Preface
Burke A. Cunha

History of Human Parasitic Diseases
Francis E.G. Cox

Humans are afflicted by a number of diseases caused by parasitic protozoa and helminth worms. The first records of these ancient associations come from studies on archeologic material and the writings of the Greek, Egyptian, and Roman empires but it was not until the theory of spontaneous generation had been disproved in the nineteenth century that it became possible to incriminate parasites in the etiologies of a number of diseases that had hitherto been enigmatic. The golden age of parasitology was the nineteenth century when most of the life cycles of parasites were accurately described for the first time. The history of parasitology is not yet complete and new diseases are still being discovered.

Malaria: From Prehistory to Present
Patricia Schlagenhauf

Malaria is a protozoan (Plasmodium) infection transmitted by the biting female Anopheles mosquito. The disease affects approximately 40% of the world’s population, and an estimated 50 to 70 million Western travelers are exposed to malaria infection annually. Malaria and travelers are inextricably linked since the dawn of time. Malaria owes its distribution worldwide to human travelers, and travelers are linked with the discovery, refinement, and development of several antimalarial drugs. In the year 2003 the genomes for humans, mosquito, and Plasmodium have been completed, but no malaria vaccine is available as yet.

Schistosomiasis (Bilharziasis): From Antiquity to the Present
Adel A.F. Mahmoud

The history of schistosomiasis is a continuous saga of discovery and disappointments. A lot is known and functional genomics bring the hope for better tools, but the infection and its disease sequelae still sap the energy of millions worldwide. The successes in its control are few, and the failures are enormously challenging to the scientific and public health communities and to decision makers.
makers globally. This article examines the fundamental milestones in understanding the parasite-host interaction over approximately 5 millennia of recorded history and sketches the main features of progress in the past few decades without attempting a detailed assessment.

**Discovery and Clinical Importance of the Filariases**
Gordon C. Cook

Macrofilariae have been recognized for many millennia. Microfilariae were, however, not demonstrable until microscopy attained an advanced degree of perfection. Demonstration of the mode of transmission of the various filariases (*Wuchereria bancrofti*, *Onchocerca volvulus*, and *Loa loa*), dominated by Manson’s work on lymphatic filariasis, constitutes one of the most exciting phases in human parasitology.

**History of Sleeping Sickness (African Trypanosomiasis)**
Francis E.G. Cox

Infections with subspecies of the protozoan parasite *Trypanosoma brucei* cause important wasting diseases in Africa (nagana in cattle and sleeping sickness in humans). These diseases were little known until the end of the nineteenth century when serious epidemics of nagana were reported and raised concern among the colonial powers. The early history of sleeping sickness revolves around the discovery of the causative organism, its mode of transmission, and its life cycle in the tsetse fly. The history continues into the twentieth century with the discovery of how the parasites evade the immune response, frustrating the development of a vaccine; the failure to develop cheap and effective drugs; and the development of alternative approaches to control the tsetse fly vector.

**The Discovery of Chagas Disease: Progress and Prejudice**
Michael A. Miles

The discovery of Chagas disease makes an extraordinary story. It encompasses the pinnacle of scientific achievement and has some unique features. In addition, there is a background story line of controversy, jealousy, and power politics. This article provides a synopsis of all these fascinating aspects of the discovery.

**Infectious Diarrhea in History**
Matthew L. Lim and Mark R. Wallace

Throughout history, infectious diarrhea has been associated with crowding, poor sanitation, and war. Although descriptions of infectious diarrhea exist in the earliest records of civilization, effective measures for prevention were not widely or consistently used until the modern era of active public health promotion. Advances in the
understanding of etiologies and therapies have revolutionized prognosis; however, constant vigilance against lapses in public health is necessary to prevent outbreaks of disease.

Yellow Fever in the Americas
Charles S. Bryan, Sandra W. Moss, and Richard J. Kahn

Dutch slave traders brought yellow fever to the Americas from Africa during the mid-seventeenth century. For the next two and a half centuries, the disease terrorized seaports throughout the Americas. Proof of the mosquito hypothesis was delayed because of two aspects of the disease: patients are viremic only during the first several days of clinical illness, and most mosquitoes require about 2 weeks of viral incubation before becoming infectious. Control of *Aedes aegypti* in urban centers failed to eliminate the disease because of its transmission by tree-hole-breeding mosquitoes that spend their winged lives mainly in forest canopies. Yellow fever continues to be a significant public health problem in parts of South America and Africa.

The Major Infectious Epidemic Diseases of Civil War Soldiers
Alfred Jay Bollet

Two thirds of the 600,000 deaths of Civil War soldiers were caused by disease. Physicians during the war kept detailed records and reports, which were tabulated, discussed in detail, and published after the war. These records include case histories, autopsy descriptions, photographs, and photomicrographs; they are the best records of the medical experiences of any of America’s wars, even those in the twentieth century. Because the Civil War occurred just before the discoveries of bacteriology, these records are of particular historical interest.

How the Mighty Have Fallen: Fatal Infectious Diseases of Divine Composers
Ernst T. Rietschel, Mireille Rietschel, and Bruce Beutler

Their music is immortal, but famous composers of the last centuries were not. Up to 50 years ago, microbial infections were a major cause of mortality and showed composers no special mercy. They died of various infectious diseases. By application of modern intensive care measurements and effective antibiotics, many of them would have been saved. Disease and painful death brought the work of these divine artists to the level of immortal creations that both inspire and astonish the mortal audience.
Impact of Infectious Diseases on War 341
Matthew R. Smallman-Raynor and Andrew D. Cliff

Wartime epidemics of infectious diseases have decimated the fighting strength of armies, caused the suspension and cancellation of military operations, and brought havoc to the civil populations of belligerent and nonbelligerent states. This article summarizes the principal factors that have contributed to the spread of infectious diseases in past wars and reviews the associated demographic losses in military and civil populations. Drawing on the detailed epidemiologic records for the United States Army, case studies of the spread of infectious diseases in relation to military mobilization are presented for the American Civil War, Spanish-American War, and World War I. The article concludes with a brief overview of infectious disease activity in high- and low-intensity conflicts of the late twentieth and early twenty-first centuries.

The Evolution of HIV and its Consequences 369
Cristian Apetrei, Preston A. Marx, and Stephen M. Smith

Since the beginning of the AIDS epidemic in 1981, HIV-1 has demonstrated an amazing ability to mutate. HIV-1 was introduced into the human population in the early to mid twentieth century in central Africa. During ensuing decades, this extraordinary mutational capacity has resulted in the circulation of HIV-1 strains that are quite different from one another, yet still remarkably pathogenic. The potential impact of this viral diversity on treatment, monitoring, and vaccine development is discussed.

Index 395