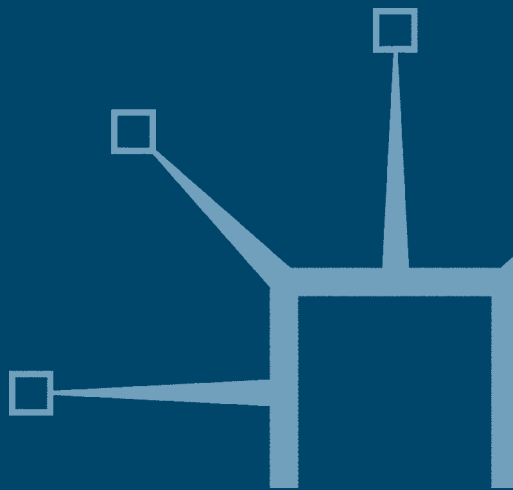


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The Politics of BSE

Richard Packer



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Richard Packer

*Permanent Secretary at the Ministry of Agriculture,
Fisheries and Food (MAFF), 1993–2000*



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List of Abbreviations

| | |
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| BABS | Born after the ban. Cattle succumbing to BSE after it became illegal to include ruminant protein in ruminant feed. |
| BCMS | See CMS. |
| BSE | Bovine Spongiform Encephalopathy. A TSE in cattle. |
| CAP | Common Agricultural Policy of the European Union. |
| CHS | Certified Herd Scheme. Permitted exports. |
| CJD | Creutzfeldt–Jacob Disease. A neurological disease of man discussed in Chapter 2. |
| CJDSU | CJD Surveillance Unit, located in Edinburgh. |
| CMO | Chief Medical Officer for England. There are separate CMOs for each of Northern Ireland, Scotland and Wales. |
| CMS | (British) Cattle Movement Service. |
| CVL | Central Veterinary Laboratory, the main veterinary laboratory within MAFF located in Weybridge, Surrey. |
| CVO | Chief Veterinary Officer, the most senior vet within the State Veterinary Service. The CVO is a MAFF official. |
| DBS | Date Based Scheme. Another scheme permitting UK exports of beef. |
| DoH | Department of Health. |
| EHO | Environmental Health Officer, an enforcement officer employed by local authorities. |
| ELISA | A chemical test for the presence of specified substances, for example animal protein or even bovine protein. Can be very sensitive. |
| EU | European Union. |
| FCO | Foreign and Commonwealth Office. |
| IEHO | Institute of EHOs. |
| LA | Local Authority. |
| MAFF | Ministry of Agriculture, Fisheries and Food. |
| MBM | Meat and Bonemeal. A protein residue which with tallow is derived from processing animal carcasses normally after the meat has been removed. |
| MHS | Meat Hygiene Service. Body established on 1 April 1995 for enforcing rules in slaughterhouses, originally part of MAFF. |
| MLC | Meat and Livestock Commission, a quango for advancing the interests of the meat industry. |
| MRM | Mechanically Recovered Meat. Meat recovered from the bones left following normal butchery in slaughterhouses. |
| NFU | National Farmers' Union of England and Wales. There are separate unions for Scottish and Northern Irish farmers and a Welsh union which caters mainly for small, Welsh-speaking farmers. |
| NPU | Neuropathogenesis Unit. A government research institute outside MAFF located in Edinburgh. |

- SBO Specified Bovine Offal. Parts of bovines which it is believed can harbour BSE infectivity and which from 1989 have been removed from carcasses and kept from human consumption. Later SBO became SBM ('Material' instead of 'Offal'). This book uses SBO throughout.
- ScVC The European Commission's Scientific Veterinary Committee, an expert advisory committee.
- SE A spongiform encephalopathy not (yet) proved to be transmissible as in TSE.
- SEAC Spongiform Encephalopathy Advisory Committee. The government's independent scientific advisory committee on BSE, members of which were appointed jointly by the Minister of Agriculture and Secretary of State for Health. Earlier versions of SEAC were known as the Southwood and Tyrrell committees after the name of the chairmen.
- SVC Standing Veterinary Committee. A committee of officials from member states which meets under a chairman from the European Commission and decides on many technical veterinary matters. It was the SVC which decided on the export ban on UK beef in 1996.
- SVS State Veterinary Service. The group of vets in MAFF under the CVO.
- TSE Transmissible Spongiform Encephalopathy. A group of diseases including BSE in cattle and CJD in man discussed in Chapter 2.
- UKASTA United Kingdom Agricultural Supply Trade Association, a trade association for animal feed manufacturers.
- vCJD A type of CJD in young people apparently caused by exposure to BSE.
- VIS Veterinary Investigation Service. A part of MAFF consisting of a number of veterinary laboratories covering the whole country, though over time their number has been reduced. One of their tasks is to check dead animals for disease.

