

Preface

Almost 15 years ago, initial reports of the molecular detection of *Mycobacterium tuberculosis* DNA in ancient human skeletons of individuals suspected of having tuberculosis launched paleomicrobiology as an emerging field of research at the intersection of microbiology and evolution, history and anthropology. Refinements in experimental protocols together with strict criteria for determining the authenticity of data now allow the molecular diagnosis of past infections such as plague, tuberculosis, leprosy, typhoid fever, bartonellosis and influenza. Pioneering studies have compared the genotypes of organisms responsible for infection in past centuries with modern strains in order to gain a better understanding of microbe evolution. Paleomicrobiology provides historians and anthropologists with demonstrative data with which to analyse mass burials and past epidemics and their impact on human populations. These data help to resolve controversies regarding the aetiology of past epidemics such as the Black Death. Continuing progress in analytical techniques may allow further diagnoses of epidemics of as yet unknown aetiology and increased insight into the epidemiology of past infections. Looking backwards to past epidemics using modern tools and concepts will in turn help to understand the continuous evolution of microbes and of their direct and indirect relationships with humans.

This book summarizes, for the first time, the concepts and techniques used to explore past epidemics and infections, and serves to illustrate the fruitful dialogue between historians, anthropologists and microbiologists through selected examples of research in the field of paleomicrobiology.

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