

## Deadly Companions How Microbes Shaped Our History

Black Death in London Viruses, Plagues, and History Emerging Viral Diseases The Masque of the Red Death The Curse of Cain Evolution in Health and Disease Tell Me Why My Children Died This Is Your Brain on Parasites The Emerald Planet This Fleeting World I Contain Multitudes Germ Theory Biosafety in Microbiological and Biomedical Laboratories Microbiology Plagues in World History Microbial Ecology Deadly Companions Encyclopedia of Insects Rare Earth What is Life? Angel of Death The Burdens of Disease Virus Hunt The Role of Animals in Emerging Viral Diseases Viruses: A Very Short Introduction The Chimp and the River: How AIDS Emerged from an African Forest Cancer Virus The Invisible Enemy Environmental Microbiology of Aquatic and Waste Systems African Ecology Humanity's Burden The Return of the White Plague Deadly Companions Germs, Genes, & Civilization Reticulate Evolution The Troubled Dream of Genetic Medicine Twelve Diseases that Changed Our World Virus Canine Medicine Deadly Companions

### Black Death in London

Plagues in World History provides a concise, comparative world history of catastrophic infectious diseases, including plague, smallpox, tuberculosis, cholera, influenza, and AIDS. John Aberth considers not only their varied impact but also the many ways in which people have been able to influence diseases simply through their cultural attitudes. Our ability to alter disease, even without modern medical treatments, is even more crucial lesson now that AIDS, swine flu, multidrug-resistant tuberculosis, and other seemingly incurable illnesses have raged worldwide. The author's comparative analysis of how different societies have responded in the past to disease illuminates what cultural approaches have been and may continue to be most effective in combating the plagues of today.

### Viruses, Plagues, and History

The Epstein-Barr virus (EBV) was discovered in 1964. At the time, the very idea of a virus underlying a cancer was revolutionary. Cancer is, after all, not catching. Even now, the idea of a virus causing cancer surprises many people. But Epstein-Barr, named after its discoverers, Sir Anthony Epstein and Dr Yvonne Barr, is fascinating for other reasons too. Almost everyone carries it, yet it is only under certain circumstances that it produces disease. It has been associated with different, apparently unrelated, diseases in different populations: Burkitt's Lymphoma, producing tumours in the jaw, in African children; a nasal tumour in China; glandular fever in Europe and the USA; and the majority of cases of Hodgkin's Disease everywhere. This book tells the story of the discovery of the virus, and the recognition of its connection with these various diseases - an account that spans the world and involves some remarkable characters and individual stories.

### Emerging Viral Diseases

With Tay-Sachs, cystic fibrosis, and sickle cell disease as a powerful backdrop, the authors reveal how these maladies -- freighted with contentious ethnic

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and racial meanings for many Americans -- became topics of biological fascination and crucibles of social debate. They unveil a complex story: about different kinds of suffering and faith, about unequal access to the promises and perils of modern medicine, and about how Americans consume innovation and how they come to believe in, or resist, the notion of imminent medical breakthroughs.

### **The Masque of the Red Death**

The story of the rise and fall of smallpox, one of the most savage killers in the history of mankind, and the only disease ever to be successfully exterminated (30 years ago next year) by a public health campaign.

### **The Curse of Cain**

Designed for non-majors and allied health students, Microbiology: Alternate Edition with Diseases by Body System retains the same hallmark art program and clear writing style that have made Robert Bauman's Microbiology such a success, while offering a new body-systems organization for the "disease chapters" (Chapters 19-24). Every student text automatically includes a CD-ROM of the Microbiology Place Website, along with an access code to the online version featuring Research Navigator(tm) . The enhanced Instructor's CD-ROM features dozens of new interactive animations that depict complex microbial processes, as well as all art and photos from the book, videos of microorganisms, customizable PowerPoint(R) lecture outlines, and customizable figures for quickly creating engaging and dynamic classroom presentations.

