The Black Death was a type of bubonic plague. The plague of Justinian was undoubtedly bubonic plague and a good case can be put forward for the plague of the Philistines being the same disease. According to Samuel I, verses 4-5, the Philistines were advised to placate the Israelite God with talismanic offerings:

What shall be the trespass offering which we shall return to him? They answered Five golden emerods and five golden mice ... images of your emerods and images of your mice that mar the land.

The Authorized Version of the Old Testament states that
the 'emerods' which smote the Philistines 'in their secret parts' is an archaic term for 'piles' but the Revised Version has the translation 'tumours'; 'mice' may be a mistranslation of 'rats'. It has been suggested that the disease was dysentery rather than bubonic plague, but the hazards of mistranslation are so great that it is impossible to state a definite opinion.

The term 'bubonic' refers to the characteristic bubo or enlarged lymphatic gland. Bubonic plague is primarily a disease of rodents. The most common carrier is the rat. Bubonic plague is passed from rat to rat by the fleas which infest them. The flea bites an infected rat and ingurgitates plague bacilli. These bacilli can remain in the flea's intestinal canal for as long as three weeks and are regurgitated when the flea bites a man. In true bubonic plague, man will become infected only if fleas migrate from rodents to humans or from human to human. Bubonic plague is not carried by the patient's breath or by direct contact.

The common source of infection is the black rat (Rattus rattus) sometimes known as the Old English Rat. This animal is companionable with man. It is a rather handsome beast, with silky black fur, and, unlike the brown rat, tends to live in houses or ships rather than in farmyards or sewers. This companionship with man makes migration of fleas from rats to humans easy and so permits the spread of bubonic plague. The disease, whether of rat or man, has a very high mortality rate; 90 per cent of infected cases has been recorded in some epidemics. In man, the plague is typically seen as buboes, enlarged glands usually occurring in the groin (the 'secret parts' of the Bible story) but also in the armpit or neck. The causative organism, Pasteurella pestis, rapidly multiplies in the bloodstream, causing a high temperature and death from septicaemia (blood poisoning).

So far the story suggests a dangerous disease, not very common, occurring in isolated cases or in small sporadic epidemics. This is the kind of picture seen in countries where bubonic plague is endemic today, and is also true of Europe from about A.D. 600 until 1700. But there are two other forms
of the disease: septicaemic, in which a rapidly fatal septicaemia occurs before buboes have a chance to develop; and pneumonic, in which the signs and symptoms are those of an exceptionally virulent pneumonia. All three types can occur separately or together, but it is the last that primarily concerns us here, for pneumonic plague can spread directly from man to man without transmission by rat or flea. The breath and the sputum of the victim of pneumonic plague are quite literally crowded with bacilli; as he speaks, coughs, sneezes he will scatter these bacilli far and wide and any bystander will be in danger of inhaling them into his own lungs and so developing the pneumonic type of bubonic plague himself.

In this form plague can spread widely and rapidly. One sporadic case of the pneumonic type may cause a pandemic. But the reason why this occurrence is so rare remains a mystery. In the 1,100 years between 540 and 1666 there have been only three great pandemics, the plague of Justinian of 540-90, the Black Death of 1346-61, and that which raged in Europe during the years 1665-6 and produced the so-called Great Plague of London. In the plague of Justinian and the plague of 1665, the pandemic started as a rat-flea-man infection. The spread was inland from the coast and those who attended the sick were at no greater risk than those who did not; in Byzantium the death rate was small at the beginning but rapidly rose to an appalling figure. The same pattern is seen in 1665. Pepys noted ‘much against my will’ that two or three houses in Drury Lane were marked with a red cross on 7 June, 1665; from 7 June until 1 July, the weekly return of plague deaths was 100, 300, 450, but thereafter the rise was increasingly steep, reaching 2,000 by the end of July, 6,500 at the end of August, and over 7,000 at the peak in the third week of September. The estimated population of London in 1665 was 460,000 and bubonic plague was only rarely entirely absent from the city. A rise of the death rate to 200 to 300 a week can be attributed to a great increase in the number of infected rats, but a mortality of thousands argues a direct man-to-man infection. Thus at some point in the plague of Justinian and the plague of 1665 the mode of trans-
mission must have changed from the rat-flea-man cycle of bubonic plague to the predominantly pneumonic type. The same must be true of the Black Death.

Reaching southward into Africa, eastward to China, and northward to Russia and the Scandinavian countries, the Black Death was a world-wide pandemic. Indeed, it is just possible that the devastation wrought in Scandinavia may ultimately have had a greater effect upon world history than did the English catastrophe. Ships carried infection to the Greenland settlements founded by Erik the Red in A.D. 936. These colonies were so weakened by the plague and by failure of supplies from enfeebled Norway that they could not withstand Eskimo attacks. The last Viking settlers disappeared in the fifteenth century and Greenland became unknown country until rediscovered by John Davis in 1585. It is thought that the Viking settlements maintained sporadic contact with ‘Vinland’, which was part of the coast of Canada or Newfoundland, so the Black Death may have entirely altered the history of North America.

