01:33 [music playing]
01:50 Hello and welcome to this Great Courses lecture series
01:53 on the Black Death.
01:55 My name is Dorsey Armstrong and I'm
01:57 delighted to be your instructor for this course
02:00 for a number of reasons.
02:02 First and foremost, of course, is that the subject matter
02:05 is absolutely fascinating.
02:08 The plague that raged through Europe in the 14th century
02:12 changed just about every single thing about medieval society
02:16 and, indeed, in large measure it produced the modern world
02:20 we live in today.
02:23 In order to convey the impact of the plague
02:25 on the medieval world, I want to zoom in,
02:28 as it were, to one particular moment in time
02:32 and one particular place, Florence, Italy in late January
02:36 1348.
02:39 If you're a Florentine in the mid-14th century,
02:42 things are pretty good.
02:44 Your society is stable and economically sound,
02:48 there is complex social and political infrastructure,
02:51 the city is wealthy because of its extensive trade networks,
02:56 it's governed by a more or less representative body of leaders
03:00 who take it seriously to regulate the safety
03:03 and well-being of its citizens.
03:06 The city itself is a leading patron of the arts,
03:09 with some of the greatest artistic minds the world has
03:13 ever known commissioned by city fathers
03:16 to beautify public spaces and buildings like the guild hall.
03:21 The news in Florence in late January 1348
03:24 would have been preoccupied with some horrific stories coming
03:28 out of Sicily.
03:29 Some mystery illness was apparently
03:32 wreaking havoc there.
03:33 But that was far away from daily life
03:36 in happy, prosperous Florence.
03:41 And then a few people got sick, no real cause for alarm.
03:46 But by mid-February, more and more people
03:49 were getting very sick and dying.
03:52 But unlike other illnesses that this city had experienced
03:55 over the centuries of its history,
03:57 this outbreak didn't burn itself out or slow down, it got worse.
04:02 People dropped dead in the streets or died in their houses
04:06 and no one knew they had died because there was no one left

04:09 alive to notice.
04:11 Beautiful public spaces that in mid-January
04:15 had been places to meet friends and have a conversation
04:19 were open, stinking, mass graves by March.
04:23 Practically overnight, Florence had
04:26 gone from being a jewel of a city to a charnel house,
04:30 and as you'll see over the course of the next 24 lectures,
04:34 the experience of Florence was going
04:35 to be far from unique during the years the Black Death
04:38 swept through the medieval world.
04:42 I must admit that as I was writing these lectures,
04:44 I did at times find myself overwhelmed by the horrors
04:48 of the plague, especially when it came to reading first person
04:52 accounts and letters, some of which
04:54 we'll explore later in this course.
04:56 But as I'm sure every one of you listening and watching right
04:59 now feels, it is worth it, and indeed
05:02 it's critical, that we study the past, including the parts that
05:06 make us uncomfortable or depressed,
05:08 so that we can better understand our present
05:11 and prepare for the future.
05:14 As I have said on numerous occasions,
05:16 one thing I love about studying the Middle Ages
05:19 is that it often feels utterly foreign and alien
05:23 and then in the next moment, a character in a medieval story
05:27 or the writer of a chronicle of the Middle Ages
05:30 says or does something that is completely
05:32 recognizable and familiar, and it reminds me
05:35 that people then and people now are more alike than not,
05:39 even if our settings or our contexts
05:42 then and now are radically different.
05:46 But when it comes to the Black Death,
05:48 it often becomes difficult to see those connections
05:50 and similarities because the horror of that experience
05:54 was unlike anything that had ever occurred in living memory
05:59 and people's reactions were understandably coming
06:01 from a place of sheer terror and despair.
06:05 Consider this eyewitness account of Giovanni Boccaccio, writer
06:09 of The Decameron, who described how every morning in the towns
06:14 and cities of Italy, the corpses of those who had died
06:17 in the night would be placed out into the street
06:20 and eventually funeral biers, sometimes
06:23 nothing more than a rough board, would go through the town
06:26 to collect them.