### **Evolution in Health and Disease**

A review of the original edition of The Burdens of Disease that appeared in ISIS stated, "Hays has written a remarkable book. He too has a message: That epidemics are primarily dependent on poverty and that the West has consistently refused to accept this." This revised edition confirms the book's timely value and provides a sweeping approach to the history of disease. In this updated volume, with revisions and additions to the original content, including the evolution of drug-resistant diseases and expanded coverage of HIV/AIDS, along with recent data on mortality figures and other relevant statistics, J. N. Hays chronicles perceptions and responses to plague and pestilence over two thousand years of western history. Disease is framed as a multidimensional construct, situated at the intersection of history, politics, culture, and medicine, and rooted in mentalities and social relations as much as in biological conditions of pathology. This revised edition of The Burdens of Disease also studies the victims of epidemics, paying close attention to the relationships among poverty, power, and disease.

### **Tell Me Why My Children Died**

Ever since we started huddling together in communities, the story of human history has been inextricably entwined with the story of microbes. They have evolved and spread amongst us, shaping our culture through infection, disease, and pandemic. At the same time, our changing human culture has itself

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influenced the evolutionary path of microbes. Dorothy H. Crawford here shows that one cannot be truly understood without the other. Beginning with a dramatic account of the SARS pandemic at the start of the 21st century, she takes us back in time to follow the interlinked history of microbes and man, taking an up-to-date look at ancient plagues and epidemics, and identifying key changes in the way humans have lived - such as our move from hunter-gatherer to farmer to city-dweller - which made us vulnerable to microbe attack. Showing how we live our lives today - with increasing crowding and air travel - puts us once again at risk, Crawford asks whether we might ever conquer microbes completely, or whether we need to take a more microbe-centric view of the world. Among the possible answers, one thing becomes clear: that for generations to come, our deadly companions will continue to shape human history.

### **This Is Your Brain on Parasites**

Virus Hunt is a tale of scientific endeavour. Tracing the fascinating twenty year quest to find the origin of the virus that causes AIDS, Dorothy H. Crawford takes us on a journey around the world, to recount the vital research that eventually unravelled how, when, and where the virus first infected humans.

### **The Emerald Planet**

Named as Choice Outstanding Academic Title 2012 From Hippocrates to Lillian Wald—the stories of scientists whose work changed the way we think about and treat infection. Describes the genesis of the germ theory of disease by a dozen seminal thinkers such as Jenner, Lister, and Ehrlich. Presents the "inside stories" of these pioneers' struggles to have their work accepted, which can inform strategies for tackling current crises in infectious diseases and motivate and support today's scientists. Relevant to anyone interested in microbiology, infectious disease, or how medical discoveries shape our modern understanding

### **This Fleeting World**

In this "frightening and fascinating masterpiece" (Walter Isaacson), David Quammen explores the true origins of HIV/AIDS. The real story of AIDS—how it originated with a virus in a chimpanzee, jumped to one human, and then infected more than 60 million people—is very different from what most of us think we know. Recent research has revealed dark surprises and yielded a radically new scenario of how AIDS began and spread. Excerpted and adapted from the book Spillover, with a new introduction by the author, Quammen's hair-raising investigation tracks the virus from chimp populations in the jungles of southeastern Cameroon to laboratories across the globe, as he unravels the mysteries of when, where, and under what circumstances such a consequential "spillover" can happen. An audacious search for answers amid more than a century of data, The Chimp and the River tells the haunting tale of one of the most devastating pandemics of our time.

### **I Contain Multitudes**

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What determines whether complex life will arise on a planet, or even any life at all? Questions such as these are investigated in this groundbreaking book. In doing so, the authors synthesize information from astronomy, biology, and paleontology, and apply it to what we know about the rise of life on Earth and to what could possibly happen elsewhere in the universe. Everyone who has been thrilled by the recent discoveries of extrasolar planets and the indications of life on Mars and the Jovian moon Europa will be fascinated by Rare Earth, and its implications for those who look to the heavens for companionship.

### **Germ Theory**

In *Germs, Genes and Civilization*, Dr. David Clark tells the story of the microbe-driven epidemics that have repeatedly molded our human destinies. You'll discover how your genes have been shaped through millennia spent battling against infectious diseases. You'll learn how epidemics have transformed human history, over and over again, from ancient Egypt to Mexico, the Romans to Attila the Hun. You'll learn how the Black Death epidemic ended the Middle Ages, making possible the Renaissance, western democracy, and the scientific revolution. Clark demonstrates how epidemics have repeatedly shaped not just our health and genetics, but also our history, culture, and politics. You'll even learn how they may influence religion and ethics, including the ways they may help trigger cultural cycles of puritanism and promiscuity. Perhaps most fascinating of all, Clark reveals the latest scientific and philosophical insights into the interplay between microbes, humans, and society - and previews what just might come next.

