

# Cattle Plague in Eighteenth-Century England

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THE social and economic impact of those recurrent human disasters of pre-industrial society — plague, famine and war — have received considerable attention in recent years. Animal diseases have had much less coverage since they were rarely systematically reported in the past. However, cattle plague, or distemper of the horned cattle as it was commonly known, was the subject of considerable government action in the eighteenth century. As a result we know much more about it than about most earlier outbreaks. More important, the English government pursued unique and eventually successful policies which eradicated the disease. Farmers were compensated for slaughtering infected animals, and attempts were made to regulate the livestock trade on an enormous scale. These measures were considerable in advance of practice in other European countries at that date. Indeed they were probably better than the measures introduced in 1865–66, and not very different from modern methods of dealing with similar diseases. They represent a successful episode in what E L Jones has recently described as ‘disaster management’.<sup>1</sup>

Rinderpest, the modern name for cattle plague, is an acute and highly contagious virus disease of cattle. An infected animal suffers from high fever and other unpleasant symptoms for several days, and has a high

risk of dying within 6 to 12 days of onset. English outbreaks in the eighteenth and nineteenth centuries had mortality rates as high as 90 per cent since the disease was not endemic. The disease is passed on when cattle are in close contact and mainly in their breath. It normally takes 6 to 9 days to incubate, but can take as few as 3 and as many as 15 days. The virus cannot survive on premises or land for more than a few days, but may survive much longer in buried carcasses and undried hides.<sup>2</sup>

Cattle plagues have recurred throughout history. Veterinary scientists have regarded them as ‘the inevitable sequel to every military campaign in Europe’ since the fourth century AD.<sup>3</sup> Plenty of references can be found at intervals in medieval and early modern Europe, but eighteenth-century writers treat it as a disease with a history that begins in about 1710. It was rarely absent from eighteenth-century Europe, with three long pandemics covering the years 1709–20, 1742–60 and 1768–86. England was affected by all three, and the infection was almost certainly brought in by imported cattle. In 1714 an outbreak probably began in July, and after dying down in October flared up in November and December before coming to an end during January 1715. The outbreak centred on the large London dairies and was

<sup>1</sup> E L Jones, ‘Disaster Management and Resource Saving in Europe 1400–1800’, *Proceedings of the 7th International Economic History Conference*, Edinburgh, 1978, pp 21–8, esp p 23; the only modern account of these cattle plagues, C F Mullett, ‘The Cattle Distemper in mid-eighteenth century England’, *Agricultural History*, XX, 1946, pp 144–65 deals mainly with veterinary practices, and only with the 1745–58 and 1714 outbreaks. An earlier version of this article was read at the Agricultural History Society’s conference at Aberystwyth in April 1980.

<sup>2</sup> For modern scientific views see W Plowright, ‘Rinderpest Virus’, *Virology Monographs*, III, 1968, pp 25–110, esp pp 53–9, 69–71, 73–6, and G R Scott, ‘Rinderpest’, *Advances in Veterinary Science*, IX, 1964, pp 113–224, esp pp 119, 147, 162, 164, 179, 191. The average mortality in farmers’ returns in 1866 was 90 per cent, see BPP 1866 [3653] LIX, p 323 ff. Where herds of wild animals carry the infection more or less permanently, as in India and Africa, resistance among domestic animals is higher. The disease can infect pigs, sheep, goats, and deer, but in eighteenth-century England seems to have been confined to cattle. I wish to thank Dr Plowright for his advice on the scientific side.

<sup>3</sup> W R Scott, *op cit.*, p 114.

confined to Middlesex, Essex and Surrey. The French agent d'Iberville reported rumours of cases in Lancashire, East Anglia and the west country, but later admitted it spread no more than 20–25 miles from London.<sup>4</sup> The second, and by far the most serious outbreak occurred between 1745 and 1758. Its peak probably came in 1747–48 to judge by the compensation payments, but there was a serious recurrence in 1750–51.<sup>5</sup> It almost certainly began in the coastal marshes of Rochfort hundred in Essex in February 1745, and was probably brought to London by the well-established Essex trade in veal calves.<sup>6</sup> It was a serious problem in the metropolis by the autumn of 1745 and spread outwards from there to cover most of the country. Orders in Council suggest it was confined south of the Humber-Trent line and east of the Severn and Dee until June 1747, but by October 1747 it had all but reached the Mersey.<sup>7</sup> Local sources provide further evidence: Cheshire and Lancashire reported no cases until 1749, Northumberland until 1750, and Somerset until 1752. Most of the country was affected by the initial surge of the disease and there followed numerous local outbreaks in the 1750s. In England only Devon and Cornwall escaped the infection, but much of central and west Wales remained free, as did Scotland.<sup>8</sup> After 1768 England suffered only minor local

outbreaks. There was one in Hampshire in 1769, another in Suffolk in 1774, and a third in the Isle of Thanet in 1781. In each case the initial outbreak was very close to the coast.<sup>9</sup>

## I

During all three pandemics the English government followed basically similar policies. In the first and last they were outstandingly successful. In the second, almost certainly because of the simultaneous outbreak of the 1745 rebellion, government oversight of the disease was allowed to lapse for a crucial 6 months. Cattle plague became solidly established, spread far beyond its original source, and took 13 years to eradicate. The comparison of the successful and unsuccessful use of similar measures makes it possible to estimate in some part what rapid government action saved on four occasions.