06:28 Quote, it was by no means rare for more than one
06:31 of these biers to be seen with two or three bodies
06:34 upon it at a time.
06:36 Many were seen to contain a husband and wife, two
06:39 or three brothers and sisters, a father and son, and times
06:44 without number it happened that two priests would
06:46 be on their way to bury someone only to find bearers carrying
06:50 three or four additional biers that would fall in behind them.
06:55 Such was the multitude of corpses
06:58 that there was not sufficient consecrated ground for them
07:00 to be buried in.
07:02 So when all the graves were full,
07:04 huge trenches were excavated in the churchyards
07:07 into which new arrivals were placed in their hundreds.
07:11 Stowed tier upon tier like ship's cargo,
07:15 each layer of corpses being covered over
07:18 with a thin layer of soil till the trench
07:21 was filled to the top, end quote.
07:26 To many, it seemed as if the end of the world
07:28 was surely at hand.
07:30 Indeed, one chronicler, leaving a blank space
07:33 at the end of his history, noted that he
07:35 did so in case anyone should be left alive
07:37 who might wish to make a record of events that had transpired.
07:42 It's clear that leaving this space
07:45 was a desperate, defiant action of optimism
07:48 because it didn't seem likely that anyone would survive.
07:51 An event with such staggering effects
07:53 is clearly worthy of greater understanding,
07:56 and in this and the next 23 lectures
07:59 we're going to try and do just that.
08:02 So let's get to it.
08:04 The Black Death.
08:06 OK.
08:07 Right off the bat here let's deal
08:08 with two common misconceptions.
08:10 First of all, it is not called the Black Death
08:13 because parts of the bodies of people who were infected
08:16 turned black.
08:17 Most people who have a passing knowledge on the subject
08:20 know that the plague was often called the bubonic plague
08:23 because in one form it produced large lumps, or buboes,
08:27 around the lymph nodes-- so at the growing or armpit--
08:30 and people seemed to have assumed that the term Black

08:33 Death refers to the color of those buboes.
08:37 Nope.
08:38 The term Black Death is used to suggest
08:41 the horror of the epidemic, not the color of its symptoms.
08:45 It was a dark, black, terrifying time.
08:50 But here's another misconception we
08:51 have to get rid of right away.
08:53 No one in the Middle Ages called it the Black Death.
08:56 It was the Great Mortality or the Great Pestilence
09:00 or even in some cases in England Blue Sickness.
09:04 But it was not called the Black Death until centuries
09:07 after it initially spread through Europe
09:09 and later historians looked back and tried to write about it.
09:15 In the next lecture, we'll get down
09:16 to the details of plague's epidemiology, how
09:19 it was transmitted and which form
09:22 of plague-- bubonic, septicemic, or pneumonic--
09:25 offered the most or least suffering, the quickest death,
09:28 or slim possibility of survival.
09:31 A side note here-- if I ever time
09:33 travel back to the Middle Ages and I
09:35 am so unfortunate as to contract plague,
09:39 I would opt for septicemic, as it was usually pretty quick.
09:43 But for now I want to put those details aside and try
09:46 to get a sense of the big picture of how the Black
09:49 Death affected, changed, and completely remade
09:53 medieval society.
09:55 And in order to do that, we need to understand
09:58 what the medieval world looked like on the eve of the plague.
10:02 So let's try to get a snapshot of medieval Europe
10:04 in the early 14th century, let's say around 1340.
10:10 All right.
10:11 Now, obviously I'm going to have to oversimplify here
10:14 quite a bit.
10:15 Scandinavia is not exactly like England is not
10:18 the same as France or Italy or Germany in 1340,
10:23 but we can use some broad strokes here
10:25 and get a sense of how the medieval world was ordered.
10:28 If you needed to shorthand it, you
10:30 could do a whole lot worse than saying
10:32 that most of the Europe of the Middle Ages
10:34 was Christian, agrarian, and feudal.
10:40 Let's take those terms in order.
10:42 So Christian-- here the important thing to recognize