### **Biosafety in Microbiological and Biomedical Laboratories**

Covers the history of twelve important diseases and addresses public health responses and societal upheavals. Chronicles the ways disease outbreaks shaped traditions and institutions of Western civilization. Explains the effects, causes, and outcomes from past epidemics. Describes a dozen diseases to show how disease control either was achieved or failed. Makes clear the interrelationship between diseases and history. Presents material in a compelling, clear, and jargon-free prose for a wide audience. Provides a picture of the best practices for dealing with disease outbreaks.

### **Microbiology**

This book provides a panoramic overview of the history of malaria from Paleolithic times up to the present.

### **Plagues in World History**

This book covers the ecological activities of microbes in the biosphere with an emphasis on microbial interactions within their environments and communities. In thirteen concise and timely chapters, *Microbial Ecology* presents a broad overview of this rapidly growing field, explaining the basic principles in an easy-to-follow manner. Using an integrative approach, it comprehensively covers traditional issues in ecology as well as cutting-edge content at the intersection of ecology, microbiology, environmental science and engineering, and molecular biology. Examining the microbial characteristics that enable microbes to grow in different environments, the book provides insights into relevant methodologies for characterization of

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microorganisms in the environment. The authors draw upon their extensive experience in teaching microbiology to address the latest hot-button topics in the field, such as: Ecology of microorganisms in natural and engineered environments Advances in molecular-based understanding of microbial phylogeny and interactions Microbially driven biogeochemical processes and interactions among microbial populations and communities Microbial activities in extreme or unusual environments Ecological studies pertaining to animal, plant, and insect microbiology Microbial processes and interactions associated with environmental pollution Designed for use in teaching, *Microbial Ecology* offers numerous special features to aid both students and instructors, including: Information boxes that highlight key microbial ecology issues "Microbial Spotlights" that focus on how prominent microbial ecologists became interested in microbial ecology Examples that illustrate the role of bacterial interaction with humans Exercises to promote critical thinking Selected reading lists Chapter summaries and review questions for class discussion Various microbial interactions and community structures are presented through examples and illustrations. Also included are mini case studies that address activities of microorganisms in specific environments, as well as a glossary and key words. All these features make this an ideal textbook for graduate or upper-level undergraduate students in biology, microbiology, ecology, or environmental science. It also serves as a highly useful reference for scientists and environmental professionals. PowerPoint slides of figures from the book are available for download at: [ftp://ftp.wiley.com/public/sci\\_tech\\_med/microbial\\_ecology](ftp://ftp.wiley.com/public/sci_tech_med/microbial_ecology)

### **Microbial Ecology**

¿Biosafety in Microbiological & Biomedical Labs.¿ quickly became the cornerstone of biosafety practice & policy upon first pub. in 1984. The info. is advisory in nature even though legislation & reg¿n., in some circumstances, have overtaken it & made compliance with the guidance mandatory. This rev. contains these add¿l. chap.: Occupat¿l. med. & immunization; Decontam. & sterilization; Lab. biosecurity & risk assess.; Biosafety Level 3 (Ag.) labs.; Agent summary state. for some ag. pathogens; & Biological toxins. Also, chapters on the principles & practices of biosafety & on risk assess. were expanded; all agent summary state. & append. were rev.; & efforts were made to harmonize recommend. with reg¿s. promulgated by other fed. agencies.

### **Deadly Companions**

Seventy years ago, Erwin Schrödinger posed a profound question: 'What is life, and how did it emerge from non-life?' Scientists have puzzled over it ever since. Addy Pross uses insights from the new field of systems chemistry to show how chemistry can become biology, and that Darwinian evolution is the expression of a deeper physical principle.