Chronology

1986

November A spongiform encephalopathy in a bovine, BSE, first identified by examination of an infected brain at CVL.

1987

11 July Information on new disease first published in the *Veterinary Record*.

December MAFF epidemiologist concluded that MBM derived from ruminants was implicated in the spread of BSE.

1988

21 April Government established an independent scientific advisory committee chaired by Sir Richard Southwood.

18 July Order prohibiting the use of ruminant protein in ruminant feed, the 'feed ban', came into force.

8 August Slaughter/compensation scheme for animals showing clinical symptoms came into force.

1989

27 February Southwood Report published: Tyrrell heads successor.

13 June Human SBO ban announced which came into force on 13 November.

1990

3 April SEAC established following on from Tyrrell.

10 May Discovery of SE in a cat.

16 May John Gummer fed daughter, Cordelia, a beefburger.

8 June Council of Agriculture Ministers agreed rules for export of UK cattle and beef to rest of EU.

24 September Announced that laboratory transmission of BSE to a pig had been achieved.

Animal SBO ban brought in straight away. Prohibited use of SBO in any animal feed.

1991

27 March First BAB announced.

1992

4 March Announced that BSE had been transmitted to marmosets.

9 March John Gummer announced the intention to create a national Meat Hygiene Service.

1993

14 July 100,000th case of BSE.

1994

2 November Human SBO ban extended following experimental results.

1995

1 April SBO required to be stained with a distinctive dye.

MHS takes over slaughterhouse enforcement from local authorities.

15 August Extensive extra controls on SBO including requiring dedicated lines for rendering SBO.

15 December Manufacture of MRM from bovine spinal column banned.

1996

20 March Government announced that SEAC had concluded that the occurrence of CJD in young people was probably due to exposure to BSE before the 1989 SBO ban.

27 March EU export ban introduced.

3 April 30-months scheme announced.

21 May John Major announced policy of non-cooperation in the EU in response to export ban.

11 June Export ban lifted for gelatine, tallow and semen.

21 June Framework for lifting export ban agreed at Florence European Council. Non-cooperation ceased.

16 December Backlog of animals under 30-months scheme cleared.

1997

31 July Announced that a GB cattle tracing organization would be established at Workington.

24 October SEAC first recommended all UK blood for use in transfusions be leucodepleted.

16 December Beef on the bone banned.

22 December Announcement of BSE Inquiry under Lord Phillips.

1998

16 March Limited exports from Northern Ireland restarted.

28 September Cattle-tracing system launched.

1999

1 August Scheme (Date-Based Export Scheme) allowing some exports of UK beef came into effect.

1 November Leucodepletion of UK blood for use in transfusions made obligatory.

16 December BSE Inquiry concludes oral hearings.

17 December Beef on the bone ban lifted.

2000

26 October Report of BSE Inquiry published.

2004

16 March Recipients of blood transfusions banned from giving blood.

Introduction

BSE (Bovine Spongiform Encephalopathy or Mad Cow Disease) is still with us in that animals regularly succumb to the disease, though in much smaller numbers than was the case a few years ago. Sadly young people are still dying of the human form of the disease, variant Creutzfeld–Jacob Disease (vCJD) believed to result from past exposure to BSE in food or in some other way, though the numbers appear to be declining. Occasionally an outbreak in some country where the disease was previously unknown, such as that in the USA in 2004/05, makes the newspapers, normally because trading partners have immediately banned imports of cattle and beef from that country. New scientific advances on the nature of BSE and its sister diseases regularly appear in the scientific press and occasionally make the general media.

However, the public interest and alarm that this excites now is a very pale shadow of what happened a decade ago. Then government policy on BSE was discussed – and often denounced – with real passion. BSE came to public notice towards the end of the 1980s and gained increasing salience throughout the first half of the 1990s. Throughout this period every new twist in the story produced an explosion of media interest with each peak in the cycle higher than the last. Virtually without exception comment was negative and highly critical of all concerned, especially the public authorities.

This process reached its crescendo in March 1996 when it was announced that the government's independent scientific advisers had concluded that cases of a new form of CJD in young people probably resulted from exposure to BSE years earlier. BSE remained a major issue for some time thereafter not least because it became mixed up with the UK's difficult relationship with the European Union (EU) via the EU beef ban and the UK's retaliatory non-cooperation policy. Nevertheless interest slowly diminished with the last major peak of interest occurring in autumn 2000 when the official BSE Inquiry published its findings.

