as to its origin, cause, development and ultimate consequences. Having done that it will be advisable to be extremely cautious in deciding whether a case ... is due to venereal disease, and even when convinced one can apply practical measures without giving one's *opinion*. In this way one may often avoid unnecessary mischief making in families.⁷⁷

Deliberate use of the word 'opinion' further emphasised midwives' inability to perform diagnoses. It was not simply a question of protecting families' reputations. Doctors' professional territory also needed protection.

Despite such concerns, a small number of lecturers and authors did address the dangers that syphilis and gonorrhoea posed to mothers, children and attending midwives.⁷⁸ During a 1909 lecture to pupil midwives at Queen Charlotte's Hospital, Stephenson was uncommonly candid when he described how

... two-thirds of all cases ... are of a gonorrhoeal nature, and are due to the presence of a tiny germ, known as the *gonococcus* ... The mother has once been affected with the malady called gonorrhoea, which has undergone imperfect cure, so that these microscopical *gonococci* linger in her genito-urinary passages.⁷⁹

Although candid in his discussion of gonorrhoea, Stephenson also stressed that midwives 'must not run away with the idea that ophthalmia in the baby always implies gonorrhoea in the mother'. He used terms like 'microscopical *gonococci*', but nonetheless assumed his audience to be

unfamiliar with the concept of bacteriological causation and the ‘malady called gonorrhoea’. His lecture highlights significant gaps in midwifery knowledge and training. It also demonstrates the extent to which midwives’ theoretical knowledge was dependent upon the enthusiasm of individual teachers and their conceptions of what constituted suitable knowledge for midwives.

Stephenson was not alone in his candidness. Although Hoare was vague in his 1908 lecture about the bacteriological causes of ophthalmia neonatorum, he identified syphilis as one of the various infections that endangered the health of infants. William Fothergill described the common symptoms of syphilis and gonorrhoea in women and children, justifying his subject matter by claiming that ‘midwives and nurses should know something about ... these disagreeable subjects’ so that they might protect themselves against infection.⁸⁰ In her lectures to midwives, Bennett described ophthalmia neonatorum as ‘an inflammatory condition of the eye, brought about by infection with the *gonococcus*’.⁸¹ Unlike other authors, she focused exclusively upon its gonorrhoeal aetiology without addressing other micrococci.

The concept of bacteriological causation was integrated slowly into the education and diagnostic practices of doctors. But midwifery manuals on the whole included little nuanced information about micrococci or the process of bacteriological testing.⁸² It was sufficient for midwives to know how to identify a purulent discharge and when to seek medical assistance. Doctors sought to preserve their professional territory by withholding from midwives the knowledge of disease aetiology, restricting their ability to diagnose and treat neonatal conditions and requiring them to seek medical intervention in all abnormal labours. In so doing the medical profession, who constituted the majority of the CMB, also sought control over midwifery as a subsidiary branch of medical practice, thereby neutralising midwives as professional rivals.⁸³

If midwives recognised vaginal abnormalities in pregnant women, they could better anticipate conjunctival infection in newborns. However, such observational practices presented diagnostic difficulties when identifying and treating latent gonorrhoea in women and, by extension, preventing ophthalmia neonatorum. Sinclair argued in 1888 that the onset of ophthalmia neonatorum, with its easily recognisable symptoms, was often the first conclusive sign of gonorrhoeal infection in mothers.⁸⁴ Stephenson reiterated this view two decades later, arguing that there was ‘no better evidence of gonorrhoea in the mother than *gonococcal* ophthalmia in the

baby'.⁸⁵ The physical signs of gonorrhoeal infection among women were often so obscure as to undermine the capacity of a doctor or a midwife to anticipate and prevent the development of ophthalmia neonatorum.

This underlines precisely how difficult it was to identify gonorrhoeal infections in women. Little more could be done than continue teaching midwives to look for vaginal discharge in pregnant women as a primary indicator of potential cases of ophthalmia neonatorum.⁸⁶ There were simply no reliable methods for detecting latent cases of gonorrhoea. In his lecture at Queen Charlotte's Hospital, Stephenson reminded pupil midwives that they would seldom find symptoms of gonorrhoea among mothers whose newborns developed ophthalmia neonatorum.⁸⁷ For example, in Whitechapel in 1913 Frances gave birth to a son suffering from severe ophthalmia neonatorum. She had no known vaginal discharge.⁸⁸ These problems were also exacerbated by prevailing uncertainty about the aetiology, symptomatology and seriousness of gonorrhoea among women.⁸⁹ Some doctors conceded that gonorrhoeal ophthalmia could be contracted from mothers who demonstrated no discernible symptoms. However, the prevalence and diagnostic problems of latent gonorrhoea were rarely linked to ophthalmia neonatorum. That midwives were required to send for medical assistance only in cases of observable parturient abnormality meant that many cases of ophthalmia neonatorum went undetected before the onset of symptoms.

Most discussion surrounding ophthalmia neonatorum scrutinised the limitations of midwives' training and practice, but these medical women were occasionally more skilled than doctors in dealing with this condition.⁹⁰ Although Stephenson believed that younger generations of doctors were better trained in diagnosing and treating infected mothers and children, he conceded that 'far too many' cases of ophthalmia neonatorum still occurred among children delivered by doctors.⁹¹

Medical men ... are now and then responsible for delaying a resort to skilled treatment ... On several occasions have I been informed that a practitioner has prescribed breast milk, or some more or less inefficient lotion, for a grave case of gonococcal ophthalmia.⁹²

Reliance on more traditional remedies was indicative of generational divides in medical knowledge. These doctors were not conceptualising ophthalmia neonatorum as a venereal condition, but merely as a mild conjunctival irritation. The enactment of the 1886 Medical Act made their

study of midwifery a prerequisite to qualification. In 1889 the RCBDD heard optimistic testimony that all ‘properly qualified’ doctors were now fully aware of the required treatments for infantile ophthalmia, as well as the dangers of untreated cases.⁹³ But such developments in doctors’ knowledge had not permeated day-to-day clinical practice as quickly as this testimony suggested.

The quality of education and practice among medical students received comparatively little attention in debates surrounding ophthalmia neonatorum. The absence of a centralised educational programme akin to that implemented by the CMB makes it difficult to determine how medical students were taught. Although cases of neonatal conjunctival infection appeared frequently in maternity records, such as those of St Bartholomew’s Hospital, they were rarely diagnosed as ‘ophthalmia neonatorum’. Children’s eyes were instead described as ‘bad’, ‘running’, ‘slightly inflamed’ or ‘a little red’.⁹⁴ The attending clinical clerks and accoucheurs possessed more comprehensive theoretical knowledge than most midwives. But the use of such vague diagnostic language suggests a limited practical ability to distinguish between symptoms of genuine ophthalmia and simple conjunctival irritation. In his testimony before the Select Committee on Midwives’ Registration in 1892, Robert Rentoul claimed that the predominance of home deliveries had created a shortage of hospital cases from which medical students could augment their practical knowledge.⁹⁵ Sinclair reiterated these concerns over a decade later, when he lamented that most medical students were taught midwifery theoretically, but with limited practical experience.⁹⁶

Concerns over the limitations of medical knowledge partly explain the antagonism towards midwives. Doctors doubted the competency of midwives to deal with cases of ophthalmia neonatorum, but were probably also aware of their own limited clinical abilities. If professional authority were predicated upon the acquisition and implementation of knowledge and skill, then attempts to restrict midwifery knowledge were intended to protect not only the health of mothers and their children but also the livelihoods of doctors, many of whom possessed limited knowledge of ophthalmia neonatorum.

Doctors’ reluctance to expound upon the micrococcal aetiology of ophthalmia neonatorum in their instructions to midwives was prompted not only by a belief that midwives were unable to utilise that knowledge. It also reflected fundamental uncertainties among doctors regarding the nature of the *gonococcus* and its role in the production of conjunctival infection.