### **Encyclopedia of Insects**

This stunningly illustrated book provides a rare window into the amazing, varied, and often beautiful world of viruses. Contrary to popular belief, not all viruses are bad for you. In fact, several are beneficial to their hosts, and many are crucial to the health of our planet. *Virus* offers an unprecedented look at 101 incredible microbes that infect all branches of life on Earth—from humans and other animals to insects, plants, fungi, and bacteria. Featuring hundreds of breathtaking color images throughout, this guide begins with a lively and informative introduction to virology. Here readers can learn about the history of

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this unique science, how viruses are named, how their genes work, how they copy and package themselves, how they interact with their hosts, how immune systems counteract viruses, and how viruses travel from host to host. The concise entries that follow highlight important or interesting facts about each virus. Learn about the geographic origins of dengue and why old tires and unused pots help the virus to spread. Read about Ebola, Zika, West Nile, Frog virus 3, the Tulip breaking virus, and many others—how they were discovered, what their hosts are, how they are transmitted, whether or not there is a vaccine, and much more. Each entry is easy to read and includes a graphic of the virus, and nearly every entry features a colorized image of the virus as seen through the microscope. Written by a leading authority, this handsomely illustrated guide reveals the unseen wonders of the microbial world. It will give you an entirely new appreciation for viruses.

### **Rare Earth**

An English professor explores the problems posed by God's exclusion of Cain in the biblical story, arguing that the very concept of monotheism has led to a violent nationalism and an "us-versus-them" mentality and offering an alternative ethics. UP.

### **What is Life?**

"The Masque of the Red Death", originally published as "The Mask of the Red Death: A Fantasy", is an 1842 short story by American writer Edgar Allan Poe. The story follows Prince Prospero's attempts to avoid a dangerous plague, known as the Red Death, by hiding in his abbey. He, along with many other wealthy nobles, hosts a masquerade ball within seven rooms of the abbey, each decorated with a different color. In the midst of their revelry, a mysterious figure disguised as a Red Death victim enters and makes his way through each of the rooms. Prospero dies after confronting this stranger, whose "costume" proves to contain nothing tangible inside it; the guests also die in turn. Poe's story follows many traditions of Gothic fiction and is often analyzed as an allegory about the inevitability of death, though some critics advise against an allegorical reading. Many different interpretations have been presented, as well as attempts to identify the true nature of the titular disease. The story was first published in May 1842 in *Graham's Magazine* and has since been adapted in many different forms, including a 1964 film starring Vincent Price.

### **Angel of Death**

The Black Death of 1348–49 may have killed more than 50% of the European population. This book examines the impact of this appalling disaster on England's most populous city, London. Using previously untapped documentary sources alongside archaeological evidence, a remarkably detailed picture emerges of the arrival, duration and public response to this epidemic and subsequent fourteenth-century outbreaks. Wills and civic and royal administration documents provide clear evidence of the speed and severity of the plague, of how victims, many named, made preparations for their heirs and families, and of the immediate social changes that the aftermath brought. The traditional story of the timing and arrival of the plague is challenged and the mortality rate is revised up to 50%–60% in the first outbreak, with a population decline of 40–45% across Edward III's reign. Overall, *The Black Death in London* provides as detailed a story as it is possible to tell of the impact of the plague on a major medieval English city.

### **The Burdens of Disease**

Joining the ranks of popular science classics like *The Botany of Desire* and *The Selfish Gene*, a groundbreaking, wondrously informative, and vastly entertaining examination of the most significant revolution in biology since Darwin—a “microbe’s-eye view” of the world that reveals a marvelous, radically reconceived picture of life on earth. Every animal, whether human, squid, or wasp, is home to millions of bacteria and other microbes. Ed Yong, whose humor is as evident as his erudition, prompts us to look at ourselves and our animal companions in a new light—less as individuals and more as the interconnected, interdependent multitudes we assuredly are. The microbes in our bodies are part of our immune systems and protect us from disease. In the deep oceans, mysterious creatures without mouths or guts depend on microbes for all their energy. Bacteria provide squid with invisibility cloaks, help beetles to bring down forests, and allow worms to cause diseases that afflict millions of people. Many people think of microbes as germs to be eradicated, but those that live with us—the microbiome—build our bodies, protect our health, shape our identities, and grant us incredible abilities. In this astonishing book, Ed Yong takes us on a grand tour through our microbial partners, and introduces us to the scientists on the front lines of discovery. It will change both our view of nature and our sense of where we belong in it.