Policies towards eighteenth-century cattle plague are an excellent example of central government bureaucracy taking charge of regulation in the belief that natural disaster was best alleviated by co-ordinated co-operative action. Throughout the century the Privy Council enunciated policy through Orders in Council. When necessary it called in advisers, particularly noted physicians and the Middlesex JPs who in both 1714 and 1745–58 had most experience in dealing with outbreaks. Parliament played a minor and subsidiary role, although briefly in 1746 the Privy Council deferred to its collective wisdom. After the Commons had spent a month in fruitless discussions, a simple enabling bill passed responsibility back to the Privy Council. Later legislation rarely did more than provide statutory authority for existing Orders in Council. Thus the legislature played second fiddle to the executive in cattle plague policy. Equally, although central government constantly received reports from the counties, and was receptive to local pleas about the practical implications of

<sup>4</sup>The best account of the 1714 outbreak is by T Bates, *Philosophical Transactions of the Royal Society*, XXX, 1718, pp 872–3; d'Iberville's reports are in Paris, Archives Nationaux, G<sup>7</sup> 1667, fols 106–27; I wish to thank Hugh Collingham for tracking these down and providing photocopies. Other corroborative evidence is found in Middlesex Record Office MJSP 1715/Jan/39, and Herts CRO D/EP/F125. The latter appears to be Bates' original autopsy report to Lord Cowper on 24 Sep 1714. John Milner's account is in British Library Add MS 32704, fols 149, 153.

<sup>5</sup>PRO AO 1/379/2 gives full details of these payments which do not always tally on a year to year basis with the figures in the declared account, BPP 1868–9, [366] XXXV, pp 105ff.

<sup>6</sup>B L Add Ms 32704, fols 149, 167–9. I wish to thank Negley Harte for setting me on the track of these references.

<sup>7</sup>PRO PC2/100, pp 95, 300, 420.

<sup>8</sup>Cheshire CRO QJB 20a, order of 28 Jan 1748/9; Lancs CRO QSOc2/1742–52, order of 11 July 1749; R D Steward, 'Northumberland and the Cattle Plague, 1749–54', *Tyne and Tweed*, 1978; I am grateful to Mr Steward for allowing me to see a typescript copy of this; Devon CRO QS Order Books confirm that the disease did not reach the south-west peninsula. David Howell and Richard Colyer have confirmed the position in Wales from their local knowledge.

<sup>9</sup>PRO PC2/114, 118, 123, 126, 128.

specific policy details, local initiative played only a small part in the development of policy. Finally, cattle plague was not always a side-issue for governments: outbreaks were important enough in the government's collective mind to vie with the '45 rebellion in Privy Council discussions in the autumn and winter of 1745-46, and to provide the opening item for the King's speech to Parliament in January 1770.<sup>10</sup>

## II

The essence of the policy pursued by eighteenth-century governments was contained in the ideas of Dr Thomas Bates which were applied during the 1714 outbreak. Bates was a royal surgeon who dealt with the outbreak from its outset, dissected infected animals and consulted cow leeches. Bates' ideas may have been derived from the work of an Italian, Lancisi, who used them successfully at Rome. However, Lancisi's book did not appear until 1715 so Bates' ideas may have been separately conceived.

Bates' policy was to slaughter all infected animals and to quarantine all their contacts, animal and human. In order to persuade farmers to co-operate, the government offered to compensate them if they slaughtered infected animals as soon as the symptoms appeared. Half the value of a fully grown animal was paid provided its value was not more than £4. Calves received proportionately less compensation.

These policies were effectively enforced and the outbreak stamped out in six months. According to Bates' own account the Middlesex JPs administered the policy ruthlessly. They

appointed several Butchers to watch near their [the cowkeepers'] grounds, and count their Numbers every morning, with Orders to follow such as they sent to any Market, and prevent them being sold, by telling the people what they were.<sup>11</sup>

<sup>10</sup> CJ XXV, 1745-50, esp pp 30-1, 33-4, 36-7, 40, 55, 58-9; LJ XXVIII, 1753-1756, pp 221, 244, 251.

<sup>11</sup> T Bates, op cit, pp 872-3.

The level of compensation for cowkeepers was linked to their readiness to comply with the regulations, and the justices slaughtered contacts even when these were not ill. However, the success of the policy may have been a close-run thing according to Milner. For a time the outbreak was contained within Islington and Haggerston, but then the justices' powers lapsed for five weeks and this together with popularity of a spurious Dutch remedy, allowed the outbreak to spread. Only when the justices' powers were reintroduced was the disease quelled. In addition, the farmers' compensation, which came from the Privy purse, was stopped in December 1714 because 'it had not produced the effects hoped for from it'. Instead the farmers were allowed a brief to collect charitable contributions.<sup>12</sup>

The success of interventionist policies in 1714 must have stiffened the government's resolve during the protracted outbreak of 1745-58. In the face of a snowballing epidemic, the ever-increasing complexity of control measures, an increasingly cynical public response, and political pressures, the government stuck to the original formula. It was informed of the outbreak at its onset in eastern Essex by John Milner, who sent one of his tenants on a special journey to inform the Duke of Newcastle on the 9 April 1745. The latter acted quickly, for on the 15 April the Essex justices met at Rayleigh and took evidence from seven farmers who had lost 138 cattle between them. They sent a confident and calm report that since farms four miles apart with no communication between them had been infected, the disease could not be contagious, and that only one calf had been taken to market since the disease arrived.<sup>13</sup> Perhaps Newcastle was convinced that the report of cattle plague was

<sup>12</sup> PRO PC1/1989, order of 1 Dec 1714.