10:46 is that in the Middle Ages there is no such thing as separation
10:49 of church and state.
10:51 Indeed, such a separation would be almost inconceivable
10:55 if you tried to explain it to a 14th century person.
10:58 The Church owned more property than any other entity.
11:03 The Church was deeply intertwined
11:05 with education at every level, especially at the universities.
11:09 The Church had many business, production,
11:12 and trade interests, and the Church
11:15 was deeply engaged and concerned with the politics of the day.
11:22 The passage of the year-- the month, the week,
11:25 the hours-- all of this was ordered and marked
11:28 by church rituals.
11:30 Many people went to mass every day.
11:32 Indeed, going to church then, in the Middle Ages,
11:35 might be considered the equivalent of, say,
11:38 brushing your teeth today.
11:40 It was simply part of the daily routine.
11:43 The tolling of church bells to call monks and nuns to prayers,
11:46 for matins or vespers or Compline or prime or any
11:51 of the seemingly endless set of prayer times
11:54 would also structure the day for the community surrounding
11:57 an abbey or chapel.
11:59 The church festivals and feast days
12:01 kept time with the passing of the seasons.
12:04 Indeed, have you ever considered why Lent occurs when it does
12:10 and why it is the kind of observance that it is?
12:13 In other words, why do observant Christians fast
12:16 or restrict their diets for six weeks right
12:19 before the celebration of the resurrection on Easter?
12:23 Well, those six weeks, in most years,
12:26 would usually just happen to be the time when
12:29 the storehouses were most empty, as the spring crops were not
12:32 yet ready for harvest.
12:34 Meat might be in short supply because everybody
12:36 is waiting for the ewes to deliver their spring lambs,
12:40 so not much slaughtering is happening.
12:42 In other words, the Church helped
12:45 make a virtue of necessity.
12:47 Easter, thus, would become not just a celebration
12:50 of the resurrection, but also a celebration
12:53 of newly full granaries and fresh meat
12:56 and the first vegetables ready to be pulled from the cottage
12:59 garden.

13:01 Which brings me to the second word I mentioned, agrarian.
13:06 Before we had what we think of as the Middle Ages,
13:09 there was the Roman Empire.
13:11 Before it definitively ceased to exist in the fifth century,
13:14 Rome had been a society that had both busy urban centers
13:19 and farmland that fed its citizens.
13:22 As Rome started to transform into the entities
13:26 that we think of today as the countries of Western Europe,
13:29 urban centers went into serious decline and the majority
13:32 of the population turned to farming, in many cases
13:36 subsistence farming, as the dominant way of life.
13:39 Here's what that might look like in practice
13:41 in an English village in the 14th century.
13:44 The houses, church, and trade shops
13:46 would all be gathered together in a cluster that
13:49 would be surrounded by plowland, what we call the open field
13:53 system.
13:54 Next to or behind each house would
13:56 be the vegetable garden and maybe
13:58 a space for small animals like chickens.
14:01 The fields outside the village center
14:03 tended to be long, thin strips.
14:07 This was because most plows were pulled by oxen
14:10 and it was very hard to turn a team of oxen,
14:13 so better to go as long as you could
14:16 and turn as seldom as needed.
14:20 The villagers might share the task
14:22 of plowing each other's fields as they would harvest them,
14:26 and when the crops were planted the small children
14:28 of the village might be set to the task of scaring away
14:31 the birds that would want to eat the sown seeds before they
14:34 had a chance to sprout.
14:36 Villagers had to coordinate things like crop and field
14:39 rotation to make sure that the earth was given a chance
14:42 to lie fallow and rest.
14:44 Surviving court documents of the period
14:46 show fascinating glimpses of the kinds of disputes
14:49 that were likely to arise if one farmer harvested or plowed
14:53 a little too far onto his neighbor's strip
14:55 or if one stubborn villager refused
14:58 to give the same hours of labor to plowing and harvesting
15:01 or opted to plant cereal grains when rotation called for beans.
15:07 And this was actually a key concern,
15:08 as planting beans would put nitrogen back into the soil