Its impact upon the future of England was greater than upon any other European country. The reason is that the English social system was already showing signs of strain and the Black Death accelerated its collapse. In Europe the system was more rigid and survived for many years. At the beginning of the fourteenth century England was governed by the feudal system, of which it has been said that everything ultimately belonged to someone else. The great lord held his lands from the king; the knight held his manor from the lord; the smaller landowner from the knight, and the villein from the village landowner. Rental was paid by service. Thus the baron owed so many knights to the crown, the knight so many men-at-arms to his lord, while the peasant was forced to work so many days upon his lord’s land before he might till his own. This, of course, is an over-simplification; the system was far more complex and less complete in practice. One complication was the existence of money; so long as money was in very short supply and confined to the ruling class, the basic principle could be fairly widely applied.
But, when coin entered into more general circulation, there developed a tendency to commute service for cash; the lord stayed at home instead of leading his knights; the knight found it more profitable to leave his tenant farmers to till the land and to pay a small force of professional soldiers; even the peasant sometimes managed to commute his service for rent or to demand a wage for additional labour. A growing population brought into being a quite large class of landless workers; these had to be paid in coin for their toil.

Thus an increased flow of money weakened feudalism. The great agricultural boom of the thirteenth century led to an excess of crops over and above the level necessary for national subsistence. The upper classes and especially the Church, the largest landowner in the country, devoted themselves with energy and intelligence to the business of farming. Trade and industry had developed since the days of the Norman, but agriculture remained the predominant and most gainful occupation of England.

By the end of the thirteenth century more land in England had been brought under plough than ever before and possibly than ever since. England had become a grain-exporting country, sending a steady supply of bread corns—wheat from the south, barley and oats from the north—to the Continent in the small ships of her merchant fleet. This corn had to be collected in centres, the market towns and manorial barns, before being carried by wagon to the ports. The heavy wagons demanded well-maintained roads; for this reason the road system of England was in better condition and travel was easier in 1300 than at any time until the end of the eighteenth century. The agricultural boom allowed a high standard of living and this, in turn, affected the live-birth rate and expectation of life. Population steadily increased from less than 2 million at the time of the Norman Conquest to at least 3½ million and perhaps more nearly 5 million in 1300.

Corn exports allowed not only luxury imports but an increase in coin. Because of a flourishing agriculture and because of the wider distribution of money, there was considerable buying and selling of land by free peasants and
exchange or leasing by the unfree as early as the thirteenth century. But the fact that a peasant possessed money did not necessarily mean that he could become a free man. His chances of freedom depended upon local conditions. Generally speaking, it was easier in the north, which was more remote from the Continental market and where there was less arable land requiring a large labour force.

By the end of the thirteenth century the basically simple structure of the feudal state had been complicated by a number of variants. The greatest weakness and the greatest danger to stability lay in the anomaly that the poorer peasants of the less highly cultivated areas had the better chance of freedom, while the more wealthy peasants of the predominantly arable counties found their bondage increased.

These peasants constituted the large majority of the English people and were the class most profoundly affected by the Black Death. The richer classes lived their lives apart, travelling quite widely, enjoying the benefits of imported goods, dwelling in stone houses which often boasted chimneys and glazed windows. Many of their houses are scattered throughout the English countryside of today, some of them picturesque ruins, a few still inhabited. The peasant’s house has almost entirely disappeared. Most lived in a round, tent-like cot, built of poles filled in with clay and brushwood, thatched with heather, straw or reed, with no chimney and no windows. The peasant’s diet was probably fairly good but there were great variations, both regional and seasonal, and times of dearth following bad seasons must have been not infrequent. The staple foods were grain products, honey, bacon, peas and beans. Fresh vegetables, with the possible exception of leeks and the cabbage-like collards, could only be obtained in summer. Lack of winter feed prevented the keeping of more than a few head of cattle from year to year, so dairy products, with the exception of a little cheese, were also summer foodstuffs. Lack of fresh meat, absence of milk and butter during the winter months, a deficiency of fresh vegetables coupled with the curious fact that fruit was generally regarded as unwholesome, rendered the peasant liable
to the vitamin-deficiency diseases, particularly scurvy. He ate well during the summer and autumn, but the long winter and spring months were a time of undernourishment, aggravated by the cold and damp of his working conditions and of his housing.

Failure of a harvest resulted in widespread starvation. The village community might be able to survive by snaring a few birds, poaching wild rabbits, and scratching the scanty resources of woodland and field: nuts, grasses, docks and nettles. But only the able-bodied could hope to live through a prolonged period of extreme scarcity until the new harvest brought fresh supplies. The very young and the elderly died of frank malnutrition or of intercurrent disease against which their enfeebled bodies could offer little resistance. The ills of damp and cold, particularly lung infections, must have carried off many older people and young children at these times; this was symptomatic of a general diminution of resistance which rendered the whole community more liable to attack by infectious disease. It seems that famine-sickness occurred on a major scale only once (1257-9) during the agricultural prosperity of the thirteenth century, but with the opening of the fourteenth century and the end of the boom years there came a recession which exerted a profound effect upon England’s health and economy.

