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978-0-521-03447-0 - Spreading Germs: Disease Theories and Medical Practice in Britain, 1865-1900

Michael Worboys

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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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1. *Bacillus mallei*
2. Glanders nodule in the lung
3. *Bacillus anthracis*
4. Anthrax bacilli
5. *Streptococcus pyogenes*
6. Diphtheria bacilli
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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	<i>British Medical Journal</i>
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

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PREFACE

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

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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; University College, London; the Royal College of Surgeons; John Rylands University 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, Manchester, provided the illustrations. An earlier version of Chapter 2 was published in *Medical History*, 1991, 35: 308–327, and the material is reproduced 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 my manuscript in many ways. Many colleagues and friends also helped in various ways, including Sanjoy Bhattacharya, David Cantor, Roger Cooter, Jon Harwood, Elsbeth Heaman, Chris Lawrence, Sharon Mathews, Malcolm 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 especially 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