

# Book Reviews

---

## EPIDEMICS AND SOCIAL HISTORY\*

An Essay Review by

R. S. ROBERTS

IN recent years the study of the development of English society has shown a shift of emphasis away from political and even economic problems towards those of a social and demographic nature. This shift of interest means that there is now being written more academic history which is of direct concern to the medical historian than ever before. Unfortunately medical historians themselves often seem unaware of much of the work that is being done and certainly have played but little part in this process of change. The history of disease, however, is so important in the study of the history of society that it cannot be ignored, and consequently workers in other fields have begun to look at medical history.

Mr. Razzell, for example, recently attempted to revise the history of inoculation and vaccination, and his essay did not meet with much approval in the discussion that followed in this journal.<sup>1</sup> That repudiation of his medical ideas, however, does not necessarily invalidate other parts of his main thesis on population growth which appeared elsewhere,<sup>2</sup> although it does illustrate how difficult it is for one person to handle material from such different fields. One is thus reminded of a plea made more than ten years ago for co-operation between students of society and those of medicine,<sup>3</sup> and it is, therefore, an encouraging sign to see that an historical demographer and a medical historian have recently joined forces to bring out a reprint of Charles Creighton's *A History of Epidemics in Britain*. It must be rare for an historical work published seventy years ago to be of sufficient value to warrant a complete and unaltered reprint, and it is even more unusual that such a reprint should be of a work dealing with problems of epidemiology that had hardly been studied scientifically at the time of original publication. For the truth is that Creighton, who was born one hundred and twenty years ago, never came to believe in the modern germ-theory of disease and his explanations of the causes of the epidemics in British history are almost without exception wrong!

The editors nevertheless have no doubts that this reprint is justified. In the first place it has always been acknowledged that this was a work of a scope that has hardly been rivalled, and the amount of labour involved was such that no one else has attempted to write a history of British epidemics more in line with modern medical thought. There have admittedly been attempts to apply modern medical knowledge to the history of

\* C. Creighton, *A History of Epidemics in Britain*, with additional material by D. E. C. Eversley, E. Ashworth Underwood and Lynda Ovenall, 2 vols., 177 pp. + 706 pp., 883 pp., 2nd ed., London, Frank Cass, 1965, 15 gns. [hereafter, both in the text and in footnotes, reference to the new material of this edition will be *Intro[duction]* whilst reference to Creighton's original text (2 vols., Cambridge University Press, 1891-1894) will be denoted simply by the volume numbers I and II].

<sup>1</sup> P. E. Razzell, 'Edward Jenner: the history of a medical myth', *Med. Hist.*, 1965, 9, 216-23; for discussion see *ibid.*, 223-29, 381-85.

<sup>2</sup> P. E. Razzell, 'Population change in eighteenth-century England. A reinterpretation', *Econ. Hist. Rev.*, 1965, 18 (2nd ser.), 312-32.

<sup>3</sup> F. Roberts, 'The effects of epidemics on population and social life', *Proc. R. Soc. Med.*, 1955, 48, 785.

## Book Reviews

disease, by Greenwood, Winslow and Gale for example,<sup>4</sup> but even these studies have concentrated on the particular diseases and their mechanisms rather than on the society which was their victim. In fact one has to turn to continental writers, like Chevalier on cholera or Carpentier and Woehlkens on plague, in order to find examples of the sort of comparative and detailed studies that are needed in British history.<sup>5</sup>

It is indeed sad to remark how little work has been done since Creighton's time on this important aspect of the history of our society; only in the case of a few diseases such as influenza and 'sweating sickness',<sup>6</sup> and perhaps smallpox,<sup>7</sup> has enough research been done to make reference to Creighton superfluous. Even in the case of plague, the one disease which both economic and medical historians<sup>8</sup> have been obliged to consider, there is no comprehensive account of its ravages in Britain; and consequently articles in learned journals still take Creighton as their starting point. Indeed the editors are probably correct in saying (*Intro.* p. 4) that the increasing interest in social and demographic history means that there are today more footnotes referring to Creighton than ever before.

It is in recognition of this interest and of the high cost of the original edition (of which there were only 1,000 copies), that this new edition is now published with two introductory essays, 'Epidemiology as social history' by Dr. Eversley, and 'Charles Creighton, the man and his work' by Dr. Underwood. There is also a useful bibliography by Miss Ovenall of work done in this field since 1894. Many libraries will no doubt find these two volumes a useful additional work of reference which is fairly easy to use; for the arrangement of contents by disease is more convenient than the form of chronological annals more usual to such works,<sup>9</sup> and this goes a long way to remedy the indifferent index and the absence of an original bibliography.