As conceded in 1901 by J.B. Lawford, an ophthalmic specialist, medical knowledge of the relationship between gonorrhoea and diseases of the eye was still ‘contained within somewhat narrow limits.’⁹⁷ By the end of the nineteenth century, most medical students were learning the rudiments of bacteriology but there was still much uncertainty over the role of the *gonococcus* in the transmission of infection.⁹⁸

Although the *gonococcus* appeared to cause the most common and serious form of ophthalmia neonatorum, it was only one of several microorganisms believed to produce conjunctival irritation.⁹⁹ In his 1896 treatise, Alexander Abbott identified *staphylococcus* as the most frequent cause of acute suppurative inflammation but gave only cursory attention to the *gonococcus*.¹⁰⁰ Throughout the 1890s accoucheurs and external midwifery clerks of St Bartholomew’s Midwifery Department collected intrauterine cultures from midwifery patients. These samples were found often to contain *staphylococci* and *streptococci*.¹⁰¹ By the early 1900s, bacteriological textbooks were beginning to link the presence of the *gonococcus* to the presence of the *streptococcus* and *staphylococcus* in samples of vaginal and conjunctival discharge.¹⁰²

Stephenson testified before the DCMA that ‘ophthalmia neonatorum’ was a generic term denoting conjunctival inflammation most commonly caused by the *gonococcus*.¹⁰³ Walter H.H. Jessop, senior ophthalmic surgeon to St Bartholomew’s Hospital, went further, describing it as ‘a bad term’. He believed the actual condition to be ‘purulent conjunctivitis’, which ought to be divided into gonococcal and non-gonococcal categories.¹⁰⁴ But how could a case be diagnosed confidently as gonorrhoeal if other micrococci known to cause conjunctival irritation were also present in a bacteriological sample?

Doctors’ reluctance to accept the bacteriological specificity of the *gonococcus* was attributable in part to difficulties in culturing and distinguishing it from other micrococci.¹⁰⁵ Stephenson argued that bacteriological testing might fail in some cases to identify any causative microorganisms at all.

Everybody who has devoted attention to the bacteriology of ophthalmia neonatorum has failed to find pathogenic microorganisms in a certain proportion of the cases ... It is possible that in some cases of ophthalmia described as amicrobic a more skilful investigation would have given positive results.¹⁰⁶

The advent of laboratory-based bacteriological diagnosis meant that nosology shifted from a system based primarily upon observable symptoms and individual experiences of illness towards a new understanding

that different diseases were caused by specific types of bacteria.¹⁰⁷ The persistent generic classification of neonatal conjunctival infection under the broad term ‘ophthalmia neonatorum’ was not simply a convenient terminological grouping of aetiologically distinct ophthalmic conditions. It also reflected the limited use of bacteriological testing in the diagnostic process, as well as prevailing uncertainty about the aetiological role of the *gonococcus*.

BACTERIOLOGICAL EXAMINATIONS

The adoption of bacteriological examinations for the *gonococcus* in cases of suspected ophthalmia neonatorum was slow. As Michael Worboys has demonstrated, acceptance of a new aetiology of gonorrhoeal infection based upon the bacteriological identification of the *gonococcus* was a slow, contested process. Questions of aetiology were not resolved satisfactorily during the nineteenth century. Moreover, clinical thought and practice during the early twentieth century continued to be influenced by older, empirical ideas.¹⁰⁸ With only a few exceptions, historians have overlooked the complex relationship between bacteriology and the diagnosis and treatment of gonorrhoeal conditions such as ophthalmia neonatorum.¹⁰⁹ Albert Neisser identified the *gonococcus* in 1879 but English doctors were slow to acquire the up-to-date knowledge, skills and laboratory facilities necessary to perform gram staining, interpret the results of bacteriological tests and implement treatment based upon those results. In 1891, George Bantock, an eminent gynaecologist, complained in the *BMJ* that the test for the *gonococcus* was so delicate and complicated that it was, in practice, ‘of little use’. Doctors should therefore ‘fall back on rigid clinical observation to arrive at definite and exact results’.¹¹⁰ As we have seen in Chapter 4, laboratory practice was often used simply to clarify or confirm observational diagnoses.¹¹¹ Diagnostics reliant on the presence of a collection of observable symptoms were not quickly displaced or modified by new understandings of micrococcal causation or developments in bacteriological examination.¹¹²

Arguments for and against the virtue of bacteriological testing were raised repeatedly in the medical literature. Stephenson’s belief in the importance of bacteriological testing in cases of suspected ophthalmia neonatorum was not wholly reflected in the 1909 report of the BMA subcommittee, which advocated bacteriological testing as an ideal practice rather than a diagnostic necessity. The report recommended that

gratis bacteriological examinations of vaginal and conjunctival discharges be undertaken by local sanitary authorities, but also conceded that this recommendation was ‘a counsel of perfection’.¹¹³ These recommendations represented institutional policy and ideal practice. They give little indication of the place of bacteriology in the day-to-day care of infants with ophthalmia neonatorum.

Available midwifery casebooks from the London Hospital’s Marie Celeste Maternity Department indicate that neonatal conjunctival discharges were seldom subjected to bacteriological examination. The Wassermann reaction was performed with increasing frequency from 1909 to diagnose cases of congenital syphilis, but references to bacteriological examination in cases of ophthalmia neonatorum were scarce.¹¹⁴ Of the nineteen inpatient and district cases recorded by midwives between 1906 and 1912, only two mothers were noted as having gonorrhoea and the conjunctival discharge of only one child was identified as gonorrhoeal.¹¹⁵ It is possible that the results of bacteriological tests were not included in the records of midwifery practice because midwives did not participate in this diagnostic process. However, given the frequent use of Wassermann reactions, it is more likely that, because treatment for ophthalmia neonatorum did not vary according to the identification of different causative micrococci, bacteriological examinations were not performed.

Medical attitudes towards bacteriological testing for the *gonococcus* in cases of ophthalmia neonatorum were mixed. While some doctors welcomed these developments, others denounced bacteriological diagnoses as inaccurate and unreliable. However, practicality was the primary objection to bacteriological testing in cases of ophthalmia neonatorum. Doctors often discussed the benefit of knowing the exact aetiological cause of a neonatal conjunctival infection, but such knowledge was of little practical therapeutic value because treatment was predicated upon observable symptoms rather than a specific microorganism. Doctors who espoused the benefits of bacteriological testing in cases of ophthalmia neonatorum did not view it as a diagnostic tool. Rather, it was a means of monitoring the efficacy of treatment and determining the micrococcal aetiology of specific cases.¹¹⁶

Textbooks on bacteriology often noted that ‘*gonococci* may be found in the pus in many cases of purulent ophthalmia’, but the method of obtaining bacteriological specimens in such cases was rarely discussed.¹¹⁷ As John Odery Symes observed, these textbooks were often written for clinical clerks in the performance of their ward work ‘to point out in what cases

bacteriological examination might help in clinical diagnosis.¹¹⁸ The process of bacteriological testing was discussed primarily in terms of vaginal or urethral discharge, suggesting that cases of conjunctival infection were not commonly subjected to, or assisted by, bacteriological examination.

Proper preventative and therapeutic procedures were thought sufficient to save a child's eyesight, regardless of the infection's micrococcal aetiology. In 1890 Sinclair rejected a continuing role for bacteriology in the diagnosis and treatment of most gonorrhoeal conditions because laboratory testing had proven the accuracy and reliability of established clinical practices.¹¹⁹ Bacteriological examination was of little functional value in cases of ophthalmia neonatorum because treatment was not specific to a particular microorganism. More importantly, treatment required swift application following the observation of conjunctival symptoms.