Throughout the crisis the media coverage was unrelentingly critical. It became almost universally accepted that the crisis stemmed from serious policy failures and that government secrecy, cover-ups and mendacity were the main causes and culprits of the whole wretched saga.

In case memories have faded and it might be thought I am exaggerating, let us consider an article by the respected journalist Andrew Rawnsley published in the

Observer on 22 November 1998. His first paragraph consisted of 24 words. Among them were 'secretive civil service', 'mendacious politicians', 'greedy farmers', 'complacency', 'incompetence', 'buck-passing' and 'cover-ups'. He went on to refer to 'more than twenty former Ministers associated with the gravest failure of public administration in post-war history'. He implied 'deregulation' was to blame in part. 'The BSE scandal is Suez, the poll tax and thalidomide rolled into one.' 'We might hope for condign punishment of the guilty men.' He claimed Tory Ministers had misled Parliament about past risks. He concluded by asserting that Nick Brown the then Minister of Agriculture had been captured by his Permanent Secretary (me) who had (inevitably) poisoned his mind against the proposed Food Standards Agency.

At the time Rawnsley's observations were not dissimilar in tone to those of other commentators. However, the claims he and others made were very serious ones and we will examine them carefully against the evidence.

Some aspects of the popular explanations for the perceived failures of policy on BSE became so embodied in public thought that they even infected government itself. In December 1999 the Home Office circulated to other government departments including the Ministry of Agriculture, Fisheries and Food (MAFF) draft speaking notes for the second reading in the House of Commons of the Freedom of Information Bill, one of the Labour government's manifesto pledges. On the first page the draft stated:

Madam Speaker, there are just three letters which spell out more starkly than anything else what can happen when the default setting is for secrecy not openness... Those three letters are BSE.

BSE – three letters which serve as a constant reminder of how the previous government's... approach to a looming problem was to get their heads down, and try to keep Parliament and the public in the dark.

This was at the time a fairly standard criticism of the Conservative government's handling of BSE and would probably have seemed unremarkable to most people. The difficulty was that it was already known to be untrue to anyone who had followed the deliberations of the BSE Inquiry which had finished hearing evidence the previous month. It was apparent from the trend of their hearings (all held in public) that apart from one incident in 1987 secrecy was not an issue. Confident claims that BSE had been bedevilled by excessive official secrecy had been made to the Inquiry at an earlier stage but no evidence had been produced to support them apart from the minor case mentioned.

This incident was instructive. Over a period of years it had become firmly established in the public mind that policy on BSE had been defective in a number of fundamental ways, for example by the existence of 'a culture of secrecy' to the extent that a major department of state assumed it was true even though they knew nothing about the matter.

In the event, MAFF commented on the draft speaking notes to the effect that the references to BSE were misguided for the reasons given above and they were

deleted. This was fortunate for the Home Office which would otherwise have justified to Parliament their flagship policy by a claim which opponents could later have pointed out had been refuted by an enquiry (the BSE Inquiry) they had themselves instituted.

But if one popular perception accepted by virtually all, even parts of government, was in fact wrong, what about the others? This is one of the questions which it is the purpose of this book to answer. It will be shown that many other popular perceptions are equally wrong, but that, nevertheless, mistakes were made and we will analyse their malign effects in due course.

In brief, BSE was undoubtedly a national trauma but public perceptions of many aspects of the saga are well wide of the mark. This book sets out the facts distinguishing them from the fantasies which, as we have already seen, are especially prevalent in the area. It is the first book to cover all the ground, covering both the politics and the science.

Book layout and structure

I have tried to structure this book to be as helpful as possible to readers who are not necessarily expert in agriculture, in science or indeed in politics. Chapters 1 to 3 give relevant background in these three areas, while throughout I have treated matters with the minimum degree of detail needed properly to understand what went on.

Until 20 March 1996 scientific opinion, with scarcely a qualified dissentient, was that BSE was unlikely to have implications for human health. On that day it was announced that the UK government's independent scientific advisers had concluded that cases of a new form of CJD in young people were probably the result of their exposure to BSE some years previously. Thus before 20 March 1996 policy-makers were operating in a world where BSE was believed not to pose a threat to human health, while from 20 March the opposite was true. Obviously policy-making was very different before and after 20 March. Moreover, the BSE Inquiry, which we will need to examine in some detail, was concerned with the period up to 20 March 1996 only. It is, therefore, a natural cut-off date.