Having said this, it must be made clear that the editors in their introduction claim much more for Creighton's *History* than its usefulness for reference. For not only was Creighton a writer whose work on medical history has not been superseded, but also, it is argued, he was a writer who was unusually aware of the importance of disease in the social history of Britain. In respect of this wider claim, however, it is not easy to follow the editors; for on searching Creighton's work there is little direct evidence of

<sup>4</sup> M. Greenwood, *Epidemiology, Historical and Experimental*, London, 1932; *Epidemics and Crowd-diseases*, London, 1935. C. E. A. Winslow, *The Conquest of Epidemic Disease . . .*, Princeton, 1943. A. H. Gale, *Epidemic Diseases*, London, 1959. See also R. Hare, *Pomp and Pestilence: Infectious Disease, its Origins and Conquest*, London, 1954; H. Zinsser, *Rats, Lice and History*, New York, 1935.

<sup>5</sup> L. Chevalier, *Le Choléra, la Première Épidémie du XIX siècle*, La Roche sur Yon, 1958. E. Carpentier, *Une Ville devant la Peste. Orvieto et la Peste Noire de 1348*, Paris, 1962. E. Woehlkens, *Pest und Ruhr im 16 und 17 Jahrhundert*, Hanover, 1954. See, however, the stimulating essay by A. Briggs, 'Cholera and society in the nineteenth century', *Past and Present*, 1961, 19, 76–96.

<sup>6</sup> F. G. Crookshank, 'The "Trousse-Galants" of 1528–29 and 1545–46', *Proc. R. Soc. Med.*, 1921–1922, 15, 27–34 [reprinted in his *Epidemiological Essays*, London, 1922, pp. 69–85]; 'The name and names of influenza' printed in *Influenza: Essays*, ed. F. G. Crookshank, London, 1922, pp. 64–80. See also Sir William H. Hamer, *Epidemic Disease in England . . .*, London, 1906 (Milroy Lecture), pp. 19–22, and *Epidemiology Old and New*, London, 1928, pp. 103–30.

<sup>7</sup> Greenwood, *Epidemics and Crowd-diseases*; see also G. Miller, *The Adoption of Inoculation for Smallpox in England and France*, Philadelphia, 1957, and C. W. Dixon, *Smallpox*, London, 1962.

<sup>8</sup> See the many works listed by L. Ovenall, in 'A select bibliography of epidemiological literature since 1894' in *Intro.*, pp. 159–64. The best medical survey of plague is L. F. Hirst, *The Conquest of Plague . . .*, Oxford, 1953, and there is a rather scrappy account in C. F. Mullett, *The Bubonic Plague and England . . .*, Lexington, 1956.

<sup>9</sup> See for example, A. Corradi, *Annali delle epidemie occorse in Italia . . .*, Memoria della Società Medico-Chirurgica di Bologna, 1863–1894, 8 parts.

such an appreciation except for the traditional sort of correlation between disease and filth. Dr. Eversley suggests that this was because other historians so neglected the relationship between epidemics and socio-economic development that Creighton himself felt obliged to imply rather than state the importance of his subject (*Intro.* p. 5). This is a view that not only is unconvincing in itself but also fails to do justice to the interest that had already been shown by Seebohm, Thorold Rogers and Jessopp in the effect of plague on wages and agrarian changes in the century after 1350.<sup>10</sup>

On occasion nevertheless Creighton's appreciation of social history is made explicit and so provides better opportunity for judgment. For example Dr. Eversley feels that Creighton's explanation that medieval England escaped ergotism because of good wheat supplies constitutes a prelude to 'an unrivalled picture of the English peasant population' (*Intro.* p. 5). If, as seems intended, the reference is to Chapter I, and not Chapter II as stated, this unrivalled picture on examination turns out to be a couple of pages of quotations from Skeat's edition of *The Vision of Piers the Ploughman*; these are followed by a typically illuminating observation of Creighton that 'A liking for the best of food, and plenty of it, when it was to be had, has clearly been an English trait from the earliest times' (I, pp. 66–67). If, however, the reference really is to Chapter II, then the unique description turns out to be a few pages (I, pp. 110–13) in which the prevalence of leprosy in medieval England is ascribed to the peasants' habit of eating half-putrid flesh in the absence of that very wheaten bread which in the previous chapter was in good enough supply to prevent ergotism! This is neither history of epidemiology nor social history worthy of the name.

