Disease
The extraordinary stories behind history's deadliest killers

MARY DOBSON
Disease

The compelling and sometimes frightening stories of 30 deadly diseases – and of humanity’s efforts to combat them

BACTERIAL DISEASES:
- Plague
- Leprosy
- Syphilis
- Typhus
- Cholera
- Typhoid
- Tuberculosis
- Puerperal fever
- Encephalitis lethargica

PARASITIC DISEASES:
- Malaria
- African trypanosomiasis
- Chagas’ disease
- Lymphatic filariasis
- Schistosomiasis
- Hookworm
- Onchocerciasis

VIRAL DISEASES:
- Smallpox
- Measles
- Yellow fever
- Dengue fever
- Rabies
- Polio
- Influenza
- Ebola
- AIDS
- SARS

LIFESTYLE DISEASES:
- Scurvy
- Kuru & CJD
- Cancer
- Heart disease
CONTENTS

Preface
6

Bacterial Diseases

Plague
8

Leprosy
20

Syphilis
28

Typhus
36

Cholera
44

Typhoid
54

Tuberculosis
62

Puerperal Fever
72

Encephalitis Lethargica
80

Parasitic Diseases

Malaria
84

African Trypanosomiasis
94

Chagas’ Disease
102

Lymphatic Filariasis
108

Schistosomiasis
112

Hookworm
118

Onchocerciasis
124

Syphilis, painted in 1910 by the artist Richard Cooper.
Viral Diseases

Smallpox 128
Measles 140
Yellow Fever 146
Dengue Fever 152
Rabies 156
Polio 162
Influenza 172
Ebola 184
AIDS 192
SARS 202

A depiction of the 1832 cholera epidemic in Paris.

Lifestyle Diseases

Scurvy 208
Kuru & CJD 216
Cancer 222
Heart Disease 234

Glossary 248
Index 250

Further Reading 253
Author Acknowledgements 254
Picture Acknowledgements 255
The diseases that are encompassed within this book have affected human history in a multitude of ways over the past few millennia. Choosing 30 diseases out of the ‘1500’ or so suggested by the English clergyman Sydney Smith (1771-1845) has been both stimulating and challenging. The final decision was based on the idea of including a varied selection of some of the world’s most important diseases and covering a range of those that have had, and continue to have, a major impact in many parts of the world. While this book is essentially written from a historical perspective, I have chosen a number of diseases that now seriously affect some of the poorest countries (where, in the 21st century, life expectancy can be less than 50 years compared to over 80 years in the wealthiest nations), and have included a selection of the more unusual and mysterious diseases which have afflicted humans over the ages.

Some of those selected, such as malaria and schistosomiasis, are ‘ancient’ diseases – possibly first emerging as human diseases approximately 7000 years ago when people and domestic animals began to live in close proximity. Infections, like smallpox and measles, which are easily transmitted from person to person, may have accompanied the rise of early urban settlements from around 3000 BC. The opening up of overland and ocean trade routes, especially with the circumnavigations of the globe from the late 15th century onwards, accelerated the spread of many diseases from place to place and continent to continent. Others, notably AIDS, are ‘new’ to human society, emerging and spreading rapidly only in the past 50 or so years. A few have seemingly come and gone. SARS – the first serious and easily transmissible new disease to emerge in the 21st century – spread around the globe over a short period of time in 2003, disappeared and has, so far, not re-appeared.

Some of the diseases in this book, such as kuru in Papua New Guinea, have had a serious but largely local impact. Several, especially those like malaria and African trypanosomiasis (sleeping sickness) which are transmitted by insect vectors, continue to have a devastating effect on tropical and sub-tropical regions. Others, such as the Black Death of the mid-14th century, smallpox and measles from the early 16th century, the cholera pandemics in the 19th century, the Spanish influenza pandemic of 1918-19 and the current AIDS pandemic, have been catastrophes on a global scale with far-reaching consequences for societies and individuals the world over. The recent outbreak of bird flu (H5N1 influenza) presents a global threat that we hope will never happen. And one major disease covered in this book has been effectively eradicated by human intervention. In 1979, the World Health Organization announced that smallpox, one of the worst scourges of humanity, had been eradicated from the globe by a vaccine developed nearly 200 years before. We can only hope that there will further success stories and that the global burden of disease will be reduced significantly in the coming years.
The 39 diseases eventually chosen have been grouped into four categories and arranged, at
roughly approximately, within the groups chronologically according to their first recorded
impact on the world. The first three groups comprise infectious diseases: bacterial
diseases (from plague to encephalitis lethargica), parasitic diseases (from malaria to
cerebrospinal) and viral diseases (from smallpox to SARS). The fourth group of diseases (from
cancer to heart disease) do not conform to the models of bacterial, parasitic and viral maladies
and are loosely labelled ‘lifestyle diseases’, since factors such as diet, smoking, physical exercise
and occupation play a key (though not the only) role in their causation. Indeed, for each of the
diseases selected - whether primarily infectious or non-infectious - there is always a complex
array of inter-related biological, genetic, environmental and social factors meaning that some
diseases succumb, while others survive or remain untouched by the circulating pathogen or
potentially fatal disorder.

In each of the chapters the aim has been to give a broad overview and chronology of the
impact of each disease, its impact on human societies, and estimates of numbers affected both
globally and present. I have also tried to include some of the key scientific and medical discoveries
associated with each disease and to highlight the often remarkable human endeavours and
extraordinary achievements in identifying, preventing or treating each disease. The
surrounding quotes and illustrations aim to convey something of the suffering, pain, misery
and heartbreak experienced by people in times of sickness over the centuries, as well as
the commitment and determination of men and women in their search for solutions. In some
diseases I have touched on a few of the many mysteries that have perplexed scholars,
academics, physicians and patients in their quest to understand the origins, nature and cause
of disease and its effect on human societies and individuals across the globe.

The history of medicine is a rich and expanding field of wide interest. Each new scholarly
or scientific study brings with it further facts, findings and figures. The application of novel
techniques, such as the use of DNA probes, should make it easier in the future to identify
some of the puzzling pathogens of the past and, perhaps, solve a number of historical debates.
With the sequencing of the human and microbial genomes and advances in such fields as
molecular medicine, we are also now in a stronger position in the 21st century than ever
before to understand more clearly human predisposition and susceptibility to disease, to
discover the mysterious ways of microbes, animal and insect vectors and to bring to future
realization the promise of new diagnostics, vaccines and therapies. Reducing poverty and
hunger and improving sanitation, hygiene and education also still remain some of the most
fundamental factors of importance for ensuring the future health and happiness of people
in many parts of the world.

My sincerest thanks go to all those who have made this book possible - my acknowledgements
and suggestions for further readings are given on pages 253-4.

Mary Dobson
St John’s College
Cambridge

October 2007