Accordingly, in the following text I first trace events from the first known cases of BSE in the mid-1980s up until 20 March 1996 and then consider the establishment, procedures and conclusions of the Inquiry (including any defects in any of those). I then discuss developments after 20 March first under the Conservatives and then under Labour. In general I have let the facts speak for themselves and I hope that in the main they do so. However, on occasion, particularly where I believe the BSE Inquiry has misread the evidence, I have explained at rather more length why I take a different view since readers are likely to be especially careful in considering claims of that kind.

It would not be right to set out conclusions before the evidence on which they are based, though as I have already made clear one theme of this book is that a number of common beliefs about the handling of the BSE epidemic are simply wrong. I come to them in due course. I would add one point, however, at this stage.

It is naïve¹ to expect that the ‘real’ truth about political crises is that they result from major, intentional wrongdoing by those in public office or those working for them.² While such cases arise they do so only very rarely and, to put my cards on the table, did not occur in the case of BSE. However, that is precisely what has often been alleged about BSE; a careful reading of the literature will find frequent references to ‘lies’, ‘cover-ups’ and the like.

The real questions are likely to be more subtle and nuanced. For BSE they include such points as whether policy decisions were sound in the light of what was known at the time and whether those concerned were appropriately frank about the risks to the public. These are real issues the answers to which can lead to significant praise and criticism. However, if we judge that someone made a mistake after an investigation of this type we are not automatically claiming he or she was a villain of darkest dye. We do not need to frighten ourselves with goblins.

Conventions employed

What is now the European Union (EU) was previously known successively as the European Economic Community (EEC) and the European Community (EC). For convenience I use the term EU throughout even where, strictly, this is anachronistic.

The enquiry headed by Lord Phillips (as he became subsequently) described itself as ‘The BSE Inquiry’. Except where the context clearly shows otherwise, references to the ‘Inquiry’ are to this body. When referring to other investigations I refer to ‘enquiries’. I treat the Inquiry as a collective requiring a plural verb.

I refer to qualified veterinary surgeons by the colloquial but brief designation ‘vets’.

Sources

Much the best source for all matters until 20 March 1996 is the Report of the BSE Inquiry,³ in the shape of both its voluminous Report and the evidence submitted to it and preserved on the internet.⁴ After that date there is no source of comparable authority. One needs to rely on Hansard, newspapers, departmental notices and the like. I was conscious from 20 March 1996 that I was living through momentous times and took notes, sometimes detailed ones. I have a copy of my engagement diary for the period 1995–2000.

Personal involvement

I was Permanent Secretary at MAFF from 1993 to 2000, and it may help to say a few words about the position of Permanent Secretary. He or she is normally the official head of the department in question⁵ obviously under the Minister. He or she⁶ is responsible for managing the department and some incumbents devote almost all of their energies to this task. However, he also has two other principal functions which will concern us. First he is the most senior adviser on policy and

second he has personal responsibility in relation to the expenditure of public funds. He fulfils these latter responsibilities as the *Accounting Officer*. In this capacity he must ensure that value for money is obtained for all expenditure and that all the department's financial actions and expenditure meets the highest standards of propriety.

On these financial responsibilities the Permanent Secretary/Accounting Officer is responsible not only to his own Minister but also to the Treasury and to Parliament⁷ via the powerful Public Accounts Committee (PAC), always chaired by a senior member of the Opposition. Permanent Secretaries are regularly grilled by this committee on any and all aspects of departmental expenditure and if they are wise they make enormous efforts to prepare themselves for the occasion, since their performance will impinge on their reputation.

There is a special though rarely used mechanism which Accounting Officers can and must use if they believe that financial proposals are unsatisfactory in terms of propriety and/or value for money. They can object and formally seek a direction from the Minister – that is a written order – to proceed with the matter in question. Without such a direction the Accounting officer can instruct officials not to proceed. The Accounting officer's request for a direction and the Minister's reply must be copied to the Treasury and the National Audit Office which reports to Parliament and is thus close to the PAC.

There is clearly a potential tension here. The Permanent Secretary works for the Minister yet he can, indeed has the specific responsibility to, thwart the latter's wishes in potentially embarrassing circumstances if he judges they do not meet certain standards. As we shall see this can lead to problems.