Extensive dairy farming and meat production were impossible because of the difficulty of keeping beasts through the winter, so the great landlords turned to sheep. A fair amount of wool was already being produced for home use in the twelfth century, but now the change from arable to sheep started to accelerate. As a result, the standard of living of the peasantry began to fall and the birth rate declined. The economic standard of the peasant was further weakened by the war against the Scots in 1296 and by the Hundred Years War against the French which began in 1327. The Continental campaigns of Edward II, especially, could not be sustained by feudal levy and demanded paid or ‘indentured’ troops, whose cost ultimately fell upon the man who tilled the soil.

Thus in the year 1346 the outwardly stable structure of the
feudal system had developed a number of cracks, the economy of the realm was shaky, and the subsistence level of the peasantry lay at the mercy of a bad harvest. A network of quite good roads linked inland towns and villages to the Channel and North Sea ports; a stream of fighting men passed backwards and forwards across a short sea route to the battlefields of France. Given the sequence of a bad harvest, a famine-stricken populace, and a pestilence on the continent of Europe, spread of disease throughout England was inevitable. That sequence occurred in the years 1347 and 1348.

Men look back on world-shaking events to remember that they were preceded by signs and wonders in the heavens. There are reports of earthquakes, eruptions, tidal waves, in the years immediately preceding the Black Death but these, if they occurred at all, are coincidental. The one reported antecedent which had some effect upon the course of the pestilence is a quite appalling weather pattern which seems to have been general throughout Europe during the years 1346-8. The series of three abnormally wet and cold summers, culminating in that of 1348, when it is related that rain fell unceasingly from midsummer until Christmas, imply a period of prolonged dearth with consequent malnutrition, illness and reduced resistance to infectious disease.

The Black Death probably first broke out in the small fortified trading-post of Caffa (now Theodosia) on the Crimean shore of the Black Sea. In 1344 a company of Italian merchants, engaged in the overland trade between Europe and China, had taken refuge here from attack by a Tartar horde. The Tartars settled down to besiege the place, but the Italians successfully repelled them for over two years. This besieging army was probably reinforced from time to time by new bands from southern Russia and the East. According to one account, plague broke out in Caffa itself during the winter of 1346-7; a second story relates that it was introduced into the fort by the besiegers by means of corpses thrown over the walls. Both sides suffered many deaths and the siege was raised. The Tartar horde dispersed, carrying the plague with them to the Caspian Sea; thence it spread northward to
Russia and eastward to India and China, where it first arrived in 1352. Such of the Italian traders as still survived escaped from Caffa by ship for Genoa. The chronicler Gabriel De Mussis stated that no case of plague occurred on the voyage but that it appeared at Genoa in a deadly form a day or two after the ship docked. His statement suggests that the disease was still in its rat-flea-man cycle.

From its European source in Genoa the plague quickly swept in a great west and north half-circle through Italy, France, Germany and the Scandinavian countries to join up with the slower northern invasion, reaching Moscow in 1352. The devastation was terrible; historians have reckoned that some 24 million people died, about a quarter of the European population. Crews were entirely wiped out, so that many ships drifted unmanned and helpless about the Mediterranean and North Seas. In southern France mortality was so great that the Pope consecrated the river Rhône at Avignon, so that corpses flung into the river might be considered to have received Christian burial. Both Boccaccio and Petrarch have left horrible descriptions of the plague in Italy. There is an unauthenticated rumour of a small outbreak in England during the late winter of 1347; if true, this must have remained a rat-flea-man infection, for it soon died out.

There is a modern tendency to underestimate the severity of the Black Death. Various reasons are put forward, but the underlying thought is 'it just cannot have happened'. Many people assume that the visitation was little worse than later epidemics. Petrarch appears to have foreseen this attitude. He lived at Avignon in the south of France; his beloved Laura died of the plague in April 1348. Petrarch wrote that future generations would be incredulous, would be unable to imagine the empty houses, abandoned towns, the squalid countryside, the fields littered with dead, the dreadful silent solitude which seemed to hang over the whole world. No one could advise in a time of pestilence such as this; physicians were useless, historians knew of no such visitation, philosophers could only shrug their shoulders and look wise.
Petrarch questioned—and, as it has turned out, rightly questioned—whether posterity could possibly believe such things, when those who had actually seen them could hardly believe them themselves.

The Black Death was not just another incident in the long list of epidemics which have smitten the world. It was probably the greatest European catastrophe in history.

Considering the extent of the disaster, we know surprisingly little of the Black Death; for instance, the very scanty descriptions of signs and symptoms do not so much as mention blood-stained sputum (although vomiting of blood is described), yet this is one of the cardinal signs of a virulent pneumonia. Nevertheless, the widespread and high mortality of the plague indicate that it must have been predominantly of the pneumonic type. The English outbreak was brought by ship to the coast of Dorset, where it appeared in the village of Melcombe, now swallowed up in the seaside resort of Weymouth. The usually accepted date is the first week of August 1348, but it has recently been suggested that an infected ship arrived from Gascony shortly before the Feast of St John the Baptist (24 June) and that from this ship ‘the men of that town of Melcombe were the first in England to be infected’. Philip Ziegler, who backs this evidence with an extract from the Chronicle of the Grey Friars at Lynn, thinks that a small, local rat-flea-man infection developed at the end of July and that the rapidly spreading pneumonic type appeared in early or middle August.