### **Virus Hunt**

Viruses are big news. From pandemics such as HIV, swine flu, and SARS, we are constantly being bombarded with information about new lethal infections. In this *Very Short Introduction* Dorothy Crawford demonstrates how clever these entities really are. From their discovery and the unravelling of their intricate structures, Crawford demonstrates how these tiny parasites are by far the most abundant life forms on the planet. With up to two billion of them in each litre of sea water, viruses play a vital role in controlling the marine environment and are essential to the ocean's delicate ecosystem. Analyzing the threat of emerging virus infections, Crawford recounts stories of renowned killer viruses such as Ebola and rabies as well as the less known bat-borne Nipah and Hendra viruses. Pinpointing wild animals as the source of the most recent pandemics, she discusses the reasons behind the present increase in potentially fatal infections, as well as evidence suggesting that long term viruses can eventually lead to cancer. By examining our lifestyle in the 21st century, Crawford looks to the future to ask whether we can ever live in harmony with viruses, and considers the ways in which we may need to adapt to prevent emerging viruses with devastating consequences. ABOUT THE SERIES: The *Very Short Introductions* series from Oxford University Press contains hundreds of titles in almost every subject area. These pocket-sized books are the perfect way to get ahead in a new subject quickly. Our expert authors combine facts, analysis, perspective, new ideas, and enthusiasm to make interesting and challenging topics highly readable.

### **The Role of Animals in Emerging Viral Diseases**

#### **Viruses: A Very Short Introduction**

There is a possibility that during a pet's lifetime, medication may be recommended to treat medical conditions or problems. This book *Canine Medicine* -

Recent Topics and Advanced Research provides the knowledge in diagnosis and treatment of some important diseases and problems that the canines face. I believe that this book offers broader perspective to the readers in the recent advances in canine medicine, starting from recent topics to application in clinical diagnosis and therapeutics for practitioners and veterinarians. The main purpose of the book is to point out the interest of some important topics of canine medicine and the progress in this field and to clear its importance in veterinary medicine.

### **The Chimp and the River: How AIDS Emerged from an African Forest**

In view of the rapidly changing ecology of Africa, this work provides benchmarks for some of the major, and more neglected, aspects, with an accent on historical data to enable habitats to be seen in relation to their previous state, forming a background reference work to understanding how the ecology of Africa has been shaped by its past. Reviewing historical data wherever possible it adopts an holistic view treating man as well as animals, with accent on diseases both human and animal which have been a potent force in shaping Africa's ecology, a role neglected in ecological studies.

### **Cancer Virus**

Awarded Best Reference by the New York Public Library (2004), Outstanding Academic Title by CHOICE (2003), and AAP/PSP 2003 Best Single Volume Reference/Sciences by Association of American Publishers' Professional Scholarly Publishing Division, the first edition of Encyclopedia of Insects was acclaimed as the most comprehensive work devoted to insects. Covering all aspects of insect anatomy, physiology, evolution, behavior, reproduction, ecology, and disease, as well as issues of exploitation, conservation, and management, this book sets the standard in entomology. The second edition of this reference will continue the tradition by providing the most comprehensive, useful, and up-to-date resource for professionals. Expanded sections in forensic entomology, biotechnology and Drosophila, reflect the full update of over 300 topics. Articles contributed by over 260 high profile and internationally recognized entomologists provide definitive facts regarding all insects from ants, beetles, and butterflies to yellow jackets, zoraptera, and zygentoma. \* 66% NEW and revised content by over 200 international experts \* New chapters on Bedbugs, Ekbom Syndrome, Human History, Genomics, Vinegaroons \* Expanded sections on insect-human interactions, genomics, biotechnology, and ecology \* Each of the 273 articles updated to reflect the advances which have taken place in entomology research since the previous edition \* Features 1,000 full-color photographs, figures and tables \* A full glossary, 1,700 cross-references, 3,000 bibliographic entries, and online access save research time \* Updated with online access

### **The Invisible Enemy**

The dramatic increase since the 1980s in the global prevalence of tuberculosis is a story of medical failure. This collection provides an international survey of current thought on the spread and control of tuberculosis, covering historical, social, political, and medical aspects.