A practitioner should not await the results of a bacteriological examination before adopting efficient treatment ... It is a good working rule to regard every inflamed and discharging eye in a newly born baby as of gonorrhoeal origin until the contrary is proved.¹²⁰

The BMA subcommittee's report concluded that 'once the disease has broken out, it is impossible to exaggerate the importance of prompt and efficient curative treatment'.¹²¹ One particularly explicit account in the *Ophthalmoscope* described how 'symptoms increase in severity with great rapidity, and soon, instead of eyes, there seem to be two enormous abscesses in the sockets from which a continuous stream of pus issues'.¹²² Charles Norris was more measured but also insisted that wherever microscopic examination would lead to a delay, the doctor should proceed with treatment on the assumption of a gonorrhoeal infection.¹²³ A number of doctors echoed this view, having found that the more aggressive and dangerous forms of conjunctival inflammation were 'practically always associated with the *gonococcus*'. Differential bacteriological diagnoses held little value when treatment for conjunctival infections required swift administration and was rarely altered according to the causative micrococci.¹²⁴

Treatment regimens targeted the *gonococcus*, the most virulent form of infection. Such an approach was common at the turn of the twentieth century in the fields of sanitation and curative medicine, with various doctors and public health officials advocating the development of treatments that attacked the most aggressive strains of bacteria.¹²⁵ If a treatment were strong enough to neutralise the *gonococcus*, then it would also be effective

against less virulent strains of infection. Doctors acknowledged that other micrococci might be present in a conjunctival infection, but nonetheless treated that infection by employing a standardised treatment for the most aggressive causative microorganism. This suggests that doctors were simultaneously utilising non-specific therapeutic practices while moving towards a greater understanding of treatment specificity.

THERAPEUTICS AND PROPHYLAXIS

Although doctors debated the most effective treatment for ophthalmia neonatorum, that treatment, once decided upon, did not vary according to the gonorrhoeal or non-gonorrhoeal nature of an infant's condition. The consistency of treatment methods suggests little sense of specificity.¹²⁶ Silver nitrate was the treatment of choice; it was used frequently in cases of ophthalmia neonatorum even before the bacteriological causes of this condition had been agreed upon.¹²⁷ By the turn of the twentieth century, silver nitrate had become the treatment of choice in many cases of 'bad' or 'running' eyes.¹²⁸ Medical students in the extern maternity department of Guy's Hospital were instructed regularly to administer silver nitrate.¹²⁹ Infants with conjunctival irritation also regularly received silver nitrate at the London Hospital. One child had silver nitrate dropped into his eyes because they were 'slightly inflamed by dirt'.¹³⁰ The eyes of another infant became sticky for five days after birth and were treated twice daily by the outpatient sister, who administered silver nitrate and boracic lotion.¹³¹ Although only one case in the Marie Celeste archives was diagnosed as gonorrhoeal, the administration of silver nitrate was common among children suffering from ophthalmia or 'sticky' eyes.¹³²

Treatment was determined by a set of observable conjunctival symptoms rather than any sophisticated understanding of the different bacteriological or environmental causes of those symptoms. The ability to determine the potential dangers and therapeutic values of different chemical solutions was due to the rise of experimentalism and the accumulated clinical experience of individual doctors.¹³³ Although initially an advocate of silver nitrate, Stephenson eventually resorted to this solution only in the most severe cases, preferring instead regular application of 'synthetic preparations of silver'.

I now invariably employ a 25 per cent solution of argyrol to commence with. It is applied to the conjunctiva according to the severity of the symptoms ... by a medical man or nurse skilled in such matters.¹³⁴

His use as a standardised treatment of argyrol, whose dosage was determined by the degree of inflammation and discharge, reflects a model of treatment based upon observable signs of infection, rather than micrococcal causation. Empirical remedies that alleviated the observable symptoms of disease were slowly being replaced by a system of rational therapeutics designed to attack an underlying bacteriological cause.¹³⁵ But at the turn of the twentieth century this shift had not altered the treatment of ophthalmia neonatorum. Doctors had not yet conceived of a treatment regime that targeted specific micrococci. Whether silver nitrate, argyrol, perchloride of mercury or one of several other treatments, the standardised use of a chemical solution to treat all strains of micrococci reflected a traditional reliance upon non-specific treatments. It demonstrated prevailing uncertainty over the nature of disease causation.¹³⁶ The use of such non-specific treatments suggests that doctors were interested less in the micrococcal causes of disease and more in the mitigation of observable symptoms.

The chemical solution most appropriate for treating ophthalmia neonatorum was a subject of ongoing debate among medical professionals.¹³⁷ In 1884 Carl Siegmund Franz Credé, a German gynaecologist, had developed an antiseptic procedure in which a two per cent solution of silver nitrate was dropped into a child's eyes. This divided the English medical profession.¹³⁸ Some disagreed over the most suitable concentration of silver nitrate; the BMA subcommittee's report recommended that doctors use a one per cent solution, since Credé's two per cent concentration produced too much irritation.¹³⁹ Others advocated restricting the use of silver nitrate to certain cases; Edward Treacher Collins, surgeon to the Royal Ophthalmic Hospital Moorfields, recommended that silver nitrate be used only when the mother had a history of leucorrhœal discharge.¹⁴⁰ Elsewhere, its fundamental suitability was questioned, especially in preference to less irritative solutions, such as boracic lotion, protargol or argyrol.¹⁴¹ Too concentrated a dose had potentially dangerous consequences. Jessop recommended that midwives be allowed to administer silver nitrate, but only in the most diluted concentrations.¹⁴² This risk led Stephenson to favour argyrol because it produced little irritation and could, he believed, be administered without danger.¹⁴³ Although some doctors advocated the use of such substitutes, silver nitrate remained the most effective treatment for ophthalmia neonatorum.

The pain and irritation caused to an infant's eyes stimulated debate about whether silver nitrate should be employed as a universal prophylaxis or as a treatment only after the onset of symptoms.¹⁴⁴ Arthur

Newsholme questioned whether it was right to ‘torture ninety nine infants that one may be saved from suffering.’ In reply, F.R. Cross stated that he did not object to the routine use of silver nitrate because he did not believe the experience to be all that unpleasant.¹⁴⁵ Other doctors feared that the indiscriminate use of silver nitrate might result in the misdiagnosis of true cases of ophthalmia as simple conjunctival irritation resulting from routine treatment.¹⁴⁶ However, supporters of Credé’s method believed that complications were the result of poor clinical skill and inadequate experience, rather than any fundamental flaw in the method itself.¹⁴⁷ As we have seen in Chapter 3, disagreements over the most effective mercurial treatments demonstrated prevailing dissatisfaction and uncertainties. Likewise, manifold debate surrounding methods of prophylaxis and treatment in cases of ophthalmia neonatorum revealed limited clinical skill and prevailing uncertainty over the effects of different chemical solutions.

Doctors were also divided over whether midwives were sufficiently knowledgeable and skilled to administer silver nitrate or any other chemical solution. Supporters argued that midwives were well placed to provide prompt prophylactic care and, moreover, were required to do so under the regulations of the CMB. The use of Credé’s method by midwives was in keeping with their other prophylactic responsibilities when cleansing a child’s face immediately after birth. Although Stephenson later altered his estimation of midwives’ capabilities, he believed initially that their administration of silver nitrate was expedient.