From the port of Melcombe, the plague travelled both by land and by sea, with coasting vessels bringing infection to ports on the south and west coasts and the Bristol Channel. It then ran quickly north and east through Dorset and Somerset, reaching Bristol by 15 August. It is, however, possible that the infection was brought to Bristol by sea, or even that this may have been a new focus of infection, for Bristol was a port of considerable size and received many ships from Europe. The citizens of Gloucester, learning of the sickness, tried to prevent attack by cutting off all communication with Bristol, but their effort was in vain. From Gloucester the plague
passed to Oxford and from Oxford to London, where it first appeared about 1 November. Westward spread, through the relatively sparsely inhabited counties of Devon and Cornwall, was slower, for the plague did not reach Bodmin in central Cornwall until just before Christmas. By then plague was raging throughout the diocese of Bath and Wells, which covered the counties of Dorset and Somerset, for on 4 January 1349 the bishop wrote of a great mortality and of many parishes left without a priest to administer the sacraments.

In London, Parliament was prorogued on 1 January 1349 because of plague and again on 10 March; there were not many deaths at first, but the sickness increased in violence during winter and spring, rising to a peak in April and May, and then gradually declining. The same story is found on the road between Bristol and London, for Oxford was first infected before November 1348 but the time of greatest mortality was not until 1349.

From London the main route lay through the very highly populated eastern counties, Norwich being infected in March 1349 and York on Ascension Day; that is, during the latter part of May. By now the whole of the south, east, and midland districts of England had been attacked and the rate of spread slowed up in the more thinly populated north and west. Ireland received the infection by sea in 1349, but Wales and Scotland were not attacked until 1350. Scotland might quite possibly have escaped, had not the Scots decided to take advantage of England's difficulties by an invasion in the autumn of 1349 when mortality was at its greatest in the extreme northern counties. Plague broke out in the Scottish army encamped near Selkirk, and was dispersed over the country as the soldiers returned to their homes.

This variation in the rate of progress is only to be expected. Not only were villages more thickly clustered in the south, the midlands, and the east, but these regions had formed the main corn-exporting areas of England, served by roads designed for wagon traffic. The great wagon trains had disappeared but, after only fifty years, the roads were still fit for use. Once established, the infection was spread by man as
well as by rats, whether from man to man in the pneumonic type, or by plague-infested fleas which were the constant companions of both man and rat. Fear induced flight from a plague-ridden village; flight was both easier and quicker along an open road or over the cleared lands which had once been under corn. In the north and west of England, in Scotland and Wales, the country was more rugged, villages were more widely separated and roads were few; thus flight was more difficult and the rate of spread slower.

We do not know how many people died during this terrible year. There were no bills of mortality, there was no Domesday Book, no census. No man in 1348 was able to estimate large numbers, to strike a gross figure from investigation of a random sample. We do not even know the total population of England in 1347; it has been estimated as low as 3½ million and as high as 5 million. Further, the Black Death did not occur as a single visitation: there were recurrent epidemics on four or five occasions before the end of the fourteenth century. The worst of these was in 1361 when it raged in England, France and Poland, among other countries. The name Pestis puerorum, given to this outbreak, provides our first clue, for it suggests the presence of an abnormally high percentage of children in 1361, as would be the case if all age groups had suffered a great mortality thirteen years before.

Another clue is provided by the Poll Tax levied in 1377. Estimates based upon this tax suggest that the population was about 2,070,000. Since the population in 1348 was at least 3,500,000, there must have been a drop of 1½ million in the total population between 1349 and 1377. The population rose steadily between the Norman Conquest and 1348; it also rose steadily from the end of the fourteenth century onwards, until a figure of at least 3½ million was again reached in the middle of the sixteenth century. In both cases, the rise can only have occurred because the live-birth rate outnumbered the death rate. Ordinary disease, including outbreaks of epidemic illness, caused deaths throughout the whole period; just as the normal process of death continued, so did the normal process of birth. Thus the disappearance
of 1½ million people between the years 1349 and 1377 can only have been due to an abnormal mortality. Since a large diminution of fecund adults would prevent a rising birth rate, it is safe to assume that maximum mortality occurred at the beginning of the twenty-eight-year period.

There must have been considerable variation in the pattern of infection, and so of mortality, throughout England and Europe. The crowded, walled towns would obviously have been at high risk. Density of population and easy communications condued to a high rate of infection and the rapid spread of disease. In the thickly populated eastern counties of England, where villages lay cheek by jowl and roads had been maintained for wagon traffic, the death toll must have been large. Inland waterways and coastal traffic would also have favoured spread. In the thinly populated areas of the west and north of Britain, and to a lesser extent in some southern counties, there must have been quite large districts which escaped entirely, simply because of bad communications. But in 1348 the riches and the greater part of the population of England were concentrated in the eastern and midland counties; a high mortality here would have exerted so profound an effect that the relative freedom from disease of wide areas, largely composed of forest and waste, can be almost discounted.