<sup>13</sup> B L Add MS 32704 fols 149, 169; G R Scott, op cit, p 162; this evidence suggests not so much a non-contagious disease as a common source, perhaps at a market. The farmers may have thought there was no common source, since modern research shows that animals can pass rinderpest for two to three days before they produce symptoms.

false, for there is no further evidence of enquiries or action in his papers. More important, the Jacobite rebellion distracted attention from the disease for the vital six months during which it established a hold in the metropolis. By December it had spread to the south coast.<sup>14</sup>

When the government eventually took action in November 1745 it revived the 1714 regulations almost word for word. They applied only to Middlesex, but during 1746 they were extended nationwide and elaborated to detail such things as the method and timing of burial, length of quarantine, and measures to prevent the sale of infected animal products. The government realized the importance of having full information about an outbreak. Farmers were ordered to inform parish constables, and the justices to organize themselves so that between them they covered the whole county. The compensation payments were intended to promote the disclosure of new cases. All these measures were directed to deal with the problem at the farm gate. However, by the end of 1746 the rapid spread of the disease led the government to extend its activities and to enter a dangerous mire by regulating the cattle trade. It was an admission that livestock farmers and traders no longer had confidence in the effectiveness of existing policies.

From December the whole trade in store cattle was fiercely regulated until the following spring. The orders affected not only farmers and counties suffering from cattle plague, but any one in the country wanting to move lean cattle. Henceforth they had to carry a certificate signed by a justice to say that their area had not been infected for at least six weeks. Certificates were one element in what became a fast multiplying plague bureaucracy. Counties appointed inspectors to travel around checking farms and confirming outbreaks. In the north and west large numbers of people were paid to watch county borders, river crossings and

turnpike gates to prevent illegal movements. In June 1747 the justices were given powers to close fairs and markets, and in September the lean cattle trade was again restricted. Despite all these measures the cattle plague remained unchecked. By the spring of 1748 there is evidence of strong pressure on the Privy Council to make a U-turn. Oblique references suggest that the cost and efficacy of the slaughter policy were under attack. The importance of the debate is witnessed by numerous large Privy Council meetings. The ban on lean cattle movements was extended for short periods on no less than five occasions in the space of seven weeks. The physicians were called in to give advice. However, the new orders which emerged on the 22 March 1748 marked a victory for the original policy and a tightening of the regulations. If what the Privy Council then ordered had been put into practice, the major beneficiary would have been the paper industry. Every parish was to provide the clerk of the peace with a weekly report on the state of the disease, and lists of afflicted places were to be posted at every market and on every highway. A night curfew on cattle was imposed.<sup>15</sup>

The regulations of March 1748 represent a consolidated code of practice and were the form in which later renewals were cast. One last draconian measure was attempted in December 1749 when the Privy Council banned all long distance movements of cattle, fat or lean, for three months. The certification system was suspended and only the unaffected areas of Wales and the west country were exempt. The measure caused immediate uproar. Even before it came into effect a Privy Council meeting attended by the Middlesex justices repealed it on account of 'the great inconveniences likely to happen from the said Prohibition, to the Cities of London and Westminster, and many other parts of the Kingdom'.<sup>16</sup> The epidemic

<sup>15</sup>The sequence of events is documented in PRO PC2/99, pp 254, 261-2, 373-4, 383; PC2/100, pp 60, 95, 175, 204, 300, 373, 420, 483, 563, 573, 577, 595-9.

<sup>16</sup>PRO PC2/101, pp 405, 417, 420.

<sup>14</sup>PRO PC1/1989, J Collier to the Duke of Newcastle, 21 Dec 1745.

continued sporadically for another decade. Despite widespread evasion, the principles enunciated by Bates, particularly slaughter and compensation, were retained, perhaps more in hope than in expectation of success.

Bates' principles were vindicated during the later eighteenth-century outbreaks of cattle plague, which were all brief and never spread beyond their original localities. The government enforced regulations closely similar to those of 1748, but there were two minor shifts in policy. One is quite important and may date back to an episode in the earlier outbreak. In 1752 cattle plague reached Somerset for the first time, and the county authorities immediately went further than government legislation and caused

all the affected bullocks in the parish of West Chinnock . . . to be shot dead . . . then bought the remainder of the cattle that had been herded with them, and caused them to be killed and buried in the like manner.

A policy of slaughtering all contacts as well as infected cattle was adopted on both occasions after 1758 when an outbreak threatened to spread — in 1769 in Hampshire, and 1774 in Suffolk. In Hampshire the search for contacts led to a chase for 7 Alderney cows across several counties. When they were apprehended their secondary contacts were also slaughtered. This policy was like twentieth-century methods of dealing with infectious cattle diseases, as was the 'full value' compensation paid on all animals.<sup>17</sup> The other policy difference is that later eighteenth-century outbreaks were kept very secret, the Privy Council dealing with the county Lord Lieutenant and one or two justices only, and often sending Orders in Council specifically to them rather than to the bench as a whole.