15:12 and keep the earth quote, in good heart.
15:17 And of course, in addition to needing to work their own land,
15:20 most peasants in the Middle Ages owed a certain number
15:23 of days of agricultural service to the lord, which brings us
15:27 to our third word, feudal.
15:30 Now, there may be some of you listening or watching out there
15:34 who gasped or did a spit take when I said feudal
15:38 because you're probably aware that there was a time when
15:40 medievalists referred to the word
15:42 feudal and its related word feudalism as quote, the F word.
15:48 Although for decades it had been used
15:50 to describe medieval society, research in the last 20 years
15:53 or so seems to indicate that it wasn't
15:56 the case that medieval people actually
15:58 used the word themselves.
15:59 Indeed, it wasn't until the 17th century
16:02 that the word came into common use.
16:05 But like Black Death, it's a convenient shorthand
16:08 to describe a society that was structured in terms of bonds
16:11 of service, support, loyalty, protection,
16:16 and hierarchy, which the medieval world definitely was.
16:22 OK.
16:23 So what does that mean?
16:25 Well, it means that, for example, you have a king.
16:28 How does he get to stay king?
16:30 He pledges to offer his support and protection to the nobles
16:33 just below him in the social order.
16:36 In return for the right to be granted lands and titles,
16:39 the nobles then pledge their loyalty to the king
16:42 and swear to fight for him in wars and the like.
16:46 They are the vassals and the system
16:49 in which they are participating is also called vassalage.
16:55 Then those nobles have lower ranking men who
16:58 pledge the same thing to them.
17:01 So let's say the Earl of Chivalry
17:03 is a vassal of the king and holds his titles and lands
17:07 of the king, or in what is partly the origin of the word
17:11 feudal, in fee from the king.
17:15 Then someone else, Lord Knighthood,
17:18 pledges himself to the Earl of Chivalry
17:21 and he, in turn, get certain rights and privileges
17:24 for becoming that man's vassal.
17:26 This goes on down the line until we
17:28 get to the peasants, who have the right to work land and keep

17:32 for themselves a portion of their crops
17:34 they harvest as long as they give an agreed upon amount
17:38 of the harvest or certain number of days of labor to their lord.
17:43 In a feudal society, everybody is thus
17:46 connected to everybody else along the lines of a pyramid
17:50 structure.
17:52 Additionally, medieval society was
17:54 organized in terms of an idea known as the three estates
17:57 model.
17:58 According to this long entrenched philosophy,
18:01 people were born into one of three social orders--
18:04 those who fight, those who pray, and those who work.
18:09 Those who fight, the nobles, were
18:11 supposed to provide the protection to the rest
18:13 of the social order.
18:14 Those who pray, the clergy-- priests,
18:17 monks, nuns et cetera-- were supposed
18:20 to be busying themselves with helping
18:22 to save humanity from sin.
18:25 Remember the point I made a moment ago
18:26 about medieval society being Christian?
18:30 And then these first two orders were
18:32 supposed to be supported by the labor of those who work,
18:36 the peasants, who enjoyed the protection of the nobles
18:39 and the earthly life and the prayers of the clergy
18:42 to help them in the life to come.
18:46 One was not supposed to aspire to move out of one's order.
18:50 Indeed, in the 14th century poem Piers Plowman,
18:54 the title character chides a knight
18:56 who says he is so eager to help out
18:58 humanity he'll start plowing a field
19:01 if only someone will show him how.
19:03 No, no, says Piers, you're a knight.
19:06 You're supposed to protect me.
19:08 As long as you do your job, I'll do mine.
19:12 In the sixth passage of this famous dream poem,
19:16 Piers says, ich shal swynke and swete
19:19 and sowe for us bope and laboure for the while thou livest
19:24 all the the llyf tyme.
19:25 In covenant that thou kepe holy church and meselve fro wastours
19:30 and wyckede men that thus worlde striven and go haunte
19:35 hardileche to hares and to foxes,
19:38 to bores and to bockes that breketh a doune menne hegges
19:42 and faote by faucones to culle wylde foules for thei comen

19:47 to my croft my corn to defoule, end quote.
19:52 In modern English, that's I shall work and sweat and so
19:56 for us both and labor for you my whole lifetime as long as you
20:01 live, as long as you promise to protect holy church
20:04 and me from wasters and wicked men that trouble the world.
20:09 Also that you go hunting often for hares and foxes,
20:13 for boars and wild bucks that break down my hedges
20:16 and that you send out your falcons
20:18 to cull the population of wild birds,
20:20 for they come to my farm to devour my grain, end quote.
20:26 That passage demonstrates quite clearly
20:29 the ideal of the three estates.
20:31 People belonged to the order to which they were born,
20:34 and if society is going to function properly
20:37 then there is no moving outside one's estate.
20:42 Now, you may be wondering, how does
20:44 someone become part of the second estate, those who pray?
20:48 The answer in 99% of the cases is
20:52 to be born into the first estate as a second son or younger
20:55 daughter.
20:57 You see, by the time we get to the 14th century,
20:59 most nobles and high ranking landholders
21:02 have figured out that the only way to maintain a family
21:05 heritage and power in terms of titles and lands
21:08 and income was to practice primogeniture,
21:12 in which the eldest son inherits everything.
21:15 Dividing lands and titles equally among heirs
21:19 usually meant that within a generation or two,
21:22 there would be a lot of cousins, each clinging desperately
21:25 to a tiny parcel of land, fighting among themselves
21:28 for position, and no one would really
21:30 have anything worth fighting over.
21:33 So second and third sons and younger daughters,
21:36 for whom there was no money or goods suitable for a dowry,
21:39 they would become monks or nuns and live out their lives
21:42 in what could be quite comfortable, and sometimes
21:45 somewhat worldly, religious houses.
21:49 So here's the part where I ask you to answer
21:51 the question, what do you think the percentage breakdown
21:55 of the three estates was?
21:57 How many people in society fought, how many prayed,
22:01 how many worked?
22:03 When I asked my undergraduates this,
22:06 they hopefully suggest that it might have been something

