Spreading Germs

*Spreading Germs* discusses how modern ideas on the bacterial causes of communicable diseases were constructed and spread within the British medical profession in the last third of the nineteenth century. Michael Worboys revises many existing interpretations of this pivotal moment in modern medicine. He shows that there were many germ theories of disease, and that these were developed and used in different ways across veterinary medicine, surgery, public health and general medicine. A central theme is the importance of the metaphor of ‘seed and soil’ in medical discussions of germs and their effects, and in the management of infections in individuals or populations. Professor Worboys shows that British doctors gave the same attention to the receptivity of the human body or ‘soil’ as to the nature of the germs or ‘seeds’ of disease. Thus, the growth of bacteriology is considered in relation to the evolution of medical practice, rather than as a separate science of germs. Professor Worboys also demonstrates that, while they incorporated many ideas and practices from the stronger institutions of medical science in France and Germany, British germ theorists and their medical followers had their own research programmes, germ ‘discoveries’ and innovations. The best known of these technical changes, Joseph Lister’s antiseptic surgery, is shown to be just one of many germ-related preventive, diagnostic and therapeutic methods that were used to transform many features of medical practice.
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The micro-organisms illustrated are:

1. Bacillus mallei
2. Glanders nodule in the lung
3. Bacillus anthracis
4. Anthrax bacilli
5. Streptococcus pyogenes
6. Diphtheria bacilli
7. Tubercle bacilli

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Spreading Germs

*Disease Theories and Medical Practice in Britain,*

1865–1900

MICHAEL WORBOYS
To my late parents
Ben Worboys
and
Joy Worboys (née Loveday)
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ABBREVIATIONS

AAMR  Association for the Advancement of Medical Research
BAAS  British Association for the Advancement of Science
BIPM  British Institute of Preventive Medicine
BMJ   *British Medical Journal*
CRA   Clinical Research Association
LGB   Local Government Board
MAB   Metropolitan Asylums Board
MOH   Medical Officer of Health
MOsH  Medical Officers of Health
NAPC  National Association for the Prevention of Consumption
NVE   National Vaccine Establishment
RCVS  Royal College of Veterinary Surgeons
RAMC  Royal Army Medical Corps
RASE  Royal Agricultural Society
RVC   Royal Veterinary College
UCL   University College London
I have had it in mind to write a book on germ theories of disease for more than twenty years. I first had the idea when I tried to place my early work on tropical medicine and parasitology in the wider context of the development of microbiology and new theories of disease, and found the literature on such an important topic to be very scant. Little had changed over a decade later when I began work on the project. I was awarded a Research Leave Grant by the Wellcome Trust for 1988–89 that enabled me to spend a very fruitful year at the Wellcome Unit of the History of Medicine at the University of Manchester. My intention then was to write a history of laboratory medicine and bacteriology in the late Victorian period, but I soon ran up against the problem that there were in fact very few bacteriological laboratories, as such, and that bacteriology as an institution was a relatively late developer in Britain. My task was made more difficult still by the dearth of substantial primary sources for the main institutions and leading figures, apart from Joseph Lister. My reading of published and unpublished sources on the topic soon convinced me that the most important issues in British medicine after 1865 were the debates and development of theories of disease and new disease management practices. Laboratories were not unimportant, though far more significant were the negotiations about the meanings and standing of germ theories of disease in the fields of clinical and preventive medicine.

Also, much ‘laboratory’ work took place in the field, in operating theatres, clinics and when managing infectious diseases. I have worked mainly from published sources. This was both from choice and circumstances. Given that I am mainly interested in the negotiations over the constructions, meanings and uses of germ theories and practices, professional discourses of knowledge in-the-making were a necessary focus, especially for such a wide-ranging topic. As mentioned above, primary material for the leading germ theorists was scarce, and in the papers of doctors not centrally involved in the topic, mentions of germs were scattered. This is a significant finding on its own account, but it is not one that will support a monograph. That said, I have used primary material as appropriate, but mostly I have read as
Preface

widely as possible in the provincial and specialist literature, as well as the
different editions of texts and the many shades of opinion expressed on topics
in the national journals. As the volume shows, there was no shortage of work
on germs, their nature, their transmission, their effects and the body’s
reactions to them.

In the protracted process of researching and writing this book I have
received help and support from many people and organisations. First I would
like to thank the Wellcome Trust for its financial support and for sustaining
such an excellent infrastructure for the history of medicine, especially the
Wellcome Institute Library and its staff. I would like to thank the archivists
at the Wellcome Institute Library, the Royal College of Physicians; Univer-
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sity Library, Manchester; and the Royal Veterinary College for their help.
Michele Minto, Wellcome Photographic Library; and John Woodhouse,
Pat Cummings and Dr. Dorothy Clayton, John Rylands University Library,
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published in Medical History, 1991, 35: 308–327, and the material is repro-
duced by permission of The Trustee, The Wellcome Trust. I have received
excellent support and guidance from Alex Holzman of the New York Office
of Cambridge University Press and my copy editor Elise Oranges improved
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Nicolson, Paolo Palladino, Steve Sturdy, John Woodward and others too many
to mention. Many of the ideas have been aired and discussed at seminars
and conferences, so I would like to thank all those who have commented.
My two referees provided constructive advice that led me to rethink a
number of lines of argument. I must acknowledge separately four people who
have provided particularly valuable and timely advice on the whole project:
the Series Editor, Charles Rosenberg, Bill Bynum, Mark Harrison, and espe-
cially John Pickstone, who has been a constant sounding board for ideas
throughout the project. Needless to say, I alone am responsible for the views
expressed in the volume. Finally, I would like to thank Carole, Liam and Julia
for their help in so many ways, their patience and in the last few months
their constructive impatience with this project.

Michael Worboys