Germ Theory
Medical Pioneers in Infectious Diseases

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Anyone who has been capable of attaining any accomplishment has had at least one person help but usually many people who have helped. In writing this book, I have been fortunate to have many people review, edit, and inspire. I want to acknowledge Kirvin Gilbert, Lisa Macklin, James Curran, Alicia Hidron, Elissa Meites, Abeer Moanna, Mark Mulligan, David Rimland, Robert Rosman, and Michael Schlossberg for their help and encouragement. I also want to recognize the love and support from my children, Sara and Matthew, and most of all, my wife, Sherry.
PREFACE

History is simply the biography of the mind of man; and our interest in history, and its educational value to us, is directly proportionate to the completeness of our study of the individuals through whom this mind has been manifested. To understand clearly our position in any science today, we must go back to its beginnings, and trace its gradual development.

Sir William Osler

In 2008, I gave a seminar to the Emory Division of Infectious Diseases on the history of our field using short biographies of the people who changed it. I began at the initial stages of Western medicine in ancient Greece and ended with the discovery of penicillin and the beginnings of modern antimicrobial therapy. The reaction that I received was the inspiration for this book. Faculty, fellows, post-doctoral students, residents, and medical students all appreciated the seminar and commented on their lack of acquaintance with the historical roots of their chosen discipline. A presentation at the Centers for Disease Control and Prevention (CDC) some months later yielded similar comments from those in public health. Designed to describe the genesis of the germ theory of disease by those whose discoveries shaped our understanding of it, this book is intended not just for physicians or students of medicine but to be accessible to anyone with an interest in microbiology, infectious diseases, medical history, and, to a degree, biography.

I have chosen to weave the narrative of the origins of the germ theory of disease through short biographies of the 11 men and 1 woman who changed the very fabric of our knowledge. Guided by
others who followed a similar path—notably Sherwin Nuland, author of *Doctors: The Biography of Medicine*—I selected the biographical approach to humanize further the persons who made the significant discoveries. Their stories demonstrate both the impact of their early life influences on their innovations and their frustrations with their societies’ inability to accept some of the greatest discoveries in the history of medicine. The biographical approach illustrates how change in medical thought has occurred. Since paradigm shifts in our scientific thinking will continue, the study of historical transformations functions to encourage a requisite open-mindedness to new shifts in medical thinking.

No book is the creation of just one person. I am indebted to those individuals whose comments helped to shape this text. Their constructive criticisms came with remarkable enthusiasm for the topic and the writing—an enthusiasm that encouraged me to persevere through my research and editing. I hope that the final product will impart to the reader the knowledge, understanding, and passion that I discovered in writing it.

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ABOUT THE AUTHOR

Robert P. Gaynes, MD, is a Professor of Medicine (Infectious Diseases) at Emory University School of Medicine, where he teaches a course on the history of medicine. He also serves as an Attending Physician and the Chair of the Infection Control Committee at the Atlanta VA Hospital. Dr. Gaynes has authored or coauthored over 135 papers and book chapters on infectious disease topics.

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Until 2009, Dr. Gaynes worked in the Office of the Director of the Division of Healthcare Quality Promotion at the Centers for Disease Control and Prevention (CDC). Prior to that post, he served for over a decade as the Chief of the Surveillance Activity in the Hospital Infections Program and as the Director of CDC’s National Nosocomial Infection Surveillance System.

After graduating *magna cum laude* from the University of Illinois in Urbana, Dr. Gaynes earned his medical degree from the University of Chicago Pritzker School of Medicine with Honors in 1979. He completed a residency in Internal Medicine at Michael Reese Hospital in Chicago. After serving for two years in CDC’s Epidemic Intelligence Service, he then returned to complete a Fellowship in
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He is a husband and father who enjoys history, racketball, and gourmet cooking.
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