22:08 like 33% each, or maybe those who fought were 25%,
22:14 those who prayed were another 25%, and the workers were 50%.
22:19 In reality, however, it was something like 5%, 5%, and 90%.
22:25 So the majority of the members of medieval society
22:28 were those who worked at the bottom
22:30 to allow the top 10% to live off the fruits of their labor.
22:36 And as you might imagine, in terms of literacy that
22:39 means that the few people who could read
22:42 and the fewer still who could read and write
22:45 were mostly concentrated in that 10%
22:48 at the top of the social order.
22:50 And one of the most frustrating things for a medievalist
22:53 is that this means, in practice, that of the few documents that
22:57 do survive from the period, almost none are focused
23:00 on the concerns, loves, disputes, and quotidian matters
23:05 that affected the great bulk of members of medieval society.
23:10 Now, this had begun to change a little by 1340
23:13 for a few reasons.
23:14 One was the rise of a merchant class, which
23:17 was able to develop in part because of a population boom
23:21 that occurred between 1000 and 1300.
23:24 Over the course of those three centuries,
23:26 the population of Europe doubled, from about 75 million
23:30 people to around 150 million.
23:34 This was due to a few factors, one of which
23:36 was a period of global warming called the Little Climatic
23:40 Optimum, or the Medieval Warm Period,
23:42 or the Medieval Climate Optimum, and this increased the growing
23:46 season.
23:48 Another influence that allowed the population to increase
23:52 was that several advances had been
23:54 made in agricultural practices.
23:58 But what this meant was that in the blink of an eye, relatively
24:03 speaking, there was a sudden land crunch.
24:06 With the practical doubling of the population in just three
24:09 centuries, pretty much all arable land
24:12 that could be worked was brought under the plow.
24:15 And with this land crunch, many people
24:17 found themselves driven to the cities
24:19 to find a way to make a living and we
24:22 have, for the first time since the fall of the Roman Empire,
24:25 urbanization on a significant scale in places
24:28 like London, Paris, Rome, Florence, and Milan.
24:34 An increase in trade and the movement

24:36 of goods to and from far flung locales
24:39 served to create a new class that
24:41 didn't quite fit into the three estates model.
24:44 While the merchant class should technically
24:46 belong to the 90% of those who work, the members of that class
24:51 started to look a little more like the top 5%, the nobles
24:55 or those who fight.
24:57 For one thing, a shrewd businessman
24:59 could make enough money to dress himself
25:01 and his family in clothes of the highest quality, clothes
25:05 that might make others mistake him for a minor lord.
25:08 And he might send his children to one of the schools
25:11 that were now available, perhaps for the practical purpose
25:14 of learning math and reading in order for that child
25:17 to participate successfully in the family business,
25:20 but maybe because he aspired to more for his children.
25:25 And, indeed, for the first time more was possible.
25:30 William Langland, the author of the poem Piers Plowman,
25:33 from which I quoted before, appears
25:36 to have been a cleric in minor orders.
25:38 He may have attended one of the cathedral schools
25:40 that by this time were educating not just members
25:43 of the nobility, but also the children
25:45 of well-to-do tradespeople of the period.
25:48 Some people think Langland may have
25:50 had his education at the Benedictine school in Malvern.
25:55 And of course there is Geoffrey Chaucer, not only
25:58 the greatest English writer of the 14th century
26:01 but arguably the greatest writer of English period.
26:06 He was born in London around 1343
26:08 to a family of inventors who had been doing
26:10 very well in the wine trade.
26:13 His was clearly a nimble mind-- I
26:15 feel like I'm understating that, a nimble mind--
26:18 and with a solid education under his belt, something that would
26:21 have been unlikely for someone in his position 50
26:23 years earlier, he went on to make a successful career
26:27 for himself in civil service.
26:29 But as you'll see in a later lecture,
26:31 it was the arrival of the Black Death that actually
26:34 helped give him his first literary break
26:37 and turned him into the father of English poetry.
26:42 So that's a very broad picture of what
26:44 life looked like in medieval Europe around 1340,