### III

The importance of swift and decisive action to stamp out cattle plague is amply demon-

<sup>17</sup> *Gentleman's Magazine*, XXII, 1752, pp 196, 237; PRO PC2/114, pp 161, 169, 184-7, 189-94; Guildford Muniment Room 85/2/4/1/75, PRO, PC2/118, pp 56, 85-7, 93.

strated by the problems of evasion that ensued once the mid-century epidemic had clearly got out of control in 1747. At this point government measures lost credibility in the eyes of significant numbers of farmers and country people, including gentry. Farmers, dealers and drovers sought to save their own livelihoods as best they could, and devised institutionalized systems of evasion that nullified the government's strategy. Many farmers would rather gamble on their animals' recovery than shoot them within 24 hours of diagnosis as the law intended. Although compensation was only payable when animals were immediately slaughtered, magistrates and inspectors widely connived at the false dating of papers to give an afflicted farmer some compensation. Another technique was to drive any suspicious animals straight to market and sell them before they became valueless. This inevitably aggravated the spread of the disease. Thereupon dealers developed a system of conditional contracts, withholding part of the purchase price for an agreed period.

Government regulation of the cattle trade after 1747 was also attempting something that Westerfield argued had never previously been complied with. It was always difficult to differentiate between cattle in trade and not so. Cattle were often moved to pastures across parish boundaries, and were also used as plough and draught animals. Yet the devastating way in which the cattle trade could spread the disease is illustrated by an instance in 1748. A Derbyshire man had some uninfected cattle but added to them three others from a diseased herd before driving them to a Staffordshire fair. Here they were sold, and a certificate was signed by a local Land Tax commissioner on the oath of the farmer. They were then driven to Warwick with other beasts, where they all fell ill and also infected many animals in an area that had previously been disease free. Perhaps the only policy that might have halted the disease was a complete ban on long

distance trade but the outcry in December 1749 shows that such a policy was unacceptable.<sup>18</sup> Certainly there is plenty of evidence that the certificate system was subject to evasion, forgery and abuse.

The size and complexity of the mid-eighteenth-century cattle trade is also illustrated by the effects of the sudden government ban on lean cattle movements in September 1747. Welsh and Scots drovers were left stranded. In Surrey the clerk of the peace spent a day and a half examining owners and drovers, making orders, putting up notices and preparing newspaper advertisements. Over 8000 stranded cattle were scattered in droves mainly in the south east and midlands. A year later eight Welsh drovers were quarantined in Kent with herds ranging in size from 24 to 162 head.<sup>19</sup>

The compensation system was also fraught with difficulties. Its dual purpose was to alleviate farmers' losses and to encourage the rapid reporting of the disease and approved counter-measures. Apart from the widely recognized flexibility of the 24-hour time limit, there were accusations of infirm, but uninfected, cattle being slaughtered for the premium, and of cattle being over-valued. There is little evidence of the latter. Indeed surviving valuations from compensation certificates show a wide variety of valuations. The large numbers of Cheshire certificates are remarkably detailed, giving not only age and type of beast, but often colour, distinctive markings and names.<sup>20</sup>

Once a farmer had obtained a compensation certificate, he still had to turn it into cash. Farmers who lived near London were expected to collect the money from an office there. In 1747 the officials ran short of cash, bringing numerous complaining letters. In

Buckinghamshire Richard Grenville used his willingness to pay cash compensation in the county as an election gimmick. In some parts of the country, on the other hand, justices tried to charge for issuing certificates, and this was expressly forbidden in October 1747. In Shropshire and Cheshire the county authorities agreed to pay farmers locally and reimburse the county stock from London.<sup>21</sup>

Some questioned whether the compensation was more of a hindrance than a help once the epidemic was out of control. It was argued that with slack administration an infected animal was always worth almost £2 while alive and 10s dead (for its hide — a measure intended to prevent a trade in diseased hides). In such a case 'Distempered herds are thus distributed over a whole County by Persons buying Cattle out of such Herds for a less value than the Premium, who afterwards when they fall sick get the full Premium'.<sup>22</sup> On a different tack, if even one in three cattle in a herd recovered, the compensation for the hides, plus the value of the survivors, was more than the compensation for slaughtering the herd whenever the full grown cattle were worth more than £5 5s. In practice mortality rates were much higher. At even one in six or one in seven survival rates (83–86 per cent mortality) cattle values would have to exceed an unrealistic £10 a head to make waiting worthwhile. Such a balance sheet does, however, highlight regional differences. Cattle valuations in the north-west were noticeably lower than near London. In Cheshire few animals were valued at more than £4 10s and in Lancashire none at over £4. Buckinghamshire prices however varied from £5 to £8 15s and Hertfordshire ones from £5 to £8. The northern breeders and dairy farmers therefore received a relatively

<sup>18</sup> R B Westerfield, *Middlemen in English History*, 1913, p 185; PRO, PC2/100, pp 444, 477; PC2/101, pp 111, 129, 133.