The immediate effect of the Black Death was a general paralysis. Trade largely ceased; the war between England and France was halted by a truce on 2 May 1349 and did not break out again generally until September 1355. In 1350, with the death of so many able-bodied men, the defence of the realm became a matter of grave concern, and towns were required to supply men-at-arms, ships and sailors from their depleted resources.

The cornfields had been sown or were being sown while the plague still gathered momentum. Although a disease of cattle and sheep is mentioned as occurring during the Black Death, there was far greater destruction of men than of livestock. Many more wills were proved during the Black Death than at any time before or for many years to come.
instance, in normal times about three wills per month were probated in the Hustings Court of London; in January to November 1349 the number ranged from eighteen to 121 per month. Those who survived the pestilence encountered unwonted prosperity; there was more money per head, more livestock and more grain. Because it was a buyer's market, prices fell steeply to a third or less of their previous level. A good horse which had been worth forty shillings now fetched only sixteen; a fat ox could be bought for four shillings, a cow for one shilling, a fat sheep for fourpence. Wheat, which had been as cheap as sixteen pence a quarter in the great corn-growing years and as dear as twenty-six shillings in the lean year of 1315-16, was sold at one shilling a quarter.

The urgent need to reap the harvest in the autumn of 1349 induced landowners to offer high wages; in the eastern, midland, and southern counties, reapers and mowers received at least double their ordinary wage. The diet of the surviving labourers became unwontedly good as a result of all this plenty. These are the days of which William Langland wrote that Hunger was no longer Master. Beggars refused bread made of beans and demanded milk loaves or fine white wheaten bread and the best brown ale. Day labourers, who had once been content to eat stale vegetables and a hunk of cold bacon washed down with small beer, now turned up their noses at anything except fresh meat and fried or baked fish, served hot lest they catch a chill on their stomachs.

This time of gross plenty was of short duration, for only a limited number of cattle could be tended and only a limited acreage cultivated by the reduced labour force. The Statutes of Labourers, enacted by Parliament in 1350 and 1351 were aimed not only at the labourer. These laws, although they sought to peg wages at the level obtaining in 1346, also directed victuallers and other traders to sell their goods at reasonable prices. This was, in fact, the first example of a Prices and Incomes Policy.

The continuing rise in population until 1347 had outstripped the land available for cultivation. There was, in fact, a glut of labour. The Black Death reversed this situa-
tion. In the years immediately following, shortage of labour was so extreme and disorganization so great in the previously heavily-populated areas that legislation could do nothing to effect a remedy. But those areas less severely affected still possessed an excess of labour in 1350. Thus, given mobility, there was still a small pool of labour available and so wages could be held down. This pool was, however, not sufficiently large to solve the problem in the long term when further plagues and fewer births made labour increasingly scarce. But, at least until 1361, the Statutes of Labourers succeeded in restoring some measure of stability by preventing wages and prices from getting entirely out of control.

During and immediately after the Black Death, the labouring class became mobile for the first time in English history. At first the driving force was the natural urge to escape from pestilence, the instinct of the few survivors of a devastated community to seek their livelihoods elsewhere. Later, in the autumn and winter of 1349, the vital need to gather in the harvest dictated the purposeful mobilization of the available labour force. This movement was local but, as the scarcity of labour became more acute, rumours of higher wages tempted workers to travel further afield and to seek new masters. The masters, although more than willing to enforce the principle of feudal tenure, found themselves so short of labour that they were obliged to hire the vagabonds without questioning their origin.

The Statutes applied not only to the labourer but to his master. Just as the labourer might not demand higher wages, so the master might not offer them. These masters were not always great landlords. Many villeins had become substantial small farmers, cultivating as much as thirty or forty acres. They were not free men, in that they held their land by service to their lords or had commuted that service for a payment in cash or kind. But they were masters in that they employed hired labour, drawn from the landless or almost landless class of ‘cottars and bordars’ which had greatly increased during the thirteenth century.

The great landlord, already in difficulty in 1349, was faced
with a virtually insoluble dilemma after the available labour force had been further decreased in 1361. Many of his service tenants had died and their holdings were back in his hands. If he wished to farm this land himself, he needed labourers. If he did not farm it, the only profitable alternative was to let the land at a rent. The only person willing to rent part of this increased acreage was the surviving villein, whose duty it had been to till and cultivate his lord’s fields. The landlord government attempted to solve the dilemma by enforcing feudal rights without mercy; not only did commutation for payment cease entirely but service was demanded from those who had already commuted.