Admitting as one is bound to do, that gonorrhoea in women may present in latent form without betraying its existence to ordinary methods of examination, it would be only logical to apply the silver drops in all cases ... Some trustworthy plan of prophylaxis should invariably be adopted among the lower class of women ... [who] produce most of the ophthalmia seen in the hospital outpatient room. I can see no reason against allowing midwives to use ... the 1 per cent solution of silver, provided ... that they have been taught ... If ophthalmia is ever to be extricated, prophylaxis must be confided to midwives, who attend ... a majority of the labours among the very class where precautions should be most rigorously adopted.¹⁴⁸

Because midwives nursed working-class women and children—those persons believed to be most susceptible to gonorrhoeal infection—they were best-placed to administer prophylaxis.¹⁴⁹ *Nursing Notes* argued that the

necessity of immediate treatment meant that midwives should be entrusted with prophylactic measures, including ‘the insertion of a drop of fluid into the eye’: ‘If midwives are to wait till a doctor can be found to diagnose the need for this simple treatment, many an infant’s eyes will certainly be irretrievably damaged in the interval.’¹⁵⁰

Opinions expressed in the medical press and recommendations made in official publications embody the attitudes and expectations of a select few members of the medical profession. They give little indication of the prevalence of prophylactic practices among domiciliary and hospital midwives prior to the First World War. At a meeting of the CMB in 1909, Rosalind Paget, honorary treasurer of the Midwives’ Institute, drew attention to the practice at many lying-in hospitals of using, and of teaching the pupil midwives to use, solutions like silver nitrate as a matter of routine practice.¹⁵¹ Both the British Lying-in Hospital and the General Lying-in Hospital in Lambeth instructed its midwives to cleanse infants’ eyes with cotton wool soaked in a weak solution of perchloride of mercury.¹⁵² At Queen Charlotte’s Hospital, a solution of silver nitrate was dropped into the eyes of each newborn after careful cleansing of its eyelids, under the superintendence of the head midwife.¹⁵³ The district midwifery casebooks of the London Hospital also refer to the regular application of silver nitrate, but it is unclear in most cases whether the attending midwife or doctor administered this treatment.¹⁵⁴ Although not a midwife, the female inspector appointed to the staff of the Liverpool MOH spent a considerable amount of time administering the treatments prescribed by general practitioners and hospital medical staff.¹⁵⁵ In all of these cases, chemical solutions were administered following the development of symptoms. Support among doctors for the administration of silver nitrate by midwives was, however, generally predicated upon the understanding that its use would be strictly prophylactic.

Debate centred upon whether silver nitrate should function as prophylaxis against the onset of ophthalmia neonatorum or as a treatment once symptoms had developed. Had silver nitrate been classified as a treatment, to be administered after the onset of infection, then it would have been therapeutic and fallen within the professional territory of doctors. *Nursing Notes* reminded its readers that the care of infants’ eyes was the responsibility of midwives only until the development of ophthalmic symptoms, after which the case ‘obviously passes beyond the range of a midwife’s capabilities’.¹⁵⁶

Midwives' therapeutic use of silver nitrate was controversial. Following the publication of the BMA subcommittee's report, the CMB considered whether midwives should be allowed to administer 'a weak solution' of silver nitrate to the children of women suffering from vaginal discharge. The ensuing debate revealed significant differences of opinion among board members. Sinclair hovered over the issue. Edward Parker Young believed it inadvisable for midwives to employ antiseptic practices 'under any circumstances'. C.H. Golding Bird and Stanley Atkinson disagreed with Young, arguing instead that, in cases of purulent vaginal discharge in the mother, where special *precautions* were clearly required, a midwife should be allowed to administer chemical solutions to infants' eyes. Although the CMB eventually resolved that 'it would not be advisable to order midwives to drop any fluid into the child's eyes as a matter of routine', they did not explicitly prohibit this practice.¹⁵⁷ Midwives were well placed to administer chemical therapeutics to the mothers and children whom they attended. That debate among doctors addressed only the prophylactic use of silver nitrate implied more than simple distrust of midwives' capabilities. It also revealed great concern for doctors' professional authority and influence. It was not simply a question of developing and promoting effective therapeutic practices, but ensuring that these practices remained the preserve of select groups of medical professionals.

There was increasing support for doctors to assume full responsibility for administering silver nitrate and monitoring its effects upon cases of ophthalmia neonatorum. Those who objected to the use of Credé's method by midwives drew upon a variety of arguments. The apparent difficulty of the procedure and the dangers posed by incorrect doses made the midwife, with her limited knowledge and skill, a poor provider of treatment. Doctors such as Willey feared that midwives' indiscriminate prophylactic use of silver nitrate might result in complacency and overconfidence; they might employ it without fully appreciating the nature or severity of the infant's condition.¹⁵⁸ In their appendix to the BMA subcommittee's report, obstetric physician H. Russell Andrews, and ophthalmic surgeon Arnold Lawson, feared that midwives who administered silver nitrate might mistake irritation and discharge for ophthalmia neonatorum. Worse, they might disregard actual cases of ophthalmia neonatorum as simple irritation.¹⁵⁹ Midwives were deemed a poor choice of caregiver since their strict adherence to regulated practice might result in the unthinking, mechanical application of silver nitrate without consideration for the needs of individual children.

The irritation so produced lulls the midwife into false security, so that when the real disease occurs she thinks that it is only the usual hyperaemia, and neglects to call in a doctor at once.¹⁶⁰

As we have seen in Chapter 6, probationers were urged to develop sensitivity to patients' idiosyncratic responses to treatment. But they received much more rigorous training than most midwives and were under the constant supervision of ward sisters and medical staff. Doctors feared that midwives, especially those lacking nursing training and engaged in domiciliary midwifery practice away from institutional supervision, could not be trusted to exercise such sensitivity and judgement.

Within two years of asserting his support for midwives' therapeutic practices, Stephenson had radically altered his opinion of their ability to administer silver nitrate as either prophylaxis or treatment.¹⁶¹ He stressed that the Credé method was 'a medical question' and should be removed from the professional remit of midwives.¹⁶² Other doctors also emphasised the danger of 'the personage of a trained midwife', who might administer silver nitrate as a 'rule-of-thumb practice, instilled like unalterable dogma at their training'.¹⁶³ In an age of scientific medicine, doctors questioned why chemical solutions should be 'plunged into the eyes with blind ignorance' and imprecision. Midwives were thought to lack the clinical and observational skills necessary to administer treatment without supervision or interpret accurately the diminution or persistence of infection that followed. This was evidenced during the disciplinary hearing of Christina Sutherland, who prepared a solution of silver nitrate by dissolving a tablet in water without first measuring it. Many doctors believed that midwives could not be trusted with dangerous chemical agents that required scientific precision in their preparation and administration.

The diagnosis, study and treatment of gonorrhoeal ophthalmia neonatorum demonstrates how knowledge of venereal diseases could be integrated into associated branches of medicine, such as ophthalmology and obstetrics. This case study reveals how the circulation of venereological knowledge varied among different groups of medical professionals at the turn of the twentieth century. Ophthalmia neonatorum became a contested site of medical intervention as midwives and doctors sought to establish and defend their own spheres of professional authority, knowledge and practice.

Despite the establishment of the CMB and the enforcement of clear regulations governing the training and practice of midwives, their involvement in cases of ophthalmia neonatorum remained a subject of ongoing debate. Some doctors believed that midwives were well placed to provide treatment and should be equipped with the necessary knowledge and skill. Others believed that midwives were simply incapable of employing scientific knowledge and that their accepting greater responsibility would risk the health of the children under their care. Yet some doctors also lacked the knowledge and skill to treat such cases. The tensions between midwifery and medical practice were often provoked by prevailing uncertainties among doctors regarding the gonorrhoeal aetiology of ophthalmia neonatorum, the importance of bacteriological testing and the therapeutic value of different chemical agents. Even if midwives were capable of identifying and treating ophthalmia neonatorum, some doctors viewed this as a threat to the exclusivity and authority of their own professional practice. Limitations placed upon midwifery training were designed not only to protect the health and safety of women and children. They also ensured that midwives could not constitute an alternative source of medical care.