<sup>19</sup> PRO PC2/100, pp 373, 400–3, 414–20, 483; Surrey CRO, QS Bundles Easter 1749/39, entry in Clerk of Peace's accounts dated 30 Oct 1747; D Baker, 'Agriculture in Kent, 1660–1760', unpub PhD thesis, University of Kent, 1975, ch VIII. I would like to thank Dennis Baker for his help.

<sup>20</sup> Cheshire CRO, QJF 178.

<sup>21</sup> *Northampton Mercury* 10 Oct 1746; Cheshire CRO, QJB 20a, order of 28 Feb 1748/9, immediately after the outbreak reached the county; Shropshire CRO, QSO4, order of 4 April 1749.

<sup>22</sup> *Observations of the Regulations which have been made for Preventing the spreading of the Distemper among the Cattle, 1750*, p 4.

higher compensation than their counterparts in the south.<sup>23</sup>

In 1750 the critics of government policy advocated an end to all regulations. In 1753, on the other hand, there was pressure for full value compensation. The author of 'A probable scheme for putting a final stop to the Distemper' argued that 'be the cattle of more or less value a sum that would ruin a great many farmers would not be felt by the Nation'. He proposed a small rise in land tax or a poll tax to pay for it. A parliamentary bill which would have paid full compensation for the first three animals passed the Commons in 1753.<sup>24</sup>

#### IV

It is interesting to compare the English treatment of cattle plague with that in other European countries, and with the treatment of other epidemic diseases. Holland suffered major outbreaks between 1713-15, 1744-48 and in 1769, but the disease was endemic for much longer periods. J A Faber sees the lack of a strong central government as preventing a slaughter policy being adopted. Tax reductions were granted to afflicted farmers and provide some indications of the high mortality. In Brandenburg in the earlier eighteenth century the government instituted tight quarantine regulations which were administered by the public executioner. French policy is more complex. In 1714-15 quarantine regulations were instituted and fairs and markets in affected areas closed. In one area (the Dauphiné) the intendant, on his own initiative began a full compensation and slaughter policy, but it was denounced by the government as too costly and likely to offend the peasantry. In 1742-43 the government emphasized the segregation of sick animals and disinfection of premises, and also used troops to form a

*cordon sanitaire* around infected areas. This idea was probably borrowed from the measures against bubonic plague used at Marseilles in 1720. It was also widely used in 1775-76 when Paris wits jested that the army was being sent to fight sick cows. In this later outbreak the experiment of slaughtering animals in immediate contact with sick cattle was occasionally tried, and eventually Turgot agreed to a limited slaughter and compensation policy. It was assessed at one-third of value, but there is evidence of local and Church agencies supplementing the sum. By the last quarter of the eighteenth century the idea of slaughter and compensation policies seems to have won wider acceptance. It was introduced into the Austrian Netherlands in 1771.<sup>25</sup>

Another interesting feature of the eighteenth-century epidemics is the extent of European-wide intelligence about outbreaks. In 1714 the French government received some 20 reports on English cattle plague from its London agents. McCloy believes that the Dauphiné experiment may have been based on the English rather than the Italian example, even though the French reports from London do not mention the scheme. A good deal of foreign intelligence is evident in England in the 1740s, while the State Papers and Privy Council records for the '70s and '80s contain a sustained barrage of reports on both cattle and bubonic plague, especially from central and eastern Europe. Human and bubonic plague also produced many similar policies in England, both in terms of policing mechanisms and quarantine regulations. Both involved regular meetings of local officials reporting to the Privy Council, and the listing of cases. For both searchers and watchers were appointed,

<sup>23</sup> *Gentleman's Magazine*, XX, 1750, pp 105-7.

<sup>24</sup> *A Probable Scheme for putting a Final Stop to the Distemper among the Horned Cattle and preventing the Ruin of Farmers while it continues* . . . , 1753, pp 11-12, 20-2; LJ XXVIII, 1753-56, pp 221, 244, 251.

<sup>25</sup> J A Faber, 'Cattle Plague in the Netherlands during the 18th Century', *Mededelingen van de Landbouwhogeschool te Wageningen*, LXII (11), 1962, pp 1-7; R A Dorwatt, 'Cattle Disease (Rinderpest?), Prevention and cure in Brandenburg, 1665-1732', *Agricultural History*, XXXII, 1959, 79-85; Shelby T McCloy, *Government Assistance in 18th Century France*, Durham NC, 1956, ch VI, 'Relief for Epizootics', pp 106-34; A number of documents covering French measures during the period 1714-1815 exist in PRO, PC1/1983.

bridges were guarded, the sick were isolated, markets and fairs were closed, and trade disrupted. In both the Privy Council remained in regular consultation with leading physicians. A common feature of public reactions was a belief that dogs carried the infection and they were frequently restricted and even shot. One eighteenth-century commentator even linked the two diseases by advocating a pest house for infected cattle.<sup>26</sup>

In the sixteenth century English measures to counteract bubonic plague generally lagged behind best European practice. In contrast England led the Continent in dealing with eighteenth-century cattle plague. Despite their failure in 1745-58, slaughter and compensation policies were persisted with and were gradually accepted elsewhere. It is also interesting that when cattle plague returned in 1865 not only did it take eight months to produce a coherent government policy, but compensation was provided only locally. Modern policies against such diseases as foot and mouth are substantially the same as those of the later eighteenth century.<sup>27</sup>

## V

The local impact of cattle plague on eighteenth-century England has been analysed with reference to 13 English counties.<sup>28</sup> The survival of records is naturally patchy and does not necessarily reflect the efficiency of administration. Local practice varied

considerably and some differences are worth noting. The records of the north-western counties show a real sense of commitment and thoroughness — one might say county community — about their border watches and inspections that is not always apparent elsewhere. This partly reflects the different problems of north and south. The counties near London all had large numbers of cattle passing through on their way to markets and fattening grounds. The interests of breeders and dairymen conflicted sharply with those of fatteners. For the latter the free movement of livestock was essential. In the north-west the breeders and dairy farmers were much more concerned to reduce livestock movements around the county as far as possible. In May 1748 the Cheshire authorities actually petitioned for stricter movement orders and called for a ban on all cattle movements from infected counties.<sup>29</sup>

Most counties appointed large numbers of inspectors, and their reports indicate busy lives checking farms and markets. Remuneration varied enormously, from the 1s 6d a week paid initially in Bedfordshire, to the frequent figure of from 7s to 10s weekly. Middlesex paid 5s a day, and the City of London 10s. Leicestershire preferred payment by results, paying 2s 6d for every beast correctly slaughtered and buried, and proportionately less for supervising lesser matters. In Cheshire the intensity of border watches must have been considerable, since the county spent £711 on them in 1748 before the disease arrived. Both Lancashire and Cheshire had to raise additional county rates to pay for their administrative activities. In Cheshire the Clerk of the Peace was awarded £100 for his services. Clerks and magistrates elsewhere also received payments and sometimes tried to extract commission on money paid out or for the certificates they signed. Their claims were sometimes extravagant: in 1756 the widow of the Bedfordshire Clerk of the Peace claimed £511 6s for cattle plague work done by her husband since

<sup>26</sup> On bubonic plague see P A Slack, 'Some aspects of Epidemics in England 1485-1640', unpub DPhil thesis, University of Oxford, 1972, especially chs VII and VIII; also J Biraben, *Les Hommes et la Peste*, Paris, 1975-76, and C F Mullett, *Bubonic Plague and England*, Lexington Ky, 1956. *Gentleman's Magazine*, XXI, 1751, p 72.

<sup>27</sup> *Animal Health — a Centenary*, 1965, pp 7-23, 125-34 give a coherent account of measures during the 1865 outbreak; p 257 states the modern position on compensation: 'Animals slaughtered on account of a disease which has a low mortality rate, or as healthy animals in contact with afflicted ones are dealt with on a different scale from those affected with a fatal disease.'

<sup>28</sup> The county records of London, Middlesex, Surrey, Herts, Bucks, Beds, Oxon, Leics, Lincs, Lancs, Cheshire, Shropshire, and Devon have been examined. Other counties with full records include Kent, Northumberland, and the North and East Ridings of Yorkshire. I would like to thank the archivists of these and other counties for their helpful responses to my enquiries.

<sup>29</sup> PRO PC2/101, p 29.



1745. The bench was sceptical but granted her £175 because her husband had been a vigilant officer.<sup>30</sup>

County authorities spent considerable sums printing large numbers of orders and certificates. Movement certificates in particular were ordered by the thousand. Market closures were also widely advertised in local newspapers to prevent drovers arriving in ignorance of the ban. Some counties, particularly Shropshire, went further than stopping trade. Cock fights, stage plays, puppet shows, public dances and meetings were all forbidden over wide areas. Horse and foot races were banned elsewhere during the 1745-58 outbreak. By contrast later eighteenth-century outbreaks were treated in upmost secrecy, a sensible policy while the disease remained highly localized.<sup>31</sup>

The numbers of indictments and convictions for offences against cattle regulations ought to be a good indicator of local administrative efficiency, yet in all the counties surveyed few people were brought to court. Convictions were far fewer than indictments, and several were reversed on appeal. I suspect that the law was seldom strictly applied because of the extent of evasion from 1745 to 1758. Justices were unwilling to indict farmers who had already been severely punished by the loss of their herds, and did not like to be accused of picking on individuals when so many escaped scot-free.

Even the best regulated counties had their moments of laxity and areas of non-compliance. The gentry around Northwich in Cheshire consistently opposed government policy and the justices there ignored their duties, some claiming that 'it is lawful and reasonable for every person to do what he will with his own'. The farmers there were also discontented and threatened riot

and direct action against inspectors in November 1749. The traditional spectre of arbitrary government was raised at a time when the wide powers of search and regulation given to justices, Land Tax commissioners and Excise men to counter cattle plague coincided with the troop movements of the '45 rebellion, and the suspension of *habeas corpus*.<sup>32</sup> In Hertfordshire the Privy Council issued a special order banning Barnet fair in 1751 to prevent cattle plague spreading back to Middlesex. William Sharpe, the Privy Council secretary, passed there by chance just before the fair and discovered that the local justice had not been told of the ban. Sharpe was naturally furious, for although Barnet was at the extreme edge of Hertfordshire, it was hardly remote. Remote and inaccessible areas, and county boundaries were a common problem for those who enforced the law. In 1748 the Bedfordshire justice's complained that drovers and cattle men organized their own sales on Wavendon Heath, just across the Buckinghamshire border, to avoid supervision and checks on certification, even when Leighton Buzzard market was open. In the 1774 Suffolk outbreak the nearest justice lived eight miles away and complained that he was still expected to send daily reports to London.<sup>33</sup>

Local authorities were mainly the executive arm of central government, but they and informal agencies also had a positive contribution to the development of cattle plague policy. The 1752 Somerset decision to purchase and slaughter contacts, in advance of later government policy, has already been noted. From 1749 Shropshire Quarter Sessions ordered 'that over and above the sum for speedy slaughter allowed by his Majesty, the Treasurer of the County

<sup>30</sup> Cheshire CRO QJB 20a, 21a, *passim*, esp order dated 16 April 1751; Beds CRO QSM vol XIII, pp 119-22.

<sup>31</sup> Beds. CRO QSM vols IX-XIII gives good examples of publicizing orders in the press; Shropshire CRO QSO<sub>4</sub> order dated 4 April 1751; Cheshire CRO QJB 20a 4 April 1749.

<sup>32</sup> *An Essay occasioned by the Cattle Distemper . . .*, 1748, p 18; R E E Warburton, *Documents and letters relating to the Cattle Plague in the years 1747-9*, Manchester, 1866, pp 33-4, 37.

<sup>33</sup> R E E Warburton, *op cit*, pp 28-9, Cheshire CRO QJF 178/2 fol 116; Herts. CRO QS Misc. 2741D, William Sharpe to Herts. Justices, 10, 20 Aug. 1751; Beds. CRO, Butcher papers 1/190b, Joseph Stevenson to Butcher 20 March 1747/8; PRO, PC1/10/17, J Scrivener to Lord Rochford, 9 May 1774.

to pay half as is allowed by his Majesty'. Cheshire and Shropshire were already using their county funds to pay afflicted farmers directly.<sup>34</sup>

More informal schemes included village insurance co-operatives and the reimbursement of tenant losses by their landlords. The Ardley Hall papers in Cheshire include details of a subscription scheme for the tenants and villagers of Great Budworth in 1749. A schedule of all cattle in the parish was to be drawn up and a subscription taken based on cattle ownership. Any farmer suffering an outbreak and following government policy would receive an addition of half the government compensation. The local gentry apparently organized the scheme and promised their own tenants an equal allowance, which amounted to full compensation for losses. Similar schemes were noted in five or more Cheshire parishes and also in Nottinghamshire, while in Yorkshire and Durham landowners banded together to add to the government premium. The strength of opposition to government policies at this time is indicated by the Cheshire proposal that the scheme should be offered to farmers one by one:

it having been found by experience that proposing such expedients at publick meetings hath been a means of raising difficulties and objections. If some of ye better end of ye farmers come readily into it, I think the rest will follow by degrees.<sup>35</sup>

The most obvious way in which landlords could help their tenants was to give them some relief. On the Tyrwhitt-Drake estates, again in Cheshire, estate officials compiled a full account of tenants' herd sizes, numbers lost and value, compensation paid and rent arrears. Drake paid his tenants about one-third of their net losses but discriminated against those who had sublet their land or rented part of their holdings from another landlord. His agents' correspondence indi-

cates that most Cheshire landlords gave tenants some help. There is evidence of similar compensation on the Chatsworth estate and on the Kingston estates in Buckinghamshire and Lincolnshire.<sup>36</sup>

## VI

Any concluding assessment of the economic effects of eighteenth-century cattle plague, and of the economic benefits of the slaughter and compensation policy, must be tentative in view of the lack of quantitative data. The amount spent by government in compensation was £6774 in 1714, £220,000 in 1745-58, £796 in 1770, and £1684 in 1774-75. As an item of government expenditure it was small. In the peak year, 1748, the Treasury paid out £95,500, which was less than 10 per cent of civil government costs, and only 0.8 per cent of total expenditure. The £220,000 spent on cattle plague in the period 1745-58 compares with £1.5m paid in corn bounties in the decade 1741-50.<sup>37</sup>

No accurate figures for cattle losses can be derived from the compensation sums, and I have uncovered only one set of accounts detailed enough to use. Estimates of valuations and losses on the Tyrwhitt-Drake estates in Cheshire in 1750 can be extrapolated on a national scale, but they represent the particular structure of dairy herds. I would suggest however that the estimate they give is conservative, since Cheshire was well regulated and claimed high compensation. Drake's 22 farmers lost 286 cattle, valued at £843 18s. Of these, 216 received government compensation valued at £118 2s 6d. On this basis the average value of a beast was £2 19s, and the average compensation per compensated beast was 10s 11¼d. If this last figure is speculatively used as a national norm, then 384,000 cattle

<sup>34</sup> See note 17 above; Shropshire CRO, QSO4 order dated 4 April 1749.

<sup>35</sup> R E E Warburton, *op cit*, pp 12-31; E L Jones, *op cit*, p 24 notes landowners' schemes in Yorkshire and Durham.

<sup>36</sup> Cheshire CRO, DTD 9/6, 9/12, 9/26-31; Derbyshire CRO D 267Z/C79; G E Mingay, 'The Agricultural Depression 1730-50', *Econ Hist Rev*, 2nd ser, VIII, 1956, pp 323-38, esp p 334.

<sup>37</sup> Government expenditure figures from BPP 1868-9 [366], XXXV, pp 105ff. Mingay, *op cit*, p 334.

were compensated. Again using the basis of the Drake herds, the ratio of compensated to uncompensated cattle losses is 1:1.32, giving a total loss of 507,000 for the period 1745-58. For the two years 1747-48, when the greatest amount of compensation was paid out, the losses amount to about 321,000 head of cattle. There is no estimate of the national herd size for the mid-eighteenth century, but if for want of any alternative, Gregory King's guesses as to the annual consumption of cattle half a century earlier are linked to these estimates, the losses in the two worst years are unlikely to have exceeded 20 per cent of annual consumption, and were probably much less.<sup>38</sup>

The effect of these losses on prices appears extremely limited. There is no marked rise in prices in the worst years of mid-century cattle plague, when prices remained well below those caused by the severe weather of 1740. Smithfield sales totals show cattle numbers falling from a peak in 1735-40 before cattle plague arrived, although they were at their lowest in the worst year, 1748, and failed to make a clear recovery before 1755. Sheep totals on the other hand show a compensatory rise of 21 per cent over the 1740-44 average from 1745 to 1750, dropping significantly only after 1756.<sup>39</sup>

Much more difficult to evaluate are the indirect economic costs of the outbreak. The effects of cattle plague on upland cattle rearers in Wales and the northern hills must have been severe. Market closures made it extremely difficult to sell stock, and this was disastrous especially where enterprises were small and sales were partly geared to the availability of winter fodder.<sup>40</sup> It may be suggested that cattle plague caused little switching into arable farming, partly because on specialized pastures landlords were loth to have their land spoilt by ploughing, but also because the 1740s were the

centrepoint of Professor Mingay's agricultural depression. On the other hand it may have resulted in a short-term switch from cattle to sheep as suggested by the Smithfield figures.<sup>41</sup> The effects of market disruption are impossible to quantify, as are the linkages to allied industries such as leather. Equally, the scale of farm bankruptcies and rising rent arrears is unknown.

However marginal the effect of cattle plague on the English economy from 1745 to 1758, the impact of the disease on any afflicted farmer was disastrous. The virulence of the disease, and its high mortality, meant that once an infected beast was discovered in a herd there was a low chance of many remaining animals surviving. In the course of a few weeks a specialist cattle farmer saw the virtual disappearance of his major capital asset. The government compensation would allow him to restock at most half his farm economically. Landlord's allowances could appear generous. Drake's 22 farmers received twice as much from him as they did from the government. However, most landlords, including Drake, simply set these allowances against rent arrears that were bound to rise during restocking. Drake's agent was well aware of the inadequacy of this and wrote:

if you allow arrears of rent only and make no remittance of ready money it will be of no service especially to those who make their rent as it were from hand to mouth, for their cheese lies ready for the Factor, yet when he buys it he will expect 6 months credit.

In this respect government compensation was more valuable, because it came in the form of ready cash.<sup>42</sup>

To take the low cost and minimal bureaucratic endeavours needed to suppress

<sup>38</sup> These figures are based on the detailed information in Cheshire CRO, DTD 9/26 and 9/32.

<sup>39</sup> Smithfield figures in 'Report of the Select Committee on Waste Lands', *H of C Reports*, IX, 1795, pp 202-3.

<sup>40</sup> R E E Warburton, op cit, pp 5-6; Lancs CRO, DDX/3/41.

<sup>41</sup> R E E Warburton, op cit, pp 6-7; Cheshire CRO, DTD 9/27; G Elliott in A R H Baker and R A Butlin, *Studies of Field Systems in the British Isles*, Cambridge, 1973, pp 80, 83, argues that the cattle plague left untenanted lands in Cumberland and Westmorland which encouraged tillage there as grain prices rose locally in the early 1750s and stock prices fell. I would like to thank Pat Gregory for pointing out that a short-term switch into sheep has been a frequent response to modern outbreaks of foot and mouth.

<sup>42</sup> Cheshire CRO, DTD 9/26, 27, 32.

the outbreaks of 1714, 1769, 1774, and 1781, and compare them with the scale of losses experienced between 1745 and 1758 when there was no effective control, is the simplest way of highlighting the benefits of rapidly enforced slaughter and compensation policies. What is difficult to assess is the efficacy of government policy in the final elimination of the 1745–58 epidemic. Clearly they failed up to 1752. The question remains as to how far the epidemic petered out naturally, or whether government measures took a grip as the scale of the problem diminished. The records here are no help. In general, unlike brucellosis and foot-and-mouth, cattle plague was not an endemic disease in Britain, nurtured as in Africa and India in the wildlife stock and exacting a cull of yearling animals.

Eradication was therefore not a matter of long-term and expensive programmes, but of rapid action. The failure to act quickly in 1745 showed the limitations of such methods once an outbreak got out of control. Public confidence was lost and government measures became insufficient and may even have encouraged evasion and abuse. Co-operative national measures in disaster management were accepted in the eighteenth century only when they were seen to work. If they faltered individual self-interest came to the fore, as the Cheshire justices were only too well aware when they wrote: 'there is no hazzard the common people will not run for the lucre of present gain, even be the advantage ever so small'.<sup>43</sup>

<sup>43</sup> R E E Warburton, *op cit*, p 4.