Obviously this attempted solution created increasing hardship as the available labour declined and, equally obviously, it evoked intense hostility among that section of the labouring community which had already tasted comparative freedom. Hostility increased through twenty troubled years and crystallized in the revolt of 1381. Although precipitated by the unpopular Poll Tax of 1377, this was predominantly an agricultural rising, having as its chief objective commutation of all servile dues for ‘a fair rent’ of fourpence an acre. The revolt failed in its immediate purpose and was followed by harsh repression but, in the end, the landlord at last understood that his only feasible course was to make the best bargain that he could with his villeins. He retained ownership of the land but ceased to farm that land through his bailiff or reeve. The reeve, who had overseen the labourers on his lord’s fields, became the estate steward who received the rents from his lord’s tenants. The service-labourer or villein developed into the tenant-farmer. Thus the Black Death struck such a blow to the already weakened feudal system that it had lost much of its meaning within two generations and had entirely disappeared within 150 years. But the tenant-farmer himself needed hired labour; this he drew from the less able villein and from the landless class of cottar and bordar. The new pattern had become evident by the early years of the fifteenth century and was complete in the sixteenth: England had become a country of tenant-farmers,
their fields worked by a landless agricultural proletariat. In the majority of European countries the feudal system lingered on for four or five centuries, but in England the peasant ceased to exist; farmer and landworker took his place.

The new tenant-farmer lived closer to the soil than the old aristocratic landlord-cultivator. He understood more readily than his late master that an excessive acreage can only be economically farmed by methods which require a small labour force. Thus he quickly decreased the area of arable and increased his pasture. Even in the strong corn-growing lands of East Anglia, sheep became the farm staple; in the north and west, sheep virtually ousted all other crops. Tudor prosperity depended upon wool. So rapid was the change that shortage of labour had again turned to glut in the fifteenth century and, by the time of Henry VIII, the complaint was heard that the sheep were eating up the men. We catch a glimpse of the starving, out-of-work ploughman and reaper in the often-misquoted nursery rhyme:

_Baa baa, black sheep, have you any wool?_
_Yes sir, no sir, three bags full._
_Two for my master and one for his dame_
_But none for the little boy who cries down the lane._

Thus, within little over a century, the villein-farmer developed into the wool baron. He was helped by the ever-increasing strain imposed upon the landed class by nearly 150 years of more or less continuous warfare. But, had it not been for the labour crisis that followed the Black Death, the ex-villein would never have been able to take advantage of the anarchy that accompanied the Wars of the Roses. In the dynastic struggle of 1455-61 the old feudal aristocracy of England committed mass suicide and the late villein, now tenant-farmer, emerged as the landowner, by buying up the estate of his ruined lord. The large majority of older English ‘county families’ arose during this time and by this means; their origins lie in a Saxon and villein ancestry rather than in Norman blood. These ‘new men’ came to power under
the Tudors. Unlike the Norman barons, the ‘new men’ were of the same stock as their inferiors; though sometimes harsh and arrogant and often bitterly resented, they never developed into a closed, aloof caste like the Continental aristocracy. The strength of the English social structure lies in this fact; continuing shifts have prevented a rigid differentiation between classes.

Petrarch must be right. No man who has not lived through a great and incurable plague can possibly imagine the horror and despair that attend it. Appeals to human aid and divine intervention are alike in vain. The Black Death must have seemed to be of supernatural origin, a punishment inflicted by a higher power upon unknown sinners for unknown crimes. Culprits were sought: nobles, cripples, and Jews in turn came under suspicion. The Jews, in particular, were suspected of purposely spreading plague by contaminating wells or by ‘anointing’ houses and persons with an imagined poison. Their persecution started at Chillon on Lake Geneva in 1348 and rapidly spread to Basel, Bern, Freiburg and Strassburg. At Basel and Freiburg all known Jews were herded into a large wooden building and burned to death. At Strassburg over two thousand are said to have been hanged on a scaffold set up in the Jewish burial ground. So bitter did the persecution become that the liberal Pope Clement VI issued two Bulls declaring Jews to be innocent. Numbers fled from western Europe into east Germany and Poland. Here they were tolerated and founded communities which rapidly grew in numbers, a fact which helps to account for the very large Jewish population of west Russia, eastern Germany, Poland, and north-east Austria in the nineteenth and early twentieth centuries. Thus the Black Death intensified the mediaeval Christian tradition of the scapegoat-Jew and, by causing the migration of so large a number to the east and north of Europe, is linked to the pogroms of Imperial Russia and the gas-chambers of Auschwitz.

The attempt to find a culprit was accompanied, on the one hand, by a general relaxation of moral values and a cynical,
unhappy pursuit of pleasure. On the other hand, there
developed a masochistic urge to accept or divert the divine
punishment. The most dramatic expression of this urge was
the mania for organized mass flagellations. The flagellants
were not a product of the Black Death alone, for they rose
to some notoriety in Italy and Germany following a severe
famine-pestilence in 1258-9. But in 1348 the movement
spread all over Europe and enlisted tens of thousands. The
flagellants organized themselves in companies each under a
master, wore a special uniform, lived under discipline, and
conducted their public and private self-flagellations according
to a set ritual. To our minds the flagellants are extraordinary
and rather horrible, but the reason for their strange
behaviour is perfectly logical: the Black Death was a divine
chastisement; the flagellant attempted to divert the divine
punishment by chastising himself. Thus it was the rumour
rather than the appearance of plague which induced the
exhibition; the flagellant tried to forestall punishment of his
fellows by inflicting punishment upon his own body.