### **Environmental Microbiology of Aquatic and Waste Systems**

Plants have profoundly moulded the Earth's climate and the evolutionary trajectory of life. Far from being 'silent witnesses to the passage of time', plants are dynamic components of our world, shaping the environment throughout history as much as that environment has shaped them. In *The Emerald Planet*, David Beerling puts plants centre stage, revealing the crucial role they have played in driving global changes in the environment, in recording hidden facets of Earth's history, and in helping us to predict its future. His account draws together evidence from fossil plants, from experiments with their living counterparts, and from computer models of the 'Earth System', to illuminate the history of our planet and its biodiversity. This new approach reveals how plummeting carbon dioxide levels removed a barrier to the evolution of the leaf; how plants played a starring role in pushing oxygen levels upwards, allowing spectacular giant insects to thrive in the Carboniferous; and it strengthens fascinating and contentious fossil evidence for an ancient hole in the ozone layer. Along the way, Beerling introduces a lively cast of pioneering scientists from Victorian times onwards whose discoveries provided the crucial background to these and the other puzzles. This understanding of our planet's past sheds a sobering light on our own climate-changing activities, and offers clues to what our climatic and ecological futures might look like. There could be no more important time to take a close look at plants, and to understand the history of the world through the stories they tell. Oxford Landmark Science books are 'must-read' classics of modern science writing which have crystallized big ideas, and shaped the way we think.

### **African Ecology**

Written for non-experts, this volume introduces the mechanisms that underlie reticulate evolution. Chapters are either accompanied with glossaries that explain new terminology or timelines that position pioneering scholars and their major discoveries in their historical contexts. The contributing authors outline the history and original context of discovery of symbiosis, symbiogenesis, lateral gene transfer, hybridization or divergence with gene flow and infectious heredity. By applying key insights from the areas of molecular (phylo)genetics, microbiology, virology, ecology, systematics, immunology, epidemiology and computational science, they demonstrate how reticulate evolution impacts successful survival, fitness and speciation. Reticulate evolution brings forth a challenge to the standard Neo-Darwinian framework, which defines life as the outcome of bifurcation and ramification patterns brought forth by the vertical mechanism of natural selection. Reticulate evolution puts forward a pattern in the tree of life that is characterized by horizontal mergings and lineage crossings induced by symbiosis, symbiogenesis, lateral gene transfer, hybridization or divergence with gene flow and infective heredity, making the "tree of life" look more like a "web of life." On an epistemological level, the various means by which hereditary material can be transferred horizontally challenges our classic notions of units and levels of evolution, fitness, modes of transmission, linearity, communities and biological individuality. The case studies presented examine topics including the origin of the eukaryotic cell and its organelles through symbiogenesis; the origin of algae through primary and secondary symbiosis and dinoflagellates through tertiary symbiosis; the superorganism and holobiont as units of evolution; how endosymbiosis induces speciation in multicellular life forms; transferrable and non-transferrable plasmids and how they symbiotically interact with their host; the means by which pro- and eukaryotic organisms transfer genes laterally (bacterial transformation, transduction and conjugation as well as transposons and other mobile genetic elements); hybridization and divergence with gene flow in sexually-reproducing individuals; current (human) microbiome and virome studies that impact our knowledge concerning the evolution of organismal health and acquired immunity; and how symbiosis and symbiogenesis can be modelled in computational evolution.

### **Humanity's Burden**

In the past half century, deadly disease outbreaks caused by novel viruses of animal origin - Nipah virus in Malaysia, Hendra virus in Australia, Hantavirus in the United States, Ebola virus in Africa, along with HIV (human immunodeficiency virus), several influenza subtypes, and the SARS (sudden acute respiratory syndrome) and MERS (Middle East respiratory syndrome) coronaviruses - have underscored the urgency of understanding factors influencing viral disease emergence and spread. Emerging Viral Diseases is the summary of a public workshop hosted in March 2014 to examine factors driving the appearance, establishment, and spread of emerging, re-emerging and novel viral diseases; the global health and economic impacts of recently emerging and novel viral diseases in humans; and the scientific and policy approaches to improving domestic and international capacity to detect and respond to global outbreaks of infectious disease. This report is a record of the presentations and discussion of the event.