Although midwives were required primarily to possess sound practical knowledge and experience, they were expected also to demonstrate some grasp of the theoretical knowledge that underpinned their professional practice. This included a basic scientific understanding of conditions such as ophthalmia neonatorum. Strict regulations regarding the cleansing of infants' eyes meant that midwives probably understood ophthalmia neonatorum to result from the transferral of infectious matter from the mother to her child during or immediately after birth. However, it is unlikely that most midwives could expound upon the role of the *gonococcus*. Although some lectures and instructional midwifery manuals included information about the micrococcal aetiology of ophthalmia neonatorum, these explanations were not extensive. Midwifery training was regulated by the CMB, but the extent to which knowledge was disseminated appears to have depended greatly upon individual teachers' opinions on what constituted suitable and unsuitable knowledge for midwives.

NOTES

1. National Archives (Kew), Central Midwives Board: Penal Board Case Files DV 5/1049 (henceforth, CMB Penal Board Case Files).

2. British Medical Association, 'Ophthalmia Neonatorum Committee Report', *BMJ* (8 May 1909), 230.
3. Sydney Stephenson, 'On the Duty of the Practitioner in Cases of Ophthalmia Neonatorum', *Lancet* (16 November 1912), 1358.
4. Allen Foster and Volker Klauss, 'Ophthalmia Neonatorum in Developing Countries', *The New England Journal of Medicine* (2 March 1995): 600–01; Sherwine J. Isenberg, Leonard Apt and Mark Wood, 'A Controlled Trial of Povidone-Iodine as Prophylaxis against Ophthalmia Neonatorum', *The New England Journal of Medicine* (2 March 1995): 562–66.
5. British Medical Association, 'Ophthalmia Neonatorum Committee Report', 222.
6. *Ibid.*, 226.
7. Report on the Work of the Central Midwives Board for the Year Ended 31st March, 1910, PP 1911 XXXV.657 Cd 5505, 7.
8. For discussion of the economic burden of blindness caused by ophthalmia neonatorum, see James W. Ballantyne, *Manual of Antenatal Pathology and Hygiene: The Foetus* (Edinburgh: Green, 1902), 52; George Reid, 'Prevention of Blindness from Ophthalmia Neonatorum', *Nursing Notes* (September 1911), 220–22.
9. Returns Showing the Names of Institutions Approved as Training Schools for Midwives by the Central Midwives Board, and the Number of Midwifery Cases Treated by Each During the Twelve Months Previous to the Board's Approval, PP 1906 XCVIII.639 (309); Edith Parker and Shelia Collins, *Learning to Care: A History of Nursing and Midwifery Education at the Royal London Hospital, 1740–1993* (London: Royal London Hospital Archives and Museum, 1998), 112–14.
10. Midwives were categorised commonly as qualified (trained and certified by the CMB) or *bona fide* (untrained but certified by the CMB). Under the rules of the CMB, women who had received certificates from lying-in institutions or the London Obstetrical Society, or were in practice for at least a year before July 1902 were allowed to continue practising midwifery. But records pertaining to midwifery practice in cases of ophthalmia neonatorum rarely distinguished between qualified and *bona fide* midwives, instead treating them as a uniform professional group. In the absence of more detailed records, little distinction can be made between qualified and *bona fide* midwifery practice in cases of ophthalmia neonatorum.
11. Joan Mottram, 'State Control in Local Context: Public Health and Midwife Regulation in Manchester, 1900–1914', Hilary Marland and Anne Marie Rafferty (eds), *Midwives, Society and Childbirth: Debates and Controversies in the Modern Period* (London: Routledge, 1997), 143.

12. Report of the Royal Commission on the Blind, the Deaf and Dumb of the United Kingdom: Report, Minutes of Evidence, Appendices, Index, PP 1889 Cd 5781, xiv–xv (henceforth, Report of the Royal Commission on the Blind, PP 1889 Cd 5781).
13. Special Correspondent, ‘Tenth International Medical Congress’, *BMJ* (9 August 1890), 361.
14. Select Committee on Midwives’ Registration 1892, PP 1892 XIV.1 (289) (Report), qq. 471–74, 1004–05.
15. Anon., ‘Practical Notes for Midwives and Nurses: Infantile Ophthalmia’, *Nursing Notes* (September 1903), 125.
16. John Phillips and Percy Boulton (eds), *Transactions of the Obstetrical Society of London* (London: Longmans, Green, and Co., 1899), 372.
17. G.R. Searle, *The Quest for National Efficiency: A Study in British Politics and Political Thought, 1899–1914* (Berkeley: University of California Press, 1971); Dorothy Porter, *Health, Civilization and the State: A History of Public Health from Ancient to Modern Times* (London: Routledge, 1999), 111–46; John M. Eyler, *Sir Arthur Newsholme and State Medicine 1885–1935* (Cambridge: Cambridge University Press, 1997), 295–337; Alice Reid, ‘Birth Attendants and Midwifery Practice in Early Twentieth-Century Derbyshire’, *Social History of Medicine* (2011), 381–82.
18. Irvine Loudon, *Death in Childbirth: An International Study of Maternal Care and Maternal Mortality, 1800–1950* (Oxford: Clarendon Press, 1992), 174–79.
19. Report of the Departmental Committee to Consider the Working of the Midwives Act, 1902, Vol. I: Report and Appendices, PP 1909 XXXIII.19 Cd 4822, 17 (henceforth, Departmental Committee, Vol. I, Cd 4822).
20. British Medical Association, ‘Ophthalmia Neonatorum Committee Report’, 226.
21. Mottram, ‘State Control in Local Context’, 143; London Hospital Archives, Marie Celeste Maternity Department: Register of District Cases (1906–13) RLH/LM/M/5/60–71 (henceforth, Marie Celeste Register of District Cases).
22. British Medical Association, ‘Ophthalmia Neonatorum Committee Report’, 222; Departmental Committee, Vol. I, Cd 4822, 22.
23. Tania McIntosh, ‘Professional Skill or Domestic Duty? Midwifery in Sheffield, 1881–1936’, *Social History of Medicine* (1998), 418–19; Pamela Dale and Kate Fisher, ‘Implementing the 1902 Midwives Act: Assessing Problems, Developing Services and Creating a New Role for a Variety of Female Practitioners’, *Women’s History Review* (2009): 427–52.

24. William Japp Sinclair, *The Midwives Act 1902 and the Teaching of Midwifery to Students of Medicine: An Address at the Beginning of the Course of Obstetrics at Owen's College, 23 April 1903* (London: Sherratt and Hughes, 1903), 10–13.
25. William Japp Sinclair, 'Ophthalmia Neonatorum', *BMJ* (29 August 1903), 493.
26. Sairey Gamp, the dissolute and sloppy drunkard of Charles Dickens's novel *Martin Chuzzlewit*, attended those who could not afford better medical care. Her name became synonymous with incompetent and care-less nursing practices.
27. Anon., 'The Rules of the Central Midwives Board', *Nursing Notes* (October 1903), 137. Own emphasis. *Nursing Notes* may have been intended for consumption by midwives, but it was nonetheless a mouth-piece for the Midwives' Institute, which articulated the policies and ideal standards of midwifery training and practice advocated on an institutional level by medical elites. See June Hannam, 'Rosalind Paget: The Midwife, the Women's Movement and Reform Before 1914', Hilary Marland and Anne Marie Rafferty (eds), *Midwives, Society and Childbirth: Debates and Controversies in the Modern Period* (London: Routledge, 1997), 81–101.
28. Departmental Committee, Vol. I, Cd 4822, 44.
29. E.L.C. Appel, *How to Become a Certified Midwife* (London: The Scientific Press, 1904), 13.
30. Anon., 'Practical Notes for Practising Midwives', *Nursing Notes* (October 1907), 159.
31. Alice Reid, 'Mrs Killer and Dr Crook: Birth Attendants and Birth Outcomes in Early Twentieth-Century Derbyshire', *Medical History* (2012), 518; Brooke Heagerty, 'Willing Handmaidens of Science: The Struggle Over the New Midwife in Early Twentieth-Century England', Mavis Kirkham and Elizabeth Perkins (eds), *Reflections on Midwifery* (London: Baillière Tindall, 1997), 81.
32. Anon., 'Notices', *Nursing Notes* (January 1908), 11.
33. Anon., 'Central Midwives Board', *Nursing Notes* (August 1908), 159.
34. Anon., 'Ophthalmia Neonatorum', *Nursing Notes* (January 1911), 14.
35. Anon., 'Severely Censured', *Nursing Notes* (September 1911), 226; CMB Penal Board Case Files DV 5/631.
36. Heagerty, 'Willing Handmaidens of Science', 80.
37. Brooke Heagerty, 'Class, Gender and Professionalisation: The Struggle for British Midwifery, 1900–1936' (unpublished PhD thesis, Michigan State University, 1990), 82–96.
38. CMB Penal Board Case Files DV 5.
39. Reid, 'Mrs Killer and Dr Crook', 518–30.