The movement was at first welcomed by the Church as a
mass penance. Pope Clement himself ordered public flagella-
tion at Avignon in an attempt to stay the plague. But the
flagellants rapidly got out of control and assumed the
character of a revolutionary movement directed against Jews,
the richer classes and the Church alike. In October 1349 the
Pope issued a Bull against them. Many were beheaded,
hanged, or burned, and all further processions were for-
bidden. A curious quirk of clerical psychology condemned a
number of flagellants to be flogged by priests before the high
altar of St Peter’s in Rome.

The Christian Church had risen to be a dominant power
partly as a result of the earlier pestilences. It would be strange
if so great a catastrophe as the Black Death did not exert some
influence upon the authority of a religion which had now been
established for 1,000 years. The remarkable grasp of the
Church upon Europe enabled Christianity to weather the
storm, but the authority of the Church did not survive the
Black Death unscathed.
Up to a point, Church influence had been for the public good; she preserved a limited peace in times of strife, tried to impose a code of human behaviour, and acted as schoolmistress. The Church harnessed and nourished intellect, taught and provided administrators, lawyers and physicians, encouraged and preserved architecture, literature and art. But, although creative work might be encouraged, creative thought was more often sternly repressed. The doctrine of persecution formed an integral part of mediaeval Christianity and those whose written or spoken thoughts did not follow the rigid line permitted by the Church stood in danger of persecution as heretics.

In material matters the Church suffered badly from the Black Death. A great loss of manpower and impoverishment through inability to cultivate her vast tracts of land rendered her a less dominant power in 1350 than in 1346. But greater harm resulted from her helplessness in this time of disaster, a large loss of priests and monks, and her failure to control their successors. Parish priests, the best-loved of church workers, died by the hundred and according to William Langland their benefices were all too often hurriedly filled by 'numbers of youths, that had only devoted themselves for clerks by being shaven'. If Langland is to be believed—and there is no reason to disbelieve him—the friars, who had previously been renowned for holiness and charity, gave themselves up to 'gayness and gluttony', while country parsons and parish priests spent their time in London, touting for high places, instead of ministering to their parishioners. Langland specifically states in both instances that these abuses had multiplied 'sithen the pestilence time'.

Further, the very fact that the Church possessed the seeming advantage of being international or supra-national implied a threat to her power. In many countries, Germany and England for example, People and Church had been falling out of sympathy for a number of years. The national branches of the Church cried out for reform, but they had no power to reform themselves because they lacked auton-
omy; they were, in fact, outlying parts of a foreign organization of immense power and prestige.

For all these reasons, open opposition to the Church developed in the years immediately following the Black Death. Popular reaction can be measured by contrasting the murders of two prominent English churchmen. In 1170 the Archbishop of Canterbury was done to death as the result of some hasty words spoken by King Henry II; although Thomas à Becket’s policy was not generally approved, public horror at this sacrilege forced the king to submit himself to humilitating penance. In 1381 a band of rebels seized the mild Simon Sudbury, Archbishop of Canterbury, and struck off his head on Tower Hill in London amid the ferocious applause of a great crowd. ‘The relation of Church and people had undergone a profound change since the ancestors of these same men had knelt beside their ploughs to pray for the Holy Martyr, Thomas à Becket,’ wrote G. M. Trevelyman.

The change was more profound than is suggested by the murder of Sudbury, Langland’s disapproval or the deviant behaviour of flagellants. John Wyclif, born about 1320 and dying in 1384, was a notable theologian and Master of Balliol College, Oxford. He questioned Holy Church’s hitherto unchallenged power. As well as demanding a vernacular Order of Service and translating the Bible into English, he attacked the worship of images and relics, the sale of pardons and masses for the dead. Wyclif gained an immense following who became known as the Lollards. They were drawn not only from the common people, but from the nobility, the friars and some of the lesser clergy who had reason to dislike wealthy monks and bishops.

Wyclif was before his time. As the Church re-established its shaken authority, the Lollards became subject to persecution and were driven underground, to reappear in the reigns of Henry VII and VIII. Persecuted again, they re-emerged to combine with the Protestants of Martin Luther. Luther owed something to the teaching of the earlier reformer John Huss of Bohemia, and Huss, in turn, acknowledged himself a pupil of Wyclif. Thus it is not too much to claim that the
Protestant Reformation, the sailing of the Brownist Pilgrim Fathers in the Mayflower from Plymouth on 6 September 1620 and the foundation of Pennsylvania by the Quaker William Penn in 1681, can all be linked with the deviation from established religion that followed the disaster of the Black Death.

One would have thought that so great a pestilence, in which physicians and priests alike proved useless, must have profoundly affected the development of the theocratic medical art. This is not so. Almost the only medical advance directly attributable to the Black Death is in the field of public health. In 1374 the Venetian republic appointed three officials whose duty was to inspect and to exclude all infected vessels from the ports. In 1377 Ragusa detained travellers from infected places for thirty days (trentini giorni). When this proved ineffective, the period of detention was lengthened to forty days (quaranti giorni); from this early preventive measure comes our modern word 'quarantine'.