26:47 on the eve of the Black Death.
26:49 We have a society that is predominantly Christian,
26:53 agrarian, and feudal.
26:54 And again, I use that word for the sake of convenience,
26:57 as it combines the elements of loyalty, service, protection,
27:01 and hierarchy into one handy term.
27:05 Medieval society is also rigidly committed to the idea
27:09 of the three estates-- those who fight, those who pray,
27:12 and those who work.
27:14 The ideal, as expressed by Langland,
27:16 is that everyone stays in their order,
27:18 being the best knight or best monk
27:21 or best farmer they can be.
27:23 If all the members of society did that,
27:26 everything would run smoothly.
27:29 This ideal was starting to come under a little bit of pressure,
27:32 however, with the rise of the merchant classes who,
27:34 in some cases, had more money than some of the lesser nobles
27:39 and could live better than they did.
27:42 But this pressure didn't present a real crisis
27:44 to the social order yet.
27:47 Many historians, such as David Herlihy,
27:50 have argued that without some sort of external factor
27:53 coming into play, society in the Western world
27:56 would have continued on more or less like this for a few more
28:00 centuries.
28:01 And thus, what we think of as the modern world,
28:04 with its enlightenments and scientific discoveries
28:08 and literary and artistic Renaissances,
28:11 that world would have been much longer in coming.
28:14 In other words, the theory goes that as horrible as the Black
28:18 Death was for those who lived through it,
28:21 the world that rose from its ashes
28:23 was a better world with more possibilities for those
28:26 who had survived its horrors.
28:29 For one thing, the rigid boundaries of the three estates
28:32 idea would be blown to absolute smithereens
28:35 in the aftermath of the plague.
28:37 It seems an interesting little twist of history
28:40 that the plague, in the opinion of most historians,
28:43 moved westward along trade routes
28:45 and those merchants and tradesmen who
28:47 had been so eager to move goods along those routes
28:50 were the ones whose families benefited in the long term

28:53 once the ravages of plague had abated.
28:56 With up to half the population dead,
28:59 the great nobles didn't have enough labor
29:01 to work their lands.
29:02 The peasants, who had been tied to a particular land or manor,
29:06 found that they could walk down the road
29:08 and offer their services to another nobleman who
29:10 might, in his desperation to get the harvest in,
29:14 be willing to pay a large cash wage.
29:18 The nobles, rich in titles and land holdings but cash poor,
29:22 started to marry into the merchant class.
29:25 The merchants, of course, were delighted to see
29:27 their sons and daughters work their way
29:29 up the social hierarchy.
29:31 Indeed, Chaucer's granddaughter, Alice de La Pole,
29:35 became the Duchess of Suffolk.
29:37 When the first wave of plague had passed,
29:40 it was a brave new world that emerged.
29:43 The medieval world in 1340 and the medieval world in 1360
29:47 were two very different places.
29:51 So what exactly was this great pestilence, this Great
29:55 Mortality that so fundamentally altered
29:58 Western medieval society and set it on track to become
30:01 the world we live in today?
30:03 Was the plague that ravaged the world in the 1340s
30:06 the same as the sixth century Plague of Justinian
30:09 that had taken such a toll on the Byzantine Empire?
30:12 And if so, where had it been hiding for some six centuries?
30:17 Or was bubonic plague only part of the answer?
30:20 What about theories that anthrax, cattle murren,
30:23 tuberculosis, and other diseases were active players
30:26 in the wave of death that visited the medieval world
30:29 in the middle of the 14th century?
30:31 Could the plague have actually come from space,
30:35 hitching a ride on comets and meteorites?
30:39 In the next lecture, we're going to explore the epidemiology
30:42 of plague, examining recent scientific theories
30:45 as to the exact nature of this horrible disease that
30:48 helped transform the medieval world into the modern one.