### **The Return of the White Plague**

"Here, my previous edition of Viruses, Plagues, & History is updated to reflect both progress and disappointment since that publication. This edition describes newcomers to the range of human infections, specifically, plagues that play important roles in this 21st century. The first is Middle East Respiratory Syndrome (MERS), an infection related to Sudden Acute Respiratory Syndrome (SARS). SARS was the first new-found plague of this century. Zika virus, which is similar to yellow fever virus in being transmitted by mosquitos, is another of the recent scourges. Zika appearing for the first time in the Americas is associated with birth defects and a paralytic condition in adults. Lastly, illness due to hepatitis viruses were observed prominently during the second World War initially associated with blood transfusions and vaccine inoculations. Since then, hepatitis virus infections have afflicted millions of individuals, in some leading to an acute fulminating liver disease or more often to a life-long persistent infection. A subset of those infected has developed liver cancer. However, in a triumph of medical treatments for infectious diseases, pharmaceuticals have been developed whose use virtually eliminates such maladies. For example, Hepatitis C virus infection has been eliminated from almost all (>97%) of its victims. This incredible result was the by-product of basic research in virology as well as cell and molecular biology during which intelligent drugs were designed to block events in the hepatitis virus life-cycle"--

### **Deadly Companions**

This Fleeting World is the smallest book of big history, telling the story of the universe and history of humanity in less than one hundred pages. Prize-winning historian David Christian covers it all in this compact, accessible, and inspiring guide to the history of everything, from stars and empires to cities, the World Wide Web, capitalism, and globalization. David Christian's approach to human history and big history is a call to action, based on a profound and fresh understanding of our place in the universe. This book is essential reading for our time. David Christian asks big questions. Will contemporary challenges will lead to the emergence of a new global system capable of ecological, economic, and political stability? Or is the accelerating pace of change a prelude to a sudden, sharp collapse that will drive many parts of the world back to the productivity levels of the early agrarian era? He presents our origin story and the history of women and men across the entire world, within the framework of the universe explaining, for example, that the chemicals we are

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made of come from supernovae. He tells the human story as a story of changes: changes in the ways we produce and distribute food, move from place to place, organize ourselves into communities, explore and populate our environment, and both create and respond to crises. He gives us maps of time, history on different temporal-spatial scales, and even offers paths to locate evidence that might challenge his big story. Big history leads to strategies for building a more sustainable world, and Berkshire Publishing is proud to offer this new edition of a big history for our common future. The 2018 edition has been expanded and updated for the general reader; there is also an earlier edition designed for use with AP World History and other courses, which included a teachers' guide.

### **Germs, Genes, & Civilization**

This book places the main actors in environmental microbiology, namely the microorganisms, on center stage. Using the modern approach of 16S ribosomal RNA, the book looks at the taxonomy of marine and freshwater bacteria, fungi, protozoa, algae, viruses, and the smaller aquatic animals such as nematodes and rotifers, as well as at the study of unculturable aquatic microorganisms (metagenomics). The peculiarities of water as an environment for microbial growth, and the influence of aquatic microorganisms on global climate and global recycling of nitrogen and sulphur are also examined. The pollution of water is explored in the context of self-purification of natural waters. Modern municipal water purification and disease transmission through water are discussed. Alternative methods for solid waste disposal are related to the economic capability of a society. Viruses are given special attention. By focusing on the basics, this primer will appeal across a wide range of disciplines.

### **Reticulate Evolution**

Ever since we started huddling together in communities, the story of human history has been inextricably entwined with the story of microbes. They have evolved and spread amongst us, shaping our culture through infection, disease, and pandemic. At the same time, our changing human culture has itself influenced the evolutionary path of microbes. Dorothy H. Crawford here shows that one cannot be truly understood without the other. Beginning with a dramatic account of the SARS pandemic at the start of the 21st century, she takes us back in time to follow the interlinked history of microbes and man, taking an up-to-date look at ancient plagues and epidemics, and identifying key changes in the way humans have lived - such as our move from hunter-gatherer to farmer to city-dweller - which made us vulnerable to microbe attack. Showing how we live our lives today - with increasing crowding and air travel - puts us once again at risk, Crawford asks whether we might ever conquer microbes completely, or whether we need to take a more microbe-centric view of the world. Among the possible answers, one thing becomes clear: that for generations to come, our deadly companions will continue to shape human history.