As Permanent Secretary I participated in many of the more important discussions and incidents which occurred when BSE was a major issue. When I took up post I quickly found that to act effectively on BSE I needed to examine who had done what previously (that is before 1993) and why. Also, since Ministers were officially debarred from taking any role in the BSE Inquiry's processes, I had to authorize departmental submissions to it in 1998 and 1999 covering the period before as well as after 1993. I therefore gained a solid grounding in the history of the disease back to its beginning in the mid-1980s. It also helps that my university degrees are in a scientific subject (chemistry).

I believe that the history of BSE is fascinating and in some ways instructive even if – indeed because – the facts are different from popular perceptions. I also believe, perhaps immodestly, that I am in as good a position as anyone to write an account which needs to cover events, the political dimension and the science. Readers will judge for themselves whether this represents self-knowledge or self-delusion.

The word 'politics' covers a host of matters from major issues of elevated principle to minor matters of interest to a few individuals only. This is because politics is a reflection of human nature, which while sometimes aspiring to the heavens is often concerned mainly with self. Accordingly, sometimes this book moves suddenly between the large and lofty and the small and rather grubby. I make no apology; it would not be an accurate account without both dimensions.

Notes

- 1 In present UK circumstances. Elsewhere in time and space matters may be/have been different.
- 2 I acknowledge that, as I revise these pages in 2005, some might consider that the current High Court case involving Railtrack perhaps refutes this claim. However, whatever the merits of that case the proposition as put remains true.
- 3 *Report, evidence and supporting pages of the Inquiry into the emergence and identification of Bovine Spongiform Encephalopathy (BSE) and variant Creutzfeld–Jacob Disease (CJD) and the action taken in response to it up to 20 March 1996*. Stationery Office 2000.
- 4 At www.bseinquiry.gov.uk
- 5 Some larger departments have more than one Permanent Secretary, but if so one will be designated as the most senior.
- 6 I use 'he' subsequently to save repetition.
- 7 Departmental expenditure is authorized by specific *Parliamentary votes*.

1

The Cattle and Ancillary Industries

It will help in considering the emergence of BSE and the response of the government to the epidemic to have some concept of the industries concerned and how they are organized.

Agriculture in Britain

Very broadly as we move eastwards across Britain average rainfall lessens and soil fertility increases. As one consequence the importance of arable farming (crops) also increases as we move eastwards. Thus the importance of cattle and sheep¹ farming increases as we move the other way – westwards.

Agriculture has been profoundly changed by the scientific revolutions of the last two hundred years, the pace of change seeming to get ever faster. However, not all sectors have been equally affected. Arable farming has been most affected, while dairy farming, too, has been very much altered by improved animal genetics, nutrition and milking techniques. The farming of beef cattle and sheep has been perhaps the least altered though even here observers from a century ago would be surprised by what they found.

BSE is primarily a disease of cattle² and in 1986 – when BSE was identified – the total UK cattle population was over 12 million spread over 120,000 farm holdings. Many thousands of people were economically involved in cattle (including dairy) farming and many more in the related ancillary industries. Cattle are big business. In 1986 the output of milk and cattle was valued at over £5 billion at 1990 prices and this figure does not include the large value added by a host of ancillary industries.

All aspects of agriculture and trade are covered by the EU Treaties; hence it is primarily EU rules that apply in these areas and there is little scope for independent national action. In particular the production of and trade in milk and beef³ falls within the ambit of the common agricultural policy (CAP). The CAP is renowned for high prices and production subsidies;⁴ nevertheless, at times of crisis there are inevitably demands that support should be increased. Hence the politics of the CAP impinges on policy on BSE.

Fortunately milk has never been implicated in the spread of BSE so I will therefore mention only the industries based on the processing of cattle carcasses and not those concerned with the processing of milk.

In 1986 about two-thirds of beef output came from animals produced by the dairy sector, that is from dairy cows at the end of their working lives and from calves most of which were reared until 18/24 months of age. Beef also comes from specialist, 'suckler' herds.⁵ These animals are generally kept on less-productive land than dairy cattle though the resulting beef is of better quality.

Farming is more than facts and statistics. Many producers are proud of inheriting their role from fathers, grandfathers and not infrequently more distant ancestors. Many are equally conscious that the impersonal forces of economics are likely to make them the last of their line in farming. 'Family farms in peril' is how the farming press tends to put it. Attitudes towards the amalgamation of holdings and increased farm size vary, but it would be fair to say many see these trends as regrettable. This factor has its political significance and is reflected in the pressures faced by policy-makers when disasters occur.