40. Royal Commission on Venereal Diseases, PP 1913–16 Cd 8190 (Appendix to Final Report of the Commissioners, Minutes of Evidence), qq. 13356–68 (henceforth, Royal Commission on Venereal Diseases, Appendix to Final Report, Cd 8190).
41. Heagerty, ‘Class, Gender and Professionalisation’, 88; Reid, ‘Mrs Killer and Dr Crook’, 528–30.
42. Francesca Moore, “‘Go and See Nell, She’ll Put You Right’”: The Wisewoman and Working-Class Healthcare in Early Twentieth-Century Lancashire’, *Social History of Medicine* (2013), 700–01; Reid, ‘Birth Attendants and Midwifery Practice’, 382; Reid, ‘Mrs Killer and Dr Crook’, 517.
43. CMB Penal Board Case Files DV 5/521.
44. Moore, “‘Go and See Nell, She’ll Put You Right’”, 700–01; Reid, ‘Birth Attendants and Midwifery Practice’, 382; Reid, ‘Mrs Killer and Dr Crook’, 517.
45. Heagerty, ‘Class, Gender and Professionalisation’, 92.
46. *Ibid.*, 83.
47. CMB Penal Board Case Files DV 5/631.
48. *Ibid.*
49. CMB Penal Board Case Files DV 5/100.
50. Appel, *How to Become a Certified Midwife*, 6.
51. Report of the Departmental Committee to Consider the Working of the Midwives Act, 1902. Vol. II: Minutes of Evidence and Index, PP 1909 XXXIII.77 Cd 4823, q. 2204 (henceforth, Departmental Committee, Vol. II, Cd 4823).
52. Royal Commission on Venereal Diseases, Appendix to Final Report, Cd 8190, q. 13773.
53. See, for example, London Hospital Archives, Marie Celeste Maternity Department: Register of Inpatients (1905–11) RLH/LM/M/5/12–17 (henceforth, Marie Celeste Register of Inpatients); Marie Celeste Register of District Cases (1906–13) RLH/LM/M/5/60–71; St Bartholomew’s Hospital Archives, St Bartholomew’s Hospital External Midwifery Assistants’ Casebooks (1907–29) SBHB/MR/19/3 (henceforth, St Bartholomew’s External Midwifery Assistants’ Casebooks); London Metropolitan Archives, British Lying-in Hospital (May 1905–April 1908) H14/BMB/B/02/001–2.
54. British Medical Association, ‘Ophthalmia Neonatorum Committee Report’, 222.
55. Departmental Committee, Vol. II, Cd 4823, q. 6060.
56. Anon., ‘Examination Paper (Central Midwives Board), 22 April 1908’, *Nursing Notes* (May 1908), 97; Anon., ‘Central Midwives Board’, *Nursing Notes* (July 1910), 166.

57. Augustus B. Calder, *Questions and Answers on Midwifery for Midwives with Syllabus of Lectures for the Central Midwives Board* (London: Baillière, Tindall and Cox, 1909), 119.
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61. Ibid.
62. Ibid.
63. William Draper and John O. Harvey, 'The Prevention of Ophthalmia Neonatorum', *BMJ* (22 February 1908), 476.
64. E. Stanley Hoare, *Lectures on Midwifery* (London: Scientific Press, 1908). Own emphasis.
65. Report on the Work of the Central Midwives Board, Cd 5505, 7.
66. London Hospital Archives, Papers of Elizabeth Hall, Central Midwives Board: Directions to Midwives (1911) RLH/PP/HAL/2.
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68. Anne Løkke, 'The "Antiseptic" Transformation of Danish Midwives, 1860–1920', Hilary Marland and Anne Marie Rafferty (eds), *Midwives, Society and Childbirth: Debates and Controversies in the Modern Period* (London: Routledge, 1997), 112–15.
69. F. Claude Evill, 'Notes of a Lecture on Ophthalmia Neonatorum', *Nursing Notes* (August 1908), 161.
70. Augustus B. Calder, *Lectures on Midwifery for Junior Students and Midwives* (London: Baillière, Tindall and Cox, 1912), 231.
71. For texts written for the instruction of midwives see W.E. Fothergill, *A Course of Lectures to Midwives and Maternity Nurses* (Edinburgh: W. Green, 1907); Hoare, *Lectures on Midwifery*; Bennett, *Lectures to Practising Midwives*. For texts written for the instruction of medical students see William Japp Sinclair, *On Gonorrhoeal Infection in Women* (London: H.K. Lewis, 1888); Sinclair, *The Midwives Act 1902 and the Teaching of Midwifery to Students of Medicine*.
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73. F. Claude Evill, 'Contagious Diseases: Hints to Midwives concerning their Recognition and Management', *Nursing Notes* (June 1908), 121. Own emphasis.

74. Royal Commission on Venereal Diseases, PP 1913–16 Cd 7475 (Appendix to First Report of the Commissioners, Minutes of Evidence), q. 11885 (henceforth, Royal Commission on Venereal Diseases, Appendix to First Report, Cd 7475).
75. *Ibid.*, qq. 9676–77.
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Conclusions

In 1916, the findings of the RCVD were published. Its inquiry had stretched across sixty-four sitting days, during which eighty-five expert witnesses were asked 22,296 questions and their testimony transcribed into 758 pages of minutes. Included in the RCVD's Final Report were thirty-five comprehensive recommendations. Seldom had the recommendations of a Royal Commission been enacted so swiftly and with so few amendments.¹ They represented the first systematised state intervention for three decades to prevent and treat venereal diseases among civilians. They also responded directly to long-standing concerns over the training of medical students; the competency of the average general practitioner; the accessibility and effectiveness of diagnostic and therapeutic facilities, especially for patients who could not afford doctors' fees; and the role of various professional groups in the diagnosis, treatment and control of venereal diseases.

A close reading of the RCVD's witness testimony and recommendations has uncovered a vast amount of work among doctors, nurses and midwives that was instrumental in building up knowledge of venereal diseases, but has otherwise been unrecorded in other sources. The thirty years of medical education, research and practice examined in this book represent just one stage in a much longer history of venereal diseases. Yet these three decades, often overlooked in favour of the controversy surrounding the CD Acts or the dramatic policy shifts of the interwar years,

had far-reaching implications for sexual-health provisions in England throughout the twentieth century. The provisions rolled out following the RCVD's recommendations constituted the first system of universally available healthcare in Britain that was free at the point of use. These state-subsidised provisions marked an important shift in the way that infected persons were treated and how the state understood its role and responsibilities in combatting venereal diseases.