The truth is that Creighton was not interested in epidemiology as social history; his concern was to use history, of any sort, to prop up his own anachronistic medical theory on the causes of epidemics. Put briefly, this was the old localist-miasmatic theory of disease which explained epidemics as the result of local emanations of poisonous substances from the soil. The undoubted correlation between disease on the one hand and poverty and filth on the other had long appeared to give proof of this theory, no matter whether it was a question of the plague in the poor parishes and liberties around the City in 1665, or of the cholera and fevers which haunted the working-class areas of London in Creighton's own day. The rise and fall of particular epidemics had traditionally been explained as the result of seismic disturbances or, less dramatically, of changes in the weather. Much of the tedium of reading Creighton's *History* in fact is due to his lengthy and selective details of the weather and earthquakes in historic epidemics such as those of the fevers and influenzas of the seventeenth century (I, pp. 568–74; II, pp. 415–25).

By the latter part of the nineteenth century, however, a seemingly more scientific explanation of epidemics had been evolved by von Pettenkofer who stressed the movement of ground water as the determining factor.<sup>11</sup> It was to this form of the localist-miasmatic theory that Creighton held fast<sup>12</sup> despite the identification in the 1880s of

<sup>10</sup> F. Seebohm, 'The Black Death, and its place in English history', *Fortnightly Review*, 1865, 2, 149–60; J. E. T. Rogers, 'England before and after the Black Death', *ibid.*, 1866, 3, 191–96; A. Jessopp, 'The Black Death in East Anglia', *Nineteenth Century*, 1884, 16, 915–34.

<sup>11</sup> M. von Pettenkofer, *Untersuchungen und Beobachtungen über die Verbreitungsart der Cholera . . .*, Munich, J. G. Cotta, 1855.

<sup>12</sup> The clearest exposition of this theory is in relation to the plague at Eyam in 1666, I, pp. 686–87.

## Book Reviews

the bacteria responsible for many diseases such as cholera and diphtheria—exciting discoveries which he disdained.

That Creighton held these anachronistic medical theories is, of course, stated by Dr. Eversley, but he has not made clear that Creighton's peculiarity of approach to the basic epidemiological problems has also made for a very strange sort of history, whether social or medical. For Creighton was interested in the history of the development of English society only in so far as his miasmatic theory implicitly relied upon some idea of change in social environment: in the absence (for him) of specific germs causing the different diseases, there must have been changes in the miasmas emanating from the earth for there to have been changes in the pattern of disease. Thus, whilst particular weather conditions might explain particular epidemics, some overall change in environment and social conditions was necessary to Creighton to explain the way in which some diseases appeared to die out and be replaced by new ones. One feels that if Creighton had been alive today he would have found an equally suitable extrinsic factor in the idea of secular change of climate which has found some favour with some economic and demographic historians.<sup>13</sup>

Now there is something of importance for medical and social historians in this suggested relationship between disease and social conditions in the past, for changes in the environment have undoubtedly affected the course of diseases. Tuberculosis in the nineteenth century began declining long before there was effective medical treatment;<sup>14</sup> measles often seems to die out in a city with a population of less than 250,000, and smallpox introduced into Britain twice in recent years has seemed unable to establish itself despite the availability of a large pool of susceptibles;<sup>15</sup> plague rarely gains any foothold among the human population of western U.S.A. despite the fact that it is endemic among the rural rodents.<sup>16</sup> An understanding of such facts, however, calls for a precise appreciation of the changes in social conditions, of development of immunity, of factors of chance and mathematical size of populations, and, in the case of plague, of the complicated ecology of fleas, some efficient vectors some not, rodents, some immune some vulnerable, and man himself.

With Creighton, on the other hand, social conditions are merely postulations undertaken in an attempt to explain change in non-existent miasma that were supposed to cause disease. Thus in his *History* plague, having been introduced into England in the fourteenth century, became the dominant disease for the next three hundred years because of an increasing tendency to intramural burial (I, pp. 332–37). If we ignore the inherent illogicality of a disease miasmatic in origin being introduced from abroad,

<sup>13</sup> See for example, G. Utterström, 'Climate fluctuations and population problems in early modern history', *Scandinav. Econ. Hist. Rev.*, 1955, 3, 3–47; E. LeRoy Ladurie, 'Histoire et climat', *Annales, Econ. Soc. Civilis.*, 1959, 14, 3–34, and 'Aspects historiques de la nouvelle climatologie', *Rev. Hist.*, 1961, 224, 1–20. See also, D. J. Schove, *Climatic fluctuations . . .*, unpublished M.Sc. thesis (London), 1953.

<sup>14</sup> T. McKeown and R. G. Record, 'Reasons for the decline of mortality in England and Wales during the nineteenth century', *Pop. Stud.*, 1962–1963, 16, 94–122.