The animal feed sector

Most feed consumed by most cattle is in the form of grass either eaten direct from the sward or preserved as hay or silage. To this day some cattle never consume anything other than grass and their mother's milk. For about a century, however, many cattle have been fed in part on the output of the animal feed industry. In particular milk output can be increased by the feeding of 'concentrates'.⁶ Dairy calves need special feed until they can consume grass, since their mothers' milk is not available to them. Like other young mammals they need feed rich in protein.

In recent decades the nutrition of cattle and other farm animals has become better understood. Clearly there is an equation which links the increase in output to be gained from feeding an animal with a particular feed and the cost of the feed. Nowadays computers are used to determine optimum economic choices. The largest component of cattle feed is usually cereals, but from the perspective of BSE the most significant was the frequent inclusion (until 1988) of meat and bonemeal (MBM), produced in part from cattle carcasses. MBM was included primarily as a source of protein. Probably one of the more widely known facts about BSE is that it was spread by cattle consuming feed containing MBM derived from cattle contaminated with BSE. Articles of the 'how could they have allowed cannibalism' sort have been common for years.

The advent of BSE has indeed demonstrated the dangers of allowing cattle to consume bovine MBM. But before we assign blame we need to examine the circumstances which were helpfully researched in detail by the BSE Inquiry.

They showed that: MBM was already used in ruminant feed in the UK in the 1920s; that the same practice was followed in the USA also in the 1920s and in Australia and New Zealand certainly by the 1930s: that in the UK during the Second World War MBM was specified as an obligatory component of animal feed: and that the use of MBM grew after the War, partly on the basis of official

recommendation. In the UK by the late 1980s production may have amounted to 400,000 tonnes per annum of which 10 per cent may have been included in feed for ruminants.

Thus for many decades before the arrival of BSE a large number of people in many countries⁷ – everyone concerned in fact – saw nothing untoward with feeding bovine MBM to cattle. There is no record of anyone protesting.

The inescapable conclusion would seem to be that before BSE nobody saw anything wrong with feeding bovine MBM to cattle;⁸ and that later claims that it is obviously wrong in principle owe everything to hindsight. Those who claim otherwise are seeking scapegoats after the event. Any such scapegoats would have to include virtually all those working in the field of animal nutrition in every developed country stretching back over many decades.

Slaughterhouses

All farmed animals, including those reared primarily for another purpose, such as the production of milk, eventually go for slaughter. With trivial exceptions all farmed animals such as cattle are required to be killed in licensed slaughterhouses.⁹ The deficiencies of the hygiene controls in UK slaughterhouses in the 1980s and early 1990s, the denial by some that those deficiencies existed, and the difficulty the government had in improving matters is an important part of the BSE story, sufficient to justify a chapter of its own (Chapter 3). Here I deal with other aspects of the sector.

It is noteworthy that in some cultures¹⁰ those involved in animal slaughter are required to separate themselves from society at large. There are deep-seated human taboos about killing things. This has important consequences in that, one suspects, slaughterhouse workers are a more robust group than would be found by randomly sampling the population at large.

In recent decades economic forces, notably the advantages of maximizing the utilization of equipment and of production lines – economies of scale in short – have brought about the concentration of the industry into fewer and larger enterprises. In 1971 there were 1,890 slaughterhouses in Great Britain; by 1986 the number was under 1,000, by 1995 it was under 500. It has continued to go down subsequently.

Preparing cuts of meat from a slaughtered animal involves a large number of processes many of which are likely to make the average person feel somewhat uncomfortable. The Report of the BSE Inquiry contains an excellent list¹¹ of 19 such processes including ‘stunning, pithing,¹² shackling and hoisting, sticking,¹³ bleeding, removal of horns, feet and udders, removal of head, tonsils and tongue, pulling of tail and dropping of bung¹⁴ and so on. For our purposes we only need to remember that slaughterhouse practices cover a wide range of activities, many of them messy.

In the mid-1980s slaughterhouses processed about four million cattle annually which produced about one million tonnes of beef and the same amount of other material, that is bones, intestines and all the messy stuff produced by dead bodies.

A million tonnes of such material cannot be dumped and in developed societies most of the material from slaughtered animals that does not go for human consumption is passed on to renderers.

The rendering industry

Rendering is the process by which the material left over after the meat has been removed from carcasses,¹⁵ which would otherwise decay unpleasantly, is transformed into two relatively stable products – tallow, and meat and bonemeal (MBM). Until the advent of BSE both had value, so that slaughterhouses were paid by renderers for their waste material.