By the end of the nineteenth century, outpatient and special departments were the primary sites of care for venereal diseases in general hospitals. But as we have seen in Chapters 2 and 6, these departments were overcrowded and ill-equipped to provide sufficient and effective teaching to medical students and nursing probationers. Clinical examinations were often cursory and many working-class patients were reluctant to seek what little treatment was available. Alongside these sites of care were Poor Law infirmaries, workhouse sick wards, asylums and special hospitals that collectively offered the largest number of beds to venereal cases in England. Contemporaries and historians alike have viewed the Poor Law as a draconian system in which the treatment of patients, especially those with venereal diseases, was uniformly inadequate. Indeed, there was little systemisation or standardisation in the quality of patient care. However, some Poor Law superintendents, although small in number, were attempting to improve the quality and accessibility of healthcare in their infirmaries. A notable example was C. Thackeray Parsons, whose enthusiastic adoption of new ideas and technologies did much to improve conditions at the Fulham Infirmary. Moreover, as we have seen in Chapters 5 and 6, these institutions were important sites in which medical officers and nursing staff were able to augment their practical and theoretical knowledge of venereal diseases.

The commissioners' recommendations for improved diagnostic and therapeutic facilities were designed to build upon these institutional frameworks and, importantly, to correct the shortcomings in existing provisions. To expedite improvements in available care, they recommended that Poor Law institutions and general hospitals be subsidised and equipped with 'facilities for the best modern treatment'.² Key to this envisaged programme was the establishment of a nationwide network of treatment clinics for venereal diseases that would, where possible, be integrated into existing hospital and Poor Law infrastructure.³ Through this network of clinics, medical technologies such as the Wassermann reaction and the German-manufactured drug salvarsan (and its British-made

substitutes) became available on an unprecedented scale. In 1917 the LGB issued a circular letter to boards of guardians, informing them that diagnostic laboratory facilities, along with salvarsan or its substitutes, were to be supplied free of charge to Poor Law medical officers.⁴ The clinics would be established in cooperation with local health authorities. Treasury grants would meet seventy-five per cent of these expenses, with local rates covering the remainder.⁵ Such an approach was designed not only to avoid the expense of establishing an entirely new healthcare infrastructure. The intention was also that the roll-out of the proposed provisions would be both quicker and wider.

Access to the most modern diagnostic and therapeutic technologies was crucial for the efficient working of these new clinics. A full course of mercury was not cheap but, as we have seen in Chapters 4 and 5, the administration of salvarsan and neo-salvarsan was beyond the means and skill of most general practitioners. The shift to combination salvarsan–mercury treatments was slow, not least because of the cost and expertise involved. In the years before the First World War, much of the clinical work with salvarsan was experimental. Doctors, such as L.W. Harrison and J.E.R. McDonagh, sought the most effective and safe concentrations, as well as the best modes of administration. The results of this work were circulated through lectures and practical instruction and written up in textbooks and medical journals. The acquisition of increasingly special knowledge, along with a new technical vocabulary and clinical apparatus, made the process of treatment incomprehensible to most lay patients. In so doing it imbued these new practices, and those medical professionals who utilised them, with increasing professional prestige. Yet, as demonstrated throughout this book, these technologies were beyond the financial means and technical capabilities of most general practitioners.

The commissioners therefore hoped that their proposed network of clinics would benefit general practice by enabling doctors to obtain subsidised treatments for their patients. They recommended that, ‘subject to proper safeguards, local authorities should be empowered to supply salvarsan or its substitutes gratuitously to medical practitioners for the treatment of syphilis’.⁶ A preoccupation with gentlemanly generalist practice was not a barrier to the employment of special knowledge or technologies.⁷ As we have seen in Chapters 3 and 4, general practitioners were increasingly reliant upon the expertise of others. They needed to know only how to access diagnostic and therapeutic services for their patients, rather than acquire special knowledge and skill themselves. The provisions outlined in the

RCVD's Final Report would operate according to an existing principle of referral. Patients could be sent by their general practitioners to one of the new clinics, which would be staffed by doctors and nurses with the practical knowledge and facilities to perform Wassermann reactions and administer these new and expensive treatments.

By the time the commissioners laid down their recommendations in 1916, the Board of Trade had suspended German patents. Burroughs Wellcome and Co. had been commissioned to develop and distribute substitutes for a variety of German-manufactured drugs, which, with the advent of war, were no longer made available for import. Replicating and substituting synthetic drugs such as salvarsan and neo-salvarsan required detailed knowledge of their chemical structures. With supplies soon depleted, the challenge was to create standardised, safe and effective arsenobenzol substitutes. Kharsivan and Neokharsivan were the results. By 1917 the first commercial batches were being biologically tested, manufactured and distributed to the new clinics, under the regulatory eye of the newly established Salvarsan Committee of the Medical Research Committee.⁸

In addition to these consolidated treatment provisions, adequate diagnostic facilities were also key to the efficient running of the new clinics. However, as we have seen in Chapter 4, the Wassermann reaction required the 'serological touch', which could be acquired only with extensive practical experience.⁹ Moreover, the results obtained in one laboratory were not always replicable in another. Concern over the Wassermann reaction's reliability and usefulness was part of a much wider debate on the emerging role of the laboratory in bedside medicine. Many doctors clung to older empirical diagnostic practices because they could not, in good conscience, rely upon a technology that they neither understood nor trusted.

To overcome these problems, the commissioners recommended that 'extended facilities should be made available for the diagnosis of venereal diseases by laboratory methods'. The organisation of diagnostic services would be entrusted to local health authorities and 'form part of the provisions of laboratory facilities having for their object the prevention, diagnosis, and treatment of diseases in general.'¹⁰ Doctors were quick to take advantage of these new subsidised services. As early as 1918 John Adams, the medical officer in charge of the Thavies Inn venereal centre for pregnant women, decided that the best safeguard against misdiagnosing cases of syphilis was to have a Wassermann reaction preformed on every woman admitted to the clinic. Patients' blood samples were sent

for analysis to the pathological laboratory at St Bartholomew's Hospital.¹¹ Victor Horsley and Frederick W. Mott's appeals before the PDC a decade earlier for venereal diseases to be brought under the auspices of existing public health legislation were finally being recognised.¹² Although F.W. Andrewes and his pathological subcommittee of the Royal Society of Medicine had resisted standardisation in 1914, the government eventually regulated the Wassermann reaction. Only those public laboratories performing over one-hundred reactions a week were approved under the new provisions and required to use standardised antigens and reagents.¹³ Moreover, the commissioners' explicit provisions for bacteriological and serological testing were now bringing the management of venereal diseases directly within a wider framework of treatment and disease prevention, in which the LGB (and, later, the Ministry of Health) was able to take an active and central role.¹⁴

These new centralised and standardised healthcare facilities marked an important and pragmatic shift in state policy. They were based upon the preventative principle that venereal diseases could not be controlled effectively unless infected persons were diagnosed early and received adequate and immediate treatment.¹⁵ With the exception of the regulatory measures imposed under the Defence of the Realm Act during the First World War, there was a discernible shift towards a gender-neutral system of treatment and disease management.¹⁶ As we have seen in Chapter 5, it was clearly acknowledged that any measures akin to the surveillance and regulationism of the CD Acts would only deter infected persons from seeking regulated medical care. They might instead seek quack remedies or not be treated at all. Confidentiality was essential if doctors were to exercise any influence over their patients. Under these circumstances the commissioners could do little except recommend that 'no system of notification of venereal diseases should be put into force at the present time'.¹⁷ Witness testimony had convinced the commissioners that many patients, keenly aware of the stigma surrounding venereal diseases and desirous of completing treatment as soon as possible, were slipping through the cracks of an ill-equipped, over-stretched system. The commissioners were in a difficult situation. They had to make recommendations for the improvement of a system of care still underpinned by moral prejudice. At the same time, they needed to remain sensitive to the strong liberal and feminist opposition towards any return to regulationism.

