

Return of the Black Death

The World's Greatest Serial Killer

**Susan Scott
and
Christopher Duncan**



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Contents

<i>Preface</i>	vii
Introduction	1
Chapter 1 Birth of a Serial Killer	11
Chapter 2 The Black Death Crosses the Channel	35
Chapter 3 After the Black Death: The French Connection	47
Chapter 4 Tentacles of the Plague	59
Chapter 5 England under Siege	73
Chapter 6 Portrait of an Epidemic	103
Chapter 7 The Great Plague of London	121
Chapter 8 How Bugs and Germs Operate	137
Chapter 9 Building an Identikit of the Killer	153
Chapter 10 Debunking History	165
Chapter 11 The Biology of Bubonic Plague: A Myth Revisited	171
Chapter 12 DNA Analysis: A Red Herring	185
Chapter 13 The True Story of a Historic Village	191
Chapter 14 The Surprising Link between AIDS and the Black Death	207
Chapter 15 Assembling the Jigsaw Puzzle	215
Chapter 16 The Black Death in Hiding	229
Chapter 17 Why Did Haemorrhagic Plague Suddenly Disappear?	245
Chapter 18 The Dangers of Emergent Diseases	249
Chapter 19 The Return of the Black Death?	265
Chapter 20 Is There Something more Terrible than the Black Death?	287
<i>Further Reading</i>	301
<i>Index</i>	305

Preface

Serendipity played a large part in the genesis of this book. Thirteen years ago, Sue Scott was searching for a suitable parish in which to conduct an in-depth demographic study and settled on Penrith in Cumbria. When she analysed the parish registers, she discovered that this community suffered from a plague epidemic at the end of the sixteenth century. One look at the facts was sufficient for a biologist to realize that this was not an outbreak of bubonic plague, the conventional and accepted view of the cause of the plagues in Europe. However, we had other research programmes on hand and did not return to the question 'What caused the plagues?' for a number of years. And so began the cooperation of a historical demographer and a zoologist, each bringing their own expertise. What we uncovered as we dug deeper and deeper greatly surprised us: our initial suspicions were amply confirmed and the repercussions were far-reaching.

We wrote an academic monograph, *Biology of Plagues*, which covered many aspects of the subject. When this was published, we were amazed at the response from the media. Reports were carried in newspapers throughout the world; we were invited to give radio interviews in many different countries; television companies rang to enquire about the possibility of making a film; we were inundated with telephone calls and e-mails asking questions and making suggestions. Among our correspondents was a 12-year-old girl who said that her Mummy had suggested she write for reassurance that the Black Death would not reappear. A war veteran from the Far East rang to say that his platoon had been stricken by a viral haemorrhagic fever and only he had survived; a fascinating first-hand account of this gruesome disease. A correspondent from Kent described the collapse of a main road on the site of the burial ground for the

Black Death at Blackheath. People living in the nearby houses were hurriedly rushed away by armed police who announced a bio-hazard in the immediate vicinity. We had lengthy correspondence with a screenwriter who was working on a script for a feature film dealing with an imaginary virus that wipes out most of humanity. He thought that haemorrhagic plague 'would be the perfect disease for his story' and wanted detailed predictions of how such an epidemic would spread.

It was all very exciting and convinced us that there is enormous public interest worldwide in the subject of plagues. This book is our attempt to tell the story and to satisfy this thirst for knowledge of the most infamous disease of past times and of its possible repercussions for the future.

We gratefully acknowledge the support and encouragement that we have received from so many people.

We salute Dr Graham Twigg, who was the first to recognize that the Black Death was not an outbreak of bubonic plague; he has been a stalwart friend for a number of years.

Dr Debora McKenzie, European Editor of the *New Scientist*, has supported our idea that the plagues were in fact caused by a haemorrhagic virus from the start and has kept us in touch with recent developments.

We thank a multitude of correspondents throughout the world who have sent valued e-mails and letters giving news, reports, comments, unpublished data and suggestions.

Dr Stephen Duncan at the University of Oxford introduced us to the intricacies (and delights) of time-series analysis and then produced all the mathematical models for our work. Without this fundamental assistance, there would have been no research programme.

Mrs Jennifer Duncan provided invaluable assistance in reading documents in Secretary Hand and in translating original articles.

We are particularly grateful to Sally Smith, Senior Publishing Editor at Wiley, for whole-heartedly backing this project and also thank Nicky McGirr, Julia Lampam and Jill Jeffries for their enthusiastic support.

Introduction

For over 600 years, the word ‘plague’ has struck terror in the hearts of men and women: it engenders a nightmare scenario of an unstoppable and highly infectious disease for which there is no cure and from which an agonizing death is certain. For the people of Europe in the Middle Ages who lived daily with the threat that it would visit their community, this fear was completely understandable. Since it disappeared from the scene in the mid-seventeenth century, this reign of terror has continued to hold a fascination and to evoke more than a frisson of fear. Even the most inattentive schoolchild relishes lessons on the Great Plague of London, fire and devastation in the perilous years of 1665–66.

In the twenty-first century, we have a far greater knowledge of diseases than ever before, a number of effective vaccines and treatments, experts trained in epidemiology and molecular biology, a battery of diagnostic tests and modern techniques that can sequence the genome of a new virus within months of its first appearance – yet the horror that a new disease, perhaps another plague, could emerge and threaten our existence is as strong as ever.

The emergence of SARS (Severe Acute Respiratory Syndrome) in 2003 showed all too well the havoc that a new disease could cause. It was reported in Asia in January of that year and dominated the headlines over the next few months. Could SARS be the new deadly plague? There was widespread panic and people fled from the afflicted areas, which helped to spread the illness further afield. Before too long, cases were being reported in Europe as well as North and South America. Compared with the plagues of the past, it caused relatively few deaths overall: a total of some 8000 cases in 27 countries, of which only 780

died. In spite of this, health authorities struggled to cope, whole nations were quarantined from nonessential travel, airlines faced bankruptcy, national economies were disrupted and there was real fear of the collapse of international financial markets. In the USA, sales of paper face masks soared even though the country had only 192 cases of SARS and all recovered.

Why did a relatively insignificant health scare cause international alarm and panic, even in countries that had no or few cases of SARS? In April 2003, Dr Stuart Derbyshire wrote that we live among a 'population thirsty for panic, and eager to hear the message of doom, demanding these warnings. The warnings blend with our self-conscious expectation of disaster and fear for the planet. Even the seemingly balanced Professor Oxford appears only to be waving away distractions from the anticipated real thing. Neither of the two [potential SARS] viral families would really make my hair stand on end like a virulent new flu virus would.'

In April 2003, Declan McCullagh, a political correspondent living in Washington, wrote:

SARS is the first epidemic of the Internet age, preying on the fact that as information becomes more communicable, rumours become more communicable too. A teenager's Web hoax claiming Hong Kong's borders would be closed prompted runs on canned foods and toilet paper. A supermarket owner in Sacramento spent two weeks arguing that, contrary to rumours, neither he nor his family was infected with SARS, and his stores were entirely safe. On Tuesday, a Sacramento city councilman tried to quell panic by bravely chewing a ceremonial Granny Smith apple from the produce section in front of reporters.

But to some people, a worldwide health threat might herald the 'Apocalypse now' scenario, the return of the next 'Big One', when a major epidemic of a deadly infectious disease, for which there is no treatment and no vaccine, will cause global catastrophe and threaten the existence of humanity.

What do we know of plagues?

This fear of unknown disease has a sound basis in history. Possibly the oldest reference to plagues appears in the biblical book of I Samuel. In about 1320 BC, the Philistines stole the Ark of the Covenant from the Israelites and returned home:

the Lord's hand was heavy upon the people of Ashdod and its vicinity; he brought devastation upon them and afflicted them with tumours. And rats appeared in their land, and death and destruction were throughout the city ... the Lord's hand was against that city, throwing it into a great panic. He afflicted the people of the city, both young and old, with an outbreak of tumours in the groin.

We were all taught in school and read in books about the most famous disease of all time – the Black Death – a ferocious killer that appeared from nowhere, spread quickly and wiped out nearly one half of the medieval Europeans. We have heard the following children's nursery rhyme, which is said to commemorate the terrible plagues:

Ring-a-ring of roses,
A pocket full of posies,
Atishoo, atishoo,
We all fall down.

The first line of the rhyme depicts the round red rash that appeared on the victim's skin. The sweet-smelling posies were what people held to their noses to ward off infection. Sneezing was an early symptom of the disease, and this was closely followed by 'falling down' or sudden death.

In the middle of the seventeenth century, a great plague struck London and killed up to a fifth of the population. Samuel Pepys recorded the events in his diary, and we can follow this outbreak more closely and identify with the victims because of his graphic accounts.

Some people may also be familiar with the most famous plague story of all: the epidemic in the little upland village of Eyam in Derbyshire on the edge of the Peak District in northern England. When the epidemic broke out, the Rector and his parishioners made a heroic sacrifice by agreeing to draw a *cordon sanitaire* around the village and voluntarily putting themselves into quarantine. Nobody was allowed to flee to escape infection and certain death. In this way, they hoped to contain the outbreak and prevent its spread to neighbouring communities. Throughout their ordeal, food was brought to the parish boundary by nearby villagers. Imprisoned, they could only wait and watch as they died, slowly at first, although at the height of the outbreak the Rector was burying several of his flock each day. The terrible epidemic lasted 15 awful months and at the end Eyam resembled a ghost village. Nevertheless, their sacrifice was not in vain – the infection did not escape and spread to any other community.

However, is this the extent of our knowledge of plagues? For instance, how many of us could put an accurate date on these cataclysmic events? Would we be able to say whether they were explosive epidemics of the same disease? We should probably be able to say that the Great Plague of London was the result of bubonic plague, a disease spread by infected rat fleas, but would be unable to say why we believed it to be so, except that in the far recesses of our minds, we recall being told in school that the Great Fire of London in 1666 killed all the rats and saved England from further outbreaks of plague.

Our quest

In 1990, this was also the extent of the authors' own knowledge of the plagues of historic times. We knew as little as anyone, until we accidentally stumbled on a brief record of a catastrophic epidemic that broke out in a small English market town towards

the end of the Elizabethan era. It was the first time we had come across the plague in our research on the history of populations, and it sparked an interest that soon became a fascination and a determination to discover as much as we could about this greatly feared disease.

Little did we realize when we started on our quest that this would eventually lead to a debunking of the popular misconceptions of this ancient terror. We were to turn history on its head. To our surprise, and even more importantly, we uncovered a chilling message for us today – this medieval killer may be lying dormant, waiting for the right moment to strike again.

This is our story.

The beginnings

Sue Scott had been carrying out an in-depth historical study of the community at Penrith from the sixteenth to the nineteenth centuries. This little town lies in the valley of the river Eden in Cumbria in northern England, quite close to the Scottish border. Its people were cut off from the rest of England, being hemmed in by the picturesque mountains of the Lake District to the west, the rugged Pennine range to the east and the more gentle Westmorland fells to the south. However, the road to Scotland ran right through the centre of Penrith and for centuries along this came travellers, traders and cattle drovers. Potentially, they could all bring lethal infectious diseases like plague and smallpox from afar, even from London, which was situated some 280 miles (450 kilometres) to the south-east, a journey that would take several days by horseback.

From Sue's studies, we knew that at the end of the sixteenth century the land of the Eden valley was regarded as remote from large industrial and trading centres. Outsiders viewed it with repulsion: it was inaccessible to travellers, landowners were frequently absent and brigands roamed unhindered. At