Besides this, the Black Death added yet another saint to the Calendar. St Roch is the special patron of bubonic plague. A native of Montpellier, he nursed the sick during the Black Death in north Italy and himself fell a victim. Left to die, Roch was succoured by a dog and recovered. He returned to his home town but was suspected of being a spy and cast into prison, where he died. Here again is the pattern of mortal hurt, miraculous recovery, and ultimate death.

We should honour the Church for her unremitting care of the sick, but acknowledge that her influence upon medical and scientific advance was almost wholly evil. The 1,000-year repression of many forms of creative thought between the fall of Rome and the Renaissance provides a miserable picture of sterile plagiarism. Great schools of medicine were founded—Salerno and Bologna in Italy, Paris and Montpellier in France—but the teaching in those schools was an uncritical reiteration of ancient theories, and research took the form of disputations upon the exact meaning of a text. The vast medical literature of this long period contains many
original observations but scarcely any original thought; it is little better than a series of compilations, the substance derived from Latin texts of first-century authors and their Islamic commentators. There are, of course, occasional flashes of the divine fire, for no weight of repression will ever stifle criticism entirely. Thus Mundinus of Bologna defied the ban upon human dissection and did something to restore the science of anatomy to the standard reached by Greek workers about 300 B.C. Another flame in the darkness is Roger Bacon of Oxford and Paris, a philosopher rather than a physician and certainly an original thinker, but his originality earned him imprisonment for the last thirteen years of his life.

The habit of thought engendered by theocratic intolerance stifled medical advance until the end of the fifteenth century. Galen remained the unquestioned authority. This dominance of one man would have been bad enough in itself, but the texts of Galen had been so debased as to be almost worthless. The true teachings of Galen were not restored until too late when, at the end of the fifteenth century, a new way of thinking opened up great vistas of learning and beauty. The wonderful phenomenon of the Renaissance was not merely a revival of classical culture; it was a change in the whole outlook of thinking men, who demanded escape from the tyranny of dogmatism, from the limitations of thought imposed by the Church. Although the ghost of Galen was not laid until William Harvey disproved his doctrine of the ebb-and-flow movement of blood in the seventeenth century, it was the Renaissance that finally broke the Church’s stranglehold upon medicine.

Bubonic plague remained one of the more lethal European diseases for three centuries after the Black Death. It disappeared from the greater part of Europe during the early years of the eighteenth century, but remained endemic on the southern and eastern shores of the Mediterranean, in Asia, in Africa and in South America; epidemics have reached the proportion of national pandemics at times. A great outbreak in Manchuria during 1910-11 was almost entirely of
the pneumonic type and must have resembled the Black Death. European travellers to infected regions can still become infected.

Prevention and treatment of bubonic plague are now reasonably successful. The causative organism, *Pasteurella pestis*, was discovered almost simultaneously by a Japanese, Shiramiro Kitasato, and a Swiss, Alexander Yersin, during an outbreak at Hong Kong in 1884. Prevention was found to be possible by inoculation with a killed vaccine or by injection of a live avirulent organism, that is, a relatively harmless strain of *Pasteurella pestis*. Antibiotic drugs, streptomycin or tetracyclin, give good results when administered to infected patients. One of the more important preventive measures is control of rats and fleas. Rats can be killed by Warfarin; fleas by one of the persistent insecticides such as Dicophane (DDT) or benzene hexachloride (BHC). But bubonic plague, especially of the pneumonic type, is still so dangerous that sick attendants must wear masks, protective gowns and gloves, just as they did or were advised to do in the Black Death and the Great Plague of 1665.

But the success of modern measures does not explain why plague disappeared from Europe in the eighteenth century. Here is one of the mysteries of medicine. The answer cannot be a mass resistance as is the case with some other diseases, for plague resembles a cold in that little immunity is conferred by one attack. Nor, as is sometimes suggested, can the Great Fire of London have had any influence, for the effect of rebuilding in brick could only have been local. The 'rat theory' at first sounds more hopeful. The black rat has almost disappeared from inland Europe, exterminated by the stronger and more ferocious brown rat. The black rat, companionable with man, is more likely to infect him with plague-bearing fleas. The brown rat can also become infected with *Pasteurella pestis* and does carry fleas, but is not companionable with man and so the chances of rat-flea-man spread are greatly lessened. The 'rat theory' might therefore account for the disappearance of plague provided that it could be shown that the brown rat replaced the black rat at the end.
of the seventeenth century. But in England, plague virtually disappeared after 1666; the brown rat did not arrive until 1728. As late as 1783, the black was the commoner species in London, Middlesex, and Buckinghamshire. It is possible, however, that the slow spread of the brown rat across Europe in the early eighteenth century may have upset a symbiotic mechanism.

The question of why this one particular infection vanished from Europe at the time that it did really remains unanswered. Perhaps the Black Death has not disappeared but gone into hiding, as it seems to have done between the sixth and the fourteenth centuries. If this is so, there may yet be unpleasant surprises in store for us.