In the absence of more interventionist policies, sanitary education became one of the few practicable preventative measures. This programme

was to be implemented, with support from doctors and public health authorities, under the auspices of the National Council for Combatting Venereal Diseases (NCCVD). The commissioners recommended that the NCCVD, established in 1914, 'be recognised by government as an authoritative body for the purpose of spreading knowledge and giving advice in regard to the question of venereal diseases in its varied aspects.'¹⁸ To facilitate this circulation of knowledge the commissioners called upon medical professionals treating venereal diseases 'to hand cards of instruction and warning to their patients.'¹⁹ By distributing such cards, doctors and nurses were engaged in a wider medico-moral strategy that combined curative treatment and moral prevention.²⁰ Moreover, the NCCVD's educational programme prohibited chemical prophylaxis as a method of preventing the spread of venereal diseases, which the Council believed would only encourage promiscuity.²¹ Although Mott pressed for reference to be made in the Final Report to chemical prophylaxis, he bowed eventually to the majority view of the commissioners so that the RCVD might produce a set of recommendations unanimously agreed upon.²² Doctors enjoyed unprecedented access to new scientific technologies but, by employing educational propaganda as the primary method of disease prevention, they were falling back upon a moral framework of self-control and abstinence.²³

Any scheme of diagnosis and treatment needed to make medical professionals 'more efficient for their general functions as the first line of defence of the community.'²⁴ As we have seen in Chapter 2, students were appointed to the various departments of their hospitals to supplement their practical knowledge of venereal diseases. The commissioners drew upon this organisational principle, deeming it expedient for medical students to have access 'for educational purposes, to the treatment of venereal diseases at any institution dealing with these diseases as part of a local authority's scheme.'²⁵ The degree of knowledge previously available to medical students had varied according to the interests and attitudes of individual lecturers. As we have seen in Chapters 2 and 3, students might complete their medical training without knowing how to diagnose the more uncommon manifestations of syphilis and gonorrhoea. The new treatment clinics were therefore designed to give the doctors and nurses who staffed them, and the students who attended for instruction, a rich supply of clinical material from which to augment their practical and theoretical knowledge.²⁶ The commissioners thought that students, under proper supervision, would assist medical staff while 'becoming thoroughly acquainted' with the symptoms of, and treatments for, venereal diseases.²⁷

The commissioners received contradictory suggestions from witnesses on the framing of this education; witnesses disagreed over whether venereal diseases could or should be taught in a special department or as a special course and what form and focus this should take. Some witnesses believed venereal diseases should be taught as part of genitourinary medicine. Some recommended that venereal diseases instead come under the teaching of skin departments. Others believed that venereal diseases could not be slotted neatly into any single medical discipline, hospital department or teaching course. In the end the commissioners recommended that ‘whether by means of compulsory attendance at a course of instruction in venereal diseases or otherwise, it should be rendered certain that every medical student have adequate practical instruction in these diseases.’ As a means of ensuring this adequate instruction, every medical student was advised to attend a special course of training in their hospital’s skin department.²⁸

The commissioners were not making a judgement about where on the curriculum (or in medical practice more broadly) venereal diseases should be incorporated. Witnesses had been unequivocal about the multiplicity of venereal symptoms, which defied simple categorisation within a single existing discipline. The provision of instruction in skin departments might, therefore, seem arbitrary. But the importance given to the testimony of witnesses such as James Sequeira and John J. Pringle, who headed the skin departments at their respective hospitals, suggests that the commissioners were concerned primarily with expediency. They were also under pressure from the GMC and Licensing Bodies to eschew any separate, mandatory course of instruction for medical students.²⁹ As the commissioners admitted, ‘in view of the fact that syphilis is concerned in diseases in nearly every part of the body, adequate training of the student should imply acquaintance with the different manifestations of syphilis as well as with the after-effects of gonorrhoea.’³⁰ Their decision to couple venereal diseases with dermatology was a self-conscious attempt to disassociate these diseases from what Arthur Newsholme termed ‘the implication of venereal’ or, rather, the sexual and moral stigma surrounding infection.³¹ Moreover, by locating the study of venereal diseases within a single established department, the commissioners sought to overcome the problem of an overcrowded curriculum. Students might not be taught about the neurological or genitourinary manifestations of venereal diseases in Sequeira’s skin department, but they would be certain to receive more systematised instruction than was previously available. These recommendations for

improved medical education were a response to something we have seen throughout this book: a long-standing ambivalence over the practical and theoretical knowledge possessed by the average general practitioner.

The general practitioner conceived of by witnesses before the RCVD was, in many respects, an unrealistic figure. His day-to-day professional practice and familiarity with venereal diseases was conceptualised according to the assumptions of witnesses who were themselves removed from the rank-and-file. Witnesses were concerned with the figure of the general practitioner because this was the type of medical man (and the general practitioner of the RCVD was invariably conceived of as male) who was thought to possess fewer opportunities to refresh and augment his undergraduate training.

But contrary to the generalisations of witnesses, general practice was not a homogenous professional category. Instead, it comprised individuals with different career trajectories. They practised within different social contexts and professional frameworks; possessed varying levels of medical knowledge; acquired different special interests; were not uniformly receptive to new ideas and technologies; and went about diagnosing and treating venereal diseases in different ways. This book has demonstrated that there was neither a universal body of knowledge regarding venereal diseases nor one general category of medical professional who drew upon that knowledge. The degree of knowledge possessed by any individual or professional group was circumscribed by a variety of factors. Knowledge among medical students was shaped by their lecturers' professional interests. Qualified doctors acquired additional knowledge according to their own professional interests and the demands of clinical practice. Nurses and midwives received knowledge opportunistically, according to what lecturers and hospital medical staff considered suitable.

One of the most important (and also challenging) aspects of this book has been separating the realities of venereological study and practice from the ideal standards and expectations of those who testified before official inquiries, and those who taught and examined medical students, nursing probationers and pupil midwives. The sources used traditionally to demonstrate the development and circulation of knowledge were those written by recognised authorities, such as Jonathan Hutchinson, who were at the forefront of medical research and practice. They more often presented ideal standards expected in medical, nursing and midwifery practice, rather than the day-to-day realities of work among the rank-and-file.

This book has opened up new perspectives on what made competent and safe medical professionals; how these standards changed over time; and how changing attitudes and expectations affected the medical authority and autonomy of different professional groups. Its focus on evolving bodies of professional knowledge that were, and remain, the basis of medical authority, speaks directly to current healthcare problems. The limitations of twenty-first-century medical knowledge and patient care are troublingly apparent as rates of syphilis and gonorrhoea increase and doctors are called upon to treat antibiotic-resistant strains of gonorrhoea.³² Examining how medical professionals met such challenges in the past opens up new and important perspectives on contemporary policy debate, especially the pressures placed upon an overstretched National Health Service and consequent healthcare limitations. By establishing a richer sense of diversity in past healthcare provisions (and the state's role in maintaining those provisions), this book enables us to look critically at the ways that clinical practice has evolved and to question the assumptions that underpin this evolution.

There is much more to explore about the role of medical professionals as consumers of new ideas and technologies, especially in relation to developing knowledge of specific disease categories. This book has done much to demonstrate how, around the turn of the twentieth century, knowledge of venereal diseases was developed through the combined use of traditional practices and emerging technologies. More importantly, this research, with its focus upon institutional frameworks and the work of the rank-and-file within those frameworks, lays the groundwork for further significant studies of this kind in relation to other diseases.

NOTES

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2. Royal Commission on Venereal Diseases, PP 1913–16 Cd 8189 (Final Report), 63 (henceforth, Royal Commission on Venereal Diseases, Final Report, Cd 8189).
3. *Ibid.*
4. Prevention and Treatment of Venereal Diseases. Recommendations of the Royal Commission; Action Taken by the Local Government Board; Progress Made with Schemes of Treatment; and Particulars of Certain Schemes, PP 1917–18 Cd 8509, 3.
5. Royal Commission on Venereal Diseases, Final Report, Cd 8189, 48.

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