### **The Troubled Dream of Genetic Medicine**

Viruses are disarmingly small and simple. None the less, the smallpox virus killed over 300 million people in the 20th century prior to its eradication in 1980. The AIDS virus, HIV, is now the single most common cause of death in Africa. In recent years, the outbreaks of several lethal viruses such as Ebola

and hanta virus have caused great public concern. In her fascinating and vividly written book, Dorothy Crawford describes all aspects of the natural history of these deadly parasites, explaining how they differ from other microorganisms. She looks at the havoc viruses have caused in the past, where they have come from, and the detective work involved in uncovering them. Finally, she considers whether a new virus could potentially wipe out the human race. This is an informative and highly readable book, which will be read by all those seeking a deeper understanding of these minute but remarkably efficient killers.

### **Twelve Diseases that Changed Our World**

The Role of Animals in Emerging Viral Diseases presents what is currently known about the role of animals in the emergence or re-emergence of viruses including HIV-AIDS, SARS, Ebola, avian flu, swine flu, and rabies. It presents the structure, genome, and methods of transmission that influence emergence and considers non-viral factors that favor emergence, such as animal domestication, human demography, population growth, human behavior, and land-use changes. When viruses jump species, the result can be catastrophic, causing disease and death in humans and animals. These zoonotic outbreaks reflect several factors, including increased mobility of human populations, changes in demography and environmental changes due to globalization. The threat of new, emerging viruses and the fact that there are no vaccines for the most common zoonotic viruses drive research in the biology and ecology of zoonotic transmission. In this book, specialists in 11 emerging zoonotic viruses present detailed information on each virus's structure, molecular biology, current geographic distribution, and method of transmission. The book discusses the impact of virus emergence by considering the ratio of mortality, morbidity, and asymptomatic infection and assesses methods for predicting, monitoring, mitigating, and controlling viral disease emergence. Analyzes the structure, molecular biology, current geographic distribution and methods of transmission of 10 viruses Provides a clear perspective on how events in wildlife, livestock, and even companion animals have contributed to virus outbreaks and epidemics Exemplifies the "one world, one health, one medicine" approach to emerging disease by examining events in animal populations as precursors to what could affect humans

### **Virus**

A fully revised edition of a volume written by the world's leading authorities on this subject. It discusses how the evolution of humans and their pathogens have generated important medical issues, covering both infectious and degenerative diseases. It presents important ideas that are not yet sufficiently appreciated in the medical community.

### **Canine Medicine**

Tell Me Why My Children Died tells the gripping story of indigenous leaders' efforts to identify a strange disease that killed thirty-two children and six young adults in a Venezuelan rain forest between 2007 and 2008. In this pathbreaking book, Charles L. Briggs and Clara Mantini-Briggs relay the nightmarish and difficult experiences of doctors, patients, parents, local leaders, healers, and epidemiologists; detail how journalists first created a smoke screen, then projected the epidemic worldwide; discuss the Chávez government's hesitant and sometimes ambivalent reactions; and narrate the eventual

diagnosis of bat-transmitted rabies. The book provides a new framework for analyzing how the uneven distribution of rights to produce and circulate knowledge about health are wedded at the hip with health inequities. By recounting residents' quest to learn why their children died and documenting their creative approaches to democratizing health, the authors open up new ways to address some of global health's most intractable problems.

### **Deadly Companions**

“Engrossing ... [An] expedition through the hidden and sometimes horrifying microbial domain.” —Wall Street Journal “Fascinating—and full of the kind of factoids you can't wait to share.” —Scientific American Parasites can live only inside another animal and, as Kathleen McAuliffe reveals, these tiny organisms have many evolutionary motives for manipulating the behavior of their hosts. With astonishing precision, parasites can coax rats to approach cats, spiders to transform the patterns of their webs, and fish to draw the attention of birds that then swoop down to feast on them. We humans are hardly immune to their influence. Organisms we pick up from our own pets are strongly suspected of changing our personality traits and contributing to recklessness and impulsivity—even suicide. Germs that cause colds and the flu may alter our behavior even before symptoms become apparent. Parasites influence our species on the cultural level, too. Drawing on a huge body of research, McAuliffe argues that our dread of contamination is an evolved defense against parasites. The horror and revulsion we are programmed to feel when we come in contact with people who appear diseased or dirty helped pave the way for civilization, but may also be the basis for major divisions in societies that persist to this day. *This Is Your Brain on Parasites* is both a journey into cutting-edge science and a revelatory examination of what it means to be human. “If you’ve ever doubted the power of microbes to shape society and offer us a grander view of life, read on and find yourself duly impressed.” —Heather Havrilesky, Bookforum

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