Though processes vary slightly, essentially rendering involves crushing and heating. The heating drives off water and eventually the material separates into two fractions, one consisting mainly of protein from which MBM is produced, and the other consisting mainly of fat (tallow). Traditionally tallow was the more valuable product and was used for candles. It is still used for that purpose but now it can also be used in the manufacture of numerous other products including, notably, soap. The main uses of the protein fraction were in animal feed and fertilizer.

Rendering has traditionally been a lightly regulated industry with commercial demand determining standards. In 1981, however, a government Order specified that ‘processed protein’ must be salmonella¹⁶ free, though how that was achieved was left open. Nevertheless, one of the explanations of the BSE crisis put forward after 1996 was that it resulted from ‘deregulation’ of the rendering industry. In fact there was not much regulation of rendering before BSE and its advent resulted in various extra requirements being imposed on the industry. At no stage was there any deregulation.

Head-boning plants

There really is (or more accurately was) an industry going by this name. Its objective was to extract maximum value from bovine heads by removing as much as possible of the meat, which is found mainly in the cheeks and tongues. Removing meat from heads could not be fully mechanized and was done by operatives skilled in the process using circular electric knives. The specialist nature of the task led to its often being done apart from other slaughtering processes. In 1995 there were about 40 head-boning plants.

BSE turned attention to head-boners since it was soon realized that brains were a main repository of infectivity. This led to successive tightenings of the controls on the industry until the *coup de grace* came in March 1996. Following scientific advice that cases of CJD in young people were linked to exposure to BSE, an Order was made requiring the whole head except the tongue to be treated as SBO. This prevented the recovery of meat from skulls. Thus the advent of BSE resulted in the disappearance of an industry while those concerned received no compensation. They were among the victims of the disease. It is also worth noting that what had previously been an economic resource – bovine heads

(except tongues) – was after 1996 treated as a pollutant at considerable cost to producers and society at large.

Mechanically recovered meat (MRM)

Maximizing the amount of meat recovered from a carcass has obvious economic advantages. In the 1960s automatic machines were developed which could accomplish this with greater efficiency than had been achieved previously. Typically the machines operate by subjecting bones to high pressure and forcing the resultant slurry (MRM) through a series of sieves. MRM resembles a puree and, unless treated, does not look like meat as normally understood by most people.

In 1995 most MRM was made from chicken, but about 5 per cent was made from bovine material. The vertebral column and ribs were the main source of bovine MRM. It was relevant, therefore, that the spinal cord was known to be a source of infectivity. The unfortunate events which resulted in the production of bovine MRM from vertebral columns not being banned until 1995 is set out in Chapter 4.

The whole concept of MRM has been attacked in recent years as being abhorrent in some way. Television programmes have shown close ups of puree emerging from the manufacturing process in the clear expectation that viewers will find it distasteful. Is there something inherently unacceptable about the product? Some manufacturers took a critical view of MRM well before 1995 and claim never to have used it. They were concerned at the virtual impossibility of tracing the origin of the animals processed which would be useful if there were an outbreak of disease. These individuals were prescient, though this does not mean that others following the rules are to be blamed.

We are constantly exhorted to protect the environment and the earth's resources by recycling and avoiding waste. The production of MRM (and indeed the inclusion of MBM in cattle feed) could be said to have achieved both. Perhaps the correct conclusion is not that MRM was an inherently unacceptable product, but that all practices should be constantly kept under review and that we should be prepared to alter the rules quickly in the light of new evidence.

Knackers and hunt kennels

The production of meat is a messy business and the gory ramifications do not stop with MRM. In the UK there have long been enterprises that cope with those animals that cannot be slaughtered in licensed premises either because they have already died on farm or are ill or injured and need to be slaughtered directly and/or would not be accepted for human consumption. In the UK such animals are traditionally processed by knackers and hunt kennels. In the early 1990s there were just over 100 knackers and rather fewer than 300 hunt kennels.

By definition, meat from knackers does not go for human consumption. The plants' importance in the context of BSE lies in the possibility that they might have acted as sources of infection for animals. Theoretically they could have done so either by the direct sale of meat as petfood or via the waste eventually sent by

knackers to renderers, which could have found its way into cattle feed if not correctly handled.

Meat from carcasses sent to hunt kennels is fed to the hounds. After November 1990 any SBO ought not to have been fed to the hounds (or any other animal). MAFF investigations showed as late as 1995 that this provision was not always complied with, but fortunately BSE has not yet been found to cause illness in dogs.

Historically knackers, the more important of the two types of enterprise, undoubtedly fulfilled a useful function, but by 1986 most were struggling.

Gelatine

One wonders even now how many people realize gelatine is made from pig and cattle carcasses. Specifically it is made from the hides and bones of pigs and cattle which are treated with either acid or alkali and the resulting extract heated. The treatment is thought to be sufficiently rigorous to deactivate the BSE agent. The product is very widely used in foods, in the manufacture of pharmaceuticals, in photography and in numerous other industries.

Other industries

The industries discussed above are not the only ones involved with cattle. To name only two it does not cover the leather industry nor retail butchers. The industries discussed are, however, those of most importance in the context of BSE.

Consumers

Obviously production is only viable if there exist willing consumers for the relevant output. It is therefore important that starting in about 1970 (some would put the date a bit earlier) the interest of consumers in food production and diet and in the related official standards and rules increased enormously. Consumer bodies and pressure groups of many kinds have decided views on what ought and ought not to happen and constantly seek to publicize their views in order to influence the public, while also lobbying government to act in their preferred manner. Responding to such pressures is a major task for all in the food chain, notably farmers, manufacturers and retailers, and also for government.

This book is only indirectly concerned with what has been reasonably called the consumer revolution, but it is important to realize that all the decisions discussed below had to be taken in the knowledge that they would be rigorously scrutinized not only by political opponents but also by consumer groups which, experience showed, were often both critical of government action and successful in gaining media attention.

Notes

- 1 These days pigs and poultry are considered as being in effect processed cereals, hence the industries are concentrated in the east. This had its significance in the BSE saga (see p. 72).
- 2 Though the possibility that it originated in sheep has not yet been definitively disproved.

- 3 And most products made by processing milk or beef.
- 4 Very recent (2003) agreements to make changes to the CAP may make this less true in future. However, most observers would accept that the above statement was true from the beginning of the CAP in the late 1950s until 2003 at least.
- 5 'Suckler' because the calves suckle their mothers which is not usually the case for dairy calves.
- 6 Concentrates are animal feed with a high concentration of protein.
- 7 In effect all developed countries.
- 8 However, note Sir Richard Southwood's reaction explained in Chapter 4, p. 44.
- 9 This is accomplished in a roundabout way – meat cannot be sold unless it comes from an animal killed in a licensed slaughterhouse.
- 10 For example Japan.
- 11 Figure 2.3 on p. 7 of Vol. 13.
- 12 The insertion of a rod or coiled wire through the hole in the skull of cattle made by the captive bolt to destroy the brain and spinal cord.
- 13 The act of severing some of the principal blood vessels.
- 14 Tying the rectum with the neck of the bladder to prevent faecal contamination of carcasses.
- 15 Renderers also made some use of other material, such as whole carcasses from animals that had died on farms (fallen stock) and waste from butchers' shops.
- 16 The thinking presumably was that anything sufficiently rigorous to eliminate salmonella would also eliminate other bacteria and viruses. This is correct, but unfortunately the same is not true of BSE.

2

Science and Research

Introduction

BSE is (mainly) an affliction of cattle. A human affliction now known to be closely related to it is called CJD. One objective of this chapter is to set out enough of the science of this group of afflictions to enable readers to appreciate the nature of the problem posed when BSE was identified. Another is to help them to appreciate why when faced with BSE those involved acted in the ways set out in the following chapters – and to judge whether these actions were satisfactory.

Of course over time science moves on and more becomes known enabling better decisions to be made. However, decisions often cannot be delayed and have to be made in the light of the information available at the time and of the theories which best account for the known facts. The passage of time may reveal that the facts have been wrongly assessed or the theories accounting for them were deficient. In that case previous decisions may not have been optimal. This is inevitable and history abounds in examples of catastrophes caused in effect by ignorance. I describe below one such where young people treated with human growth hormone extracted from corpses were infected with CJD. In these cases the direct consequence of a medical treatment prescribed for the best of reasons was an appalling, early death.

The class of disorders to which BSE belongs is a highly unusual one. For the purposes of this book I believe it will be most helpful if I first describe the relevant facts as they became established over the years up to the discovery of BSE in 1986. This was the state of knowledge when the initial policy decisions on dealing with BSE had to be taken. I will then turn to how these facts are now explained.

Advances up to 1986

Scrapie

This approach requires us to start with scrapie which has been recognized as an affliction of sheep (and goats) for centuries. There was a particularly widespread and virulent outbreak in Germany in the eighteenth century, and contemporary accounts show that the disease existed in the UK at the same time.