<sup>15</sup> M. S. Bartlett, 'Critical community size for measles in the United States', *J. R. Stat. Soc.*, 1960, 123 (Ser. A), 37–44, and *Stochastic Population Models . . .*, London, 1960; N. T. J. Bailey, *The Mathematical Theory of Epidemics*, London, 1957. The statistical aspect of the history of epidemics has not attracted much attention since Brownlee's work on measles and plague, but in view of the recent studies cited the whole subject may be worth looking at again.

<sup>16</sup> L. Kartman *et. al.*, 'New knowledge on the ecology of sylvatic plague', *Ann. N.Y. Acad. Sci.*, 1958, 70, 668–711.

### Book Reviews

we are left with the idea that social conditions governing the disposal of the dead in towns produced a cadaveric poison.

That modern medical knowledge of plague shows this to be wrong is not the point; what needs to be emphasized is that Creighton never had much evidence for his view and that it was in any case inadequate and contradictory within its own terms of reference. On the one hand the towns of fifteenth-century England where plague became endemic had fewer dead to dispose of than before 1348, and on the other hand plague suddenly disappeared after the outbreak of 1665 at a time when many towns, particularly London, were growing fast and had more dead to dispose of than ever before. Creighton produces no shred of documentation for any change in burial habits, and by persisting in his theory flies in the face of all evidence. He insists, for example, that because of burials people in 1665 feared plague-infected ground rather than people infected with plague (I, p.671), whereas the whole system of 'shutting-up' infected victims and of 'watch and ward' against travellers shows the opposite to have been the case.

This is a typical example of Creighton's procedure, and the particular point to be noticed is that whilst it is usually fairly easy to find something new in history that can be seized upon to explain the rise of a disease,<sup>17</sup> it is much more difficult to find a social change so complete as to explain the sudden disappearance of a disease like plague or the 'sweat'. It was for this reason that Creighton was attracted to the idea of one disease being naturally superseded by another—plague by typhus, smallpox by measles. For such a neo-Darwinian concept of the rise to dominance of 'diseases more appropriate to the modern conditions' (II, p. 627) showed that there must have been some change in environment for this natural selection to have come into operation in the first place. Q.E.D.!

In the case of plague, the discovery of *Pasteurella pestis* by Kitasato and Hersin in 1894 and the work of Simond on the rat and its fleas in 1897–98 offered Creighton (after the publication of his *History*) a way out from the circular reasoning and undocumented postulations of his sort of explanation. It was unlikely, however, that Creighton would do this in the case of a disease like plague which had an undoubted correlation with filth and poverty.<sup>18</sup> For in his *History* he had already refused to accept the germ theory in cases of other diseases, even such as leprosy which had always been difficult to explain according to the miasmatic theory, in that it affected individuals rather than whole localities in medieval England; in persisting in disregarding Hansen's identification some years earlier of *Mycobacterium leprae* as the causative organism, Creighton had fallen back on another traditional theory, of dietary insufficiency or food poisoning, which had been popular in Northern Europe where the effect of ergot had long been recognized. Thus he ascribed leprosy to the eating of salt or tainted flesh (the good wheat supplies described earlier now lacking) on the slender evidence of an eighteenth-century writer's description of the larder of

<sup>17</sup> Even so, there is sometimes a hint of desperation in his search for new social developments, such as his quotation of an eighteenth-century reference to enclosures and canal-building as a cause of influenza epidemics, II, p. 368.

<sup>18</sup> His visit to India in 1904 in fact led to a re-statement of his ideas on cadaveric decomposition; C. Creighton, 'Plague in India', *J. Soc. Arts*, 1905, 53, 810–27; this is described by Underwood, *Intro.* p. 121 ff.

## Book Reviews

a medieval manorial lord (I, pp. 110–11)!

It is not worthwhile extending the list of examples of perverse disregard of the medical truth and historical consistency in favour of ill-documented hypotheses. The point to be remembered is that Creighton's appreciation of social history is spurious, not so much because it was wrong so often in detail as because it was deliberately twisted to suit his own medical theories. It was at best nothing more than a vague generalization that explained all and nothing: as diseases had their 'appropriate weather', so they were 'appropriate to . . . conditions' (I, p.279; II, p.627). This sort of explanation is part and parcel of Creighton's approach and Dr. Eversley would have been better advised to have left it as such rather than try to explain away one particular example as a 'linguistic lapse' (*Intro.* p.11), a task not made easier by the fact that the lapse is his own mis-quotation of Creighton's words which are as straightforward but unilluminating as usual (II, p.627).

There does in fact seem to have been a tendency on the part of the editors to lean too far in defending Creighton, and this could sometimes mislead the unsