

# Disease: Crisis or Transformation?

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## Introduction

I should start by saying that while I am a historian of medicine, I am not a historical demographer or a historical epidemiologist. What I have to say in this paper derives from a project I am engaged in which is involving me in making a survey (rather than original research) of epidemics in Europe in the late-medieval and early-modern period.<sup>1</sup>

Historians of population use the ‘crisis’ term frequently, especially in the expression ‘mortality crisis’. Looking at their writings as they concern the period 1400-1648, we will find the historical demographers identifying crises everywhere. The general impression that their writings make is that this was indeed a period of repeated crises. But was the period really one simply of crisis and crises with respect to disease and population?

What was a ‘crisis’? Wrigley and Schofield write that ‘any discussion of crisis mortality entails an arbitrary decision as to what constitutes a crisis’. In their book on *The Population History of England 1541-1871* they mean any year or month in which the death-rate is 10 per cent above the 25-year moving average.<sup>2</sup> Elsewhere Schofield has suggested that a mortality crisis is when burials are twice the average;<sup>3</sup> and others have suggested that twice the average should count as a ‘major crisis’ and one-and-a-half times as a ‘minor crisis’.<sup>4</sup> At all events, in this usage the expression seems to mean ‘heavy mortality’, rather than the ‘turning-point’ that strictly

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1. This has now resulted in Cunningham and Grell 2000, where a much expanded and somewhat different version of the present paper is presented.

2. Wrigley and Schofield 1981, p. 332. This gives about 14 per cent of months as crisis months.

3. Schofield 1982.

4. Turner 1982, p. 109.

speaking it might be expected to mean. In such cases I think terms such as 'demographic catastrophe' might be better. My own usage of the term 'crisis' will be in the popular way as meaning 'a desperate moment' or period.

I shall not be talking about how disease brought on particular crises in the period 1400-1648, whether local or widespread, political or social. Nor shall I be talking about the effect of crises in, say, food supply, as affecting disease outbreaks, nor of disease outbreaks as affecting food supply. These are tasks better fitted to historical demographers.

Instead, I pose my question this way: How are we to assess – with respect to its disease history – whether the history of Northern Europe, in the period 1400 to 1648 was (or is best interpreted as) a series of crises, or as a long, slow transformation? Or we may perhaps reformulate the question like this: if the period is regarded as one either of crisis or of slow transformation, then how does its disease history relate to either of those interpretations? Disease history is of course something different from demographic history.

In the first place it is probably desirable to have some outline of the most prominent aspects of the disease history of the period. So this is where I shall begin.

Then, after this resumé of some of the types of prominent diseases, I shall discuss, in a general and speculative way, some of the historiographic problems involved in considering the relation of past disease to past societies. These thoughts are recent and not yet fully worked out: they may be less novel (and less correct) than I imagine.

I shall begin by looking at the symptoms and course of four *epidemic* diseases of the period, limiting myself (for reasons which will later become clear) to contemporaries' accounts – the 'patient's view' as it is sometimes fashionably known. An 'epidemic' is always a disease which, literally, 'falls on the mob': it appears abruptly, it kills or severely disables *many* people *suddenly* and over a *short* period, and usually in a particularly dramatic and *unpleasant* way. These characteristics, taken together, mean that epidemic diseases are episodes of *fear* and, usually, *social panic*. Today the term 'epidemic' is usually limited to *infectious* disease (except when used in a metaphorical way).

To the people of the time, epidemic diseases appeared as a great series of crises, and the worst of those crises made them believe

that the Second Coming – the end of the world – was imminent, and that disease had been sent to them both as a punishment for their sins and as a sign of the Last Days.

### Some epidemics in Northern Europe, 1400-1648

Let us start with an epidemic disease which was believed to be new by those who suffered from it and by those who watched: the French disease, or great pox (great as opposed to the small pocks of smallpox).

When the disease first broke out it was fearsome and extraordinarily painful. Ulrich von Hutten, humanist, courtier and crowned poet laureate by Maximilian I in 1517, was an early and vocal sufferer from this new disease. Hutten had contracted the disease while a soldier in Italy in 1509 or 1510 aged about 21 or 22, and suffered grievously from the disease for many years. According to Hutten, the physicians would at first have nothing to do with the disease because it was so horrible. He writes:

For when it first began [in 1494], it was of such filthiness, that a man would scarcely think this sickness, that now [i.e. in 1510] reigneth, to be of that kind. There were boils, sharp, and standing out, having the similitude and quantity [i.e. size] of acorns, from which came so foul humours and so great stench, that whosoever once smelled it, thought himself to be infect. The colour of these pustules was dark green, and the sight thereof was more grievous unto the patient than the pain itself: and yet their pains were as though they had lain in the fire.<sup>5</sup>

There was considerable variation in the manifestation of symptoms, but the pustules usually started, in males, on the penis.<sup>6</sup> The astrologers predicted that the disease would only last seven years and then disappear, but instead after seven years the disease turned into a somewhat milder form, without the acorn-like pustules or so much stench. But the pain continued to be excruciating. 'If any thing may cause a man to long for death, truly it is the

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5. Hutten 1536, f. 2r.

6. Quétel 1986, p. 10, citing a report of 1495.

torment of this sickness', Hutten wrote, 'For this pestilence besides all his vexations and torments (which pass far all other) only with his foulness and loathliness is able to make one weary of his life'.<sup>7</sup> Hutten felt driven to the sin of suicide under the pain, and only hesitated when he remembered his Christian duty of manfully suffering great torments and pains for Christ's sake.

The pain was in the joints, but it also came from the running sores all over the body, and from the holes that appeared in the flesh as it putrified, so that one could see the bone and watch it being eaten away. There were agonising sores in the bladder, the liver and the stomach. Ulrich von Hutten's case of the disease began in his left foot. As it rose up his leg the skin over the shin began to rot in many holes, very painfully, and over these holes 'was a knob so hard that a man would have thought it a bone', exceeding painful. He could hardly stand up because of the pain; the calf and knee were very cold, the thigh consumed and worn away; one buttock virtually withered away. The pain in his left shoulder was so great that he could not raise his arm, and both shoulders were withered. There was a constant voiding sore below his ribs on the right side, and a constant stream from the top of his head, running down his back. If you touched the place where this filthy stream began, it felt as though the skull was fractured. His face was very painful too. In all this litany of pains Hutten, unlike most other writers, did not mention any lesions or pain in his genitals.

The new disease was one which came to epitomise indulgence and lust. It caused in its time as much concern and anxiety as AIDS is doing today. And it produced an immediate and continuing series of publications from academic physicians, and also from sufferers, recounting their tribulations and their desperate search for a cure. For this new disease did not spare the literate class of men: it attacked humanists, scholars, courtiers of kings, princes, bishops and popes, as much as it affected common soldiers; and it affected courtesans and royal mistresses as much as common prostitutes. It was at home in the hovel as well as in the court, and Francis I of France, Henry III of France, and the Emperor Charles V are all thought to have suffered from it.

The first large outbreak of it occurred in 1494, in the army of King Charles VIII of France which had recently been occupying

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7. Hutten 1536, f. 49v.

Naples. Given this first appearance, it is no surprise that the French called it the Neapolitan disease, while those to whom it was spread equally naturally called it the French disease. Others were to call it the Polish disease, the German disease or the Spanish disease. The variety of early names that this disease was given indicates how its arrival was perceived: that it originated from outside, and that it was spread especially by soldiers. And it spread at terrifying speed: according to a modern historian of the disease, Claude Quétel, it spread across the whole of Europe within five years, reaching Nuremberg and Strasbourg by 1495, Geneva and Paris by 1496, England and Scotland by 1497, Hungary and Russia by 1499.<sup>8</sup>

The mortality of pox was nowhere as great as its social impact: after the first terrifying epidemic outbreak of the disease, pox became familiar as a constant presence in society, and the bodily lesions and stinking breath typical of it became commonplace. Although it made such a loud impact, it did not kill significantly. Doctors and surgeons, and quacks of all kinds continued to proclaim new treatments for it, and it continued to be the disease which claimed most public attention. It continued also to be thought of as related to sin and licentiousness.

While pox took the greatest share of attention, it was not the only new epidemic disease visited on Europe in this period. The new modes of warfare brought with them their own diseases. As an army settled in to besiege a town, its soldiers often began to suffer from 'camp fever', a fever sometimes called 'typhus', a Greek term associated with the stupor that came with this fever, for stupor with extraordinary headache was one of its main characteristics, together with red pustules (*petechiae*) resembling flea bites or lentils all over the trunk of the body and the limbs. Not just the besieger, but also the besieged suffered from this new disease, which the besieged would sometimes call 'famine fever' as their food supplies ran out. Its association with armies is indicated by its alternative sixteenth century names: Hungarian disease, Swedish disease, and many others. It killed many more soldiers than the fighting ever did, and vastly more than the pox. It was a fever which killed by the thousand.

A disease also called 'Hungarian disease' attacked the Christian armies defending Europe against the Turks in the 1560s and again

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8. Quétel 1986, chapter one, *passim*.

repeatedly in the 1590s. This 'dry death' (*sicca mors*) killed more soldiers than the attacks of the enemy did. It was a disease endemic to the region ('proper to the Hungarian soil' as one commentator described it), and no-one in the army was familiar with the local conditions. Hence the soldiers were confronted with air in a condition they were not accustomed to, together with unusual food and drink, and these together brought on the disease. It was worst in June, July and August. As reported by Tobias Corberus, an army surgeon in the 1590s, it was a deadly langour, with severe stomach upset.

Typhus had apparently appeared first in 1489-90 during the wars in Granada between Ferdinand and Isabella and the Moors. 'One of the earliest really decisive typhus epidemics', writes the historian of typhus, Hans Zinsser,

was that which dispersed the army of Maximilian II of Germany, who was preparing with 80,000 men to face the Sultan Soliman in Hungary. In the camp at Komorn, in 1566, a disease broke out which was undoubtedly typhus. It was so violent and deadly that the campaign against the Turks was given up... The Thirty Years War was in all its phases dominated by deadly epidemics .. [In one particularly crucial episode] in 1632 Gustavus Adolphus and Wallenstein faced each other before Nuremberg, which was the goal of both armies. Typhus and scurvy killed 18,000 soldiers, whereupon both the opposing forces marched away in the hope of escaping the further ravages of the pestilence.<sup>9</sup>

Amongst the other numerous and frequent epidemics which struck Europe throughout this period, there was one which originated in England and seemed to limit its attacks mostly to English people, the 'English sweating sickness' or 'the English sweat', and which has just recently been making headlines again (at least in England). Breaking out first in September 1485, just before the battle of Bosworth, among the troops of the future Henry VII in Wales, it spread to London and then over the whole kingdom, killing the rich and powerful as readily as the poor and weak, and with an unusual pattern of striking particularly at well-nourished men in the prime of life. It reappeared in epidemic form in 1506

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9. Zinsser 1935, p. 159.

in London, in 1517 when it spread from London to the rest of the country, in 1528-9 again beginning in London and spreading to the whole country, and on this occasion it appeared also in Germany, Denmark, Norway and Sweden, the Netherlands, and Vienna. Then it appeared for the last time in 1551, in England, when it began at Shrewsbury and proceeded into Wales and then to Winchester, Coventry, Oxford and other towns in the south to London, and from there to the towns of the east and north of England. It reached Calais (an English territory) and Antwerp, but only the English people living there seem to have been affected. After these five outbreaks it has never reappeared.

John Caius, a Padua-trained physician then practising in London and in the royal court, who witnessed the 1551 outbreak, wrote a book about it in 1552, *A Boke or Counseill against the Disease commonly called the Sweat or Sweatyng Sicknesse*.<sup>10</sup> 'The sweat' was particularly fearsome because it attacked and killed within one day. Caius wrote of it that for its 'sudden sharpness and unwonted cruellness [it] passed the pestilence', since unlike plague it was extremely sudden. This disease

immediately killed some in opening their windows, some in playing with children in their street doors, some in one hour, many in two it destroyed, and at the longest them that merrily dined, it gave a sorrowful supper. As it found them so it took them, some in sleep, some in wake, some in mirth, some in care, some in fasting and some full, some busy and some idle, and in one house sometime three sometime five, sometime seven and sometime eight, sometime more, sometime all, of the which, if half in every town escaped, it was thought great favour.<sup>11</sup>

The disease was a fever, with pain in the back and limbs, the liver and the stomach, with pain and madness in the head, and 'passion of the heart'. Flushing and windiness were followed by extreme drowsiness. Sweating was profuse, thick and with a vile smell, which even the decorous Caius called an 'ungentle savour or smell'. Its mortality was very high: virtually everyone who suffered the disease died from it, and within a day.

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10. Caius 1552.

11. Caius 1552, p. 9.

*Holinshed's Chronicle* records of Henry VII's soldiers that

suddenly a deadly burning sweat so assailed their bodies and dis-tempered their blood with a most ardent heat, that scarce one amongst an hundred that sickened did escape with life; for all in manner as soon as the sweat took them, or within a short time after, yielded the ghost.<sup>12</sup>

The final epidemic disease I shall mention here is plague. This was not a new disease of the period. Plague was the most feared of all diseases, the disease to which other epidemics were (and still are!) often compared in order to convey their horribleness.

The years 1348-9 had witnessed the pandemic of plague now known as the 'Black Death', which killed probably a third of the population of Europe. While never again occurring on that scale, plague nevertheless continued to break out in epidemic form repeatedly, and it is safe to assume that in every year between 1400 and 1648 plague was killing its thousands and its tens of thousands suddenly and horribly somewhere in Europe. As Jean-Noël Biraben, the modern historian of plague across Europe, has written: from 1348 to 1670 'the plague raged in Europe every year, sometimes across vast regions, sometimes only in a few localities, but without omitting a single annual link in this long and mournful chain'.<sup>13</sup> It was not to be until 1665 in England and 1720 in Marseilles, that plague would make its last epidemic appearance in Europe.

In the last hundred and fifty years of the period we are concerned with here, Biraben's figures reveal that plague broke out on no less than seventeen occasions on a scale which reached across the whole of Europe; this averages about once every nine years. The worst of these Europe-wide outbreaks were in the years 1522, 1564, 1580, 1586, 1599, 1604, 1625, 1630 and 1636.<sup>14</sup> Other severe outbreaks across Europe occurred in 1502, 1506, 1545 and 1645, with somewhat lesser outbreaks in 1494, 1537, 1557 and 1592. But

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12. Hecker 1844, p. 181 note c.

13. Biraben 1975-6, vol. 1, p. 105, my translation. The following few paragraphs are highly dependent on this work, which includes a most extensive and valuable bibliography.

14. Biraben 1975-6, vol. 1, p. 125.



in addition to these very large trans-regional outbreaks, every locality experienced its own pattern of outbreaks. In the Dutch cities, for instance, during the period 1493-1649 plagues broke out with great frequency.<sup>15</sup> In Amsterdam there were twenty-four outbreaks, in Leiden twenty-seven, in Rotterdam twenty, in Dordrecht eighteen. Sometimes God let the plague visit three or four years in a row, as in Amsterdam in the years 1557, 1558 and 1559, again in 1601, 1602 and 1603, again in 1616, 1617 and 1618, and yet again in 1623, 1624, 1625 and 1626. Sometimes, by contrast, God spared a city for over two decades at a time, as Amsterdam was spared between 1493 and 1522, and again between 1575 and 1599. The mortality in a town like Amsterdam was high: in the years with the worst outbreak of the epidemic, such as 1624 and 1636, it has been calculated that over one in ten of the city's population died from the disease: the population was literally decimated. Even in a year like 1635, one of the least severe outbreaks, when only about one in sixteen of the population died, the social and emotional impact of plague would have been enormous. In general, the larger the town the more frequent the outbreaks of plague. And, again in general, the larger the town the more prosperous it was, hence the more prosperous the town the more frequent the outbreaks of plague. Thus rich and growing towns were particularly unhealthy and unsafe places to live.

Because such a high proportion of those who suffered the symptoms of plague died from it, and in a very short space of time, it was not a disease to which the people could ever become inured. Every outbreak appeared like a divine judgement.

The eminent French surgeon Ambroise Paré's account of plague, which was written at the request of the French Queen-Mother, Catherine de Medici, after a widespread outbreak of the disease in France in 1565, is one of the classic descriptions of the disease, and indicates how painful and fearsome it was.<sup>16</sup> In Paré's view, the 'first original' of plague was a corruption of the air, entering the body and reaching the heart, 'the Mansion, or as it were the Fortress or Castle of Life', where it acted like a poison, attacking the vital spirit. If the vital spirit is weak, it 'flies back into the Fortress of the Heart, by the like contagion infecting the Heart, and so [it

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15. Those figures from Noordegraaf and Valk 1996, pp. 231-4.

16. Paré 1630.

infects] the whole Body, being spread into it by the passages of the Arteries'. The pestiferous poison brought about a burning fever, whose effects drove sufferers to desperate measures. They had ulcerated jaws, unquenchable thirst, dryness and blackness of the tongue, 'and it causeth such a Phrensy by inflaming the Brain, that the Patients running naked out of their Beds, seek to throw themselves out of Windows into the Pits and Rivers that are at hand'.<sup>17</sup> The bubo was extraordinarily painful. Paré wrote:

There are many that for fear of death have with their own hands pulled away the Bubo with a pair of Smith's pincers: others have digged the flesh round about it, and so gotten it fully out. And to conclude, others have become so mad, that they have thrust an hot iron into it with their own hand, that the venom might have a passage forth.<sup>18</sup>

So one can see from these examples of four epidemic diseases of the period, four basic things: 1. that there were lots of different epidemics, with great mortality; 2. that they were very frequent, with several occurring within a typical individual's lifetime; 3. that 'plague' was the most common; 4. but that there were others too, some new some old.

### **What does this show with respect to crisis or transformation?**

Here I turn to some historiographic considerations. It will be obvious from this slight sketch of some epidemics of the period 1400-1648, that epidemics are highly dramatic in their impact on a society. They arrive suddenly, without explanation, and they seize human life, usually on a large scale, in an arbitrary manner. With respect then to our basic question – crisis or transformation? – the evidence of the impact of epidemics, the impact both on the historical actors and on the historians, would seem to show that there certainly were a series of crises in this period, indeed that there were many, severe, crises. We would be within our rights in

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17. Paré 1630, pp. 27-8.

18. Paré 1630, p. 68.

concluding from this that the disease history of the period *is* one of crisis, and that if we nevertheless continued to insist that there was actually a slow transformation, then we would have to concede that that slow transformation worked itself out through a series of monumental sudden crises.

However, it is immediately necessary to enter some reservations about this conclusion. In the first place there is the matter of *visibility*. From a historian's point of view, epidemics are much the easiest diseases to find and trace in the early modern period. From the mid-fifteenth century their arrival (and especially that of plague) prompted a considerable quantity of printed material, with every major printing centre putting out tracts, treatises, recipes for cure, sermons, prayers, edicts about social behaviour, and so on etc. Moreover, epidemic disease makes a particular mark in records of death kept by contemporaries. Hence in recent decades, the techniques of historical demography have often been able to enrich and substantiate with figures the impressionistic story told by the historical actors, by showing us, especially for the very end of this period (i.e. from the Council of Trent on, increasingly fully) just how many people died in particular outbreaks, how long an outbreak lasted in a particular vicinity, how it spread, and how the disease declined. So the work of historical demographers has (incidentally) acted to keep epidemic disease prominent in historical accounts, and means that one can write a rich history of epidemic disease for this period. Yet, although they are so prominent in our accounts of the past, epidemic diseases comprise only part of the disease history of any society, and that a relatively small part. As we know in our own society, which is comparatively free of epidemic disease, illness and accidents still occur in every life and family, and determine the time and nature of our lives and deaths. Thus the immediate visibility of epidemics in the past means we play down the majority of past diseases, the non-epidemic ones. To put it another way: more people in the past died of non-epidemic illness than epidemics.

Secondly, not only are epidemics perhaps disproportionately represented in our accounts of society and disease in the past, but we have also inherited a disposition to regard epidemics as crucial turning-points in human history (i.e. quite literally as 'crises', decisive moments). This is something we have tended to take for granted since the work of the great 'disease-disaster-historians' (as

I shall call them) of the nineteenth century, who first called attention to the possibility and desirability of writing the history of epidemics. The work of Julius Hecker (1830s), Heinrich Haeser (1830s), August Hirsch (1860-80s), Andrew Davidson (1880s) and others, was based, at least in part, on a practical medical desire to map diseases in time and space in order to inform modern practice.<sup>19</sup> But these researchers also took it for granted that one could give (in Hirsch's words) 'a picture of the occurrence, the distribution, and the types of diseases of mankind, in distinct epochs of time, and at various points of the earth's surface'.<sup>20</sup> The disease-disaster-historians were interested, that is, not only in the history of the diseases, but also in 'the distinct epochs of time' which typified/governed their incidence. Thus epidemic diseases had for them a history related to place, climate and population. But they also had a role in fulfilling the great drama of history and of human history, seen from a nineteenth century perspective, for this disease history intersected with human history. Thus for Hecker, for instance, the great plague of 1348 played a crucial role in such history, and he marked it with the name 'the Black Death'.

So, in this tradition of writing about disease history, epidemics were not (if I can put it like this) merely epidemics. Their role, at least in the case of the greatest epidemic outbreaks, was to act as markers of some kind in the great story of mankind and his relation to the universe. Historical demographers seem to have taken over this view of the importance of epidemics as crises.

While historians of medicine have not necessarily adopted the nineteenth century Germanic interpretation of history which underlies this view of the centrality of epidemic crises to the interpretation of social history, they have adopted a particular feature of that approach which has, in effect, the same outcome. For they have adopted the tradition of writing *disease biographies* – just as Hecker did of the 'Black Death' – and this genre dominates the literature on disease history even now. In such biographies of an epidemic disease, as told today in the era of the germ theory, the disease is first identified by its microbial *cause*, with the historian identifying it with a *modern* disease; its first historic appearance is noted; its adventures over the years are traced (its comings and

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19. Hecker 1833 and 1835; Haeser 1839; Hirsch 1883-6; Davidson 1892.

20. Hirsch 1883-6, vol. 1, p. 1.

goings); its mode and pattern of spread; its mortality at different periods; its characteristic outbreaks; its 'structure' (i.e. the relation of outbreaks to each other); its preferred times and seasons; the microbe's own modifications over time (if any). These disease biographies are constantly being updated. So: the microbe (1) has a history, and (2) it has a history in its encounter with man as a pathogen.

Since the identification of the microbial pathogens of infectious disease, from the 1870s, historians have been enthusiastic to make the identification of past disease with modern infectious disease wherever they possibly can, and in this way they believe they can explain features of past epidemics. Of my four sample epidemics, for instance, they identify past 'plague' or 'Pest' on most occasions as modern plague; this enables them to discuss the conditions under which rats die and their fleas pass to humans. They identify past 'typhus' with modern typhus, caused by a micro-organism carried usually on the human body louse, and hence likely to be prevalent wherever numbers of people in a weakened state are confined together, and thus they can explain the incidence of 'siege' disease and 'hunger' fever. They equate past pox with modern syphilis, and compare its first outbreak in the 1490s with modern outbreaks in 'virgin soil'. And even a disease such as the English Sweating Sickness, which came and then went, they seek to identify as a modern disease (there is a current argument as to whether it was a hantavirus, or an arbovirus!).

In the disease biography stories that we tell, the role of human society is not active but *reactive*, and we portray such societies (usually) as reacting in ignorance of the real nature of the disease, reacting with panic, desperately seeking scapegoats or hoping to see some pattern in divine action. A recent example of this genre which deals with our period is Edward Eckert's *The Structure of Plagues and Pestilences in Early Modern Europe, Central Europe 1560-1640* (1996). While it goes beyond the usual form of studying of individual episodes of plague in the past, Eckert's book nevertheless has plague and its career as its subject-matter: it is a form of biography of disease.

From the disease-biography tradition, it begins to look as though the germs are running us – that we are the playthings of the germs – that the development (or otherwise) of human societies is an epiphenomenal feature of germ history. It is only with the advent,

in the late nineteenth century, of the germ theory of disease, that humans were introduced into the epidemic disease biographies as active (rather than passive) agents, turning on the infectious diseases and waging a 'war' on them, which humans have increasingly come to win. In this case, then, the disease still has a biography, but it is one which (ideally) ends with its death. This story-line has provided the structure of much traditional history of medicine.

The reason I draw attention to the way in which we pursue these particular types of history of disease is because it seems to me that this traditional approach to both medical and demographic history completely begs the question before us ('crisis or transformation?'). That is, our concentration on epidemics and on the biographies of epidemic diseases is itself built on an *assumption* about the critical role of epidemic diseases as crises, and on the role of those crises as more than just unpleasant episodes but also turning-points in some way, with the greatest of them marking 'epochs' in the history of the earth. Thus it is not surprising that the continued preferential study of epidemics in the disease past gives us a view of the period under scrutiny here as a period of crisis and crises!

Thus, looking at the question of the role of epidemic disease in the history of the period, and particularly whether we have here a story of crisis or transformation, we find that all the cards are stacked in favour of us finding crisis or crises as the key. However, there is, I think, a way out of this problem. And it begins by raising the question: are we writing the history of the right thing here? That is to say, in order to answer the present question should we be looking at the disease – which gives us the multiple-crisis view – or at the society *plus* its diseases, that is at both sets of actors or actants, interacting: disease *and* society, whether in balance or in tension? Would this give us a different view of our 'crisis or transformation?' question here? The issue has been raised by a number of recent scholars, and I want to conclude by following it up a little.

## Conclusion

In the first place we need to recognise two things. One is a truism: that there *must* be a relationship between the particular nature of a given society and its diseases (including, but not only, its epidemics). This will probably be a constantly changing relation, but it

is still a relation which can (ideally) be characterised at given moments of time and over the longer time-span, in the past as well as the present. The second is not so self-evident: it is that this relation depends *on the way in which humans change their own environment*, bringing themselves into contact with new sources of disease, introducing round themselves new circumstances, such as advancing into (or retreating from) certain geographical areas, or taking up (or abandoning) certain forms of cultivation. Arno Karlen has recently argued that in the second half of the twentieth century, we have encountered a host of new threatening infectious diseases of international significance – new ‘plagues’ he calls them: he counts over thirty major ones since 1951. Where have they come from – or, more accurately, why have they arisen? Karlen points out that in the last century, western man changed his environment more radically than in any previous period. He claims that ‘most human diseases were once new. They came to us because we changed our environment, our behaviour, or both. Sometimes, as is happening now, they came in waves’.<sup>21</sup>

Karlen’s argument about how the change of human environment brings new diseases into play is paralleled by more historically focussed works of recent years, such as those of Alfred Crosby, Philip Curtin, William McNeill and Thomas McKeown.<sup>22</sup> The arguments of all these writers are based on a germ-theory view of infectious disease: that is, they claim either that existing germs are brought into contact with man via environmental changes, or such environmental changes lead to changes in the nature of already existing microbes. We do not need to follow them down this particular route in order to accept the main thesis: that changing environments mean changing disease incidence, and that rapidly changing environments mean rapidly changing disease incidence – visible most of all in the occurrence of ‘new’ epidemic diseases or of old epidemics with new virulence.

In this sense (I would say) diseases should not be seen as *causes* of social change, whether for good or bad, but as *consequences* of the development of particular societies. Every society gets the diseases and the epidemics it deserves. A contracting and aging soci-

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21. Karlen 1995, pp. 10-1.

22. Crosby 1972 and 1986; Curtin 1992 and 1998; McNeill 1977 and 1980; McKeown 1988.

ety (a post-industrial one, for instance) will develop a particular disease profile, with its own apparent epidemics. Our own society, for instance, has an epidemic of cancer(s) on a scale never before experienced. Similarly, a society (whether present-day or historic) which is static in terms of reproductive pattern and in forms of agriculture, industry and commerce, will have its own pattern of disease. So again, a society which is rapidly expanding, which has a great and continuing increase in population, which expands beyond its old line of agricultural exploitation, which is land hungry and food hungry, and which packs itself into growing industrial towns, such a society will have its own pattern of disease and especially of epidemic disease. Rapidly changing environments mean rapidly changing disease incidence.

Such a society was Northern Europe in the period 1400 to 1648, as it recovered from the so-called Black Death. The epidemic disease moments that I was mentioning in the first part of my paper were taking place in the context of a change in population: as far as I can see, historians agree that the population of all parts of Europe doubled over this period. While there is no agreement about what the total population was at the beginning or end of this period, nevertheless there is general agreement that the population was increasing very rapidly. I said just now that the population change was the 'context' of the epidemic crises of this period. That hardly describes the relationship adequately. The inexorable population rise with its immediate social consequences – land pressure, new crops, travel, urban living, new needs for warfare and new modes of warfare, new forms of sexual behaviour – meant the environment in which people lived was being changed continuously. In other words, the demographic transformation, taking place over the long period, brought on the many epidemic crises.

Obviously this is a broad brush-stroke picture: I do not claim that it will explain directly every outbreak of every epidemic, especially at the local level, but it will nevertheless account for the big picture, within which those local episodes occurred. To adopt such a view would involve us in giving up the 'disease biography' approach, or at least render it less central to our stories. In the account of four epidemic diseases that I gave at the beginning, I deliberately did not place these diseases in their customary biographies. I did not even offer modern identifications of these diseases, preferring to cite the accounts of those who were seeing or



suffering the epidemics. Similarly, of the four I chose, two of them are ones which, even by the historical actors, were seen as related to *new* features of early modern life: siege warfare (typhus) and the voyages of discovery and changes in sexual behaviour (pox). What I was trying to convey was that these diseases don't have a biography without *these* particular historical human circumstances of an expanding society. Giving up disease biographies might also enable us to look at *all* the disease experiences of a particular historical society together. For instance the period 1400-1648 saw an epidemic of Melancholia, a mental illness which was as typical a product or consequence of this society as any of the physical epidemics it suffered, and which in turn had as much effect on that society, especially its leaders and intellectuals, as any physical epidemic – but no-one has yet written this history.

Thomas McKeown wrote quite recently: 'Remarkably, medical historians have had little to say about the history of human health, mainly, I believe, because they thought the explanation was self-evident'.<sup>23</sup> I think one could justifiably say, echoing this, that 'Remarkably, medical historians have had little to say about the history of human disease, mainly, I believe, because they thought the explanation was self-evident'. But it is not. I would add to this that, if an epidemic disease does indeed have a biography to be written, that biography can only be the shadow of the history of the human society in which it occurs since, without it, epidemic disease has no existence or identity.

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23. McKeown 1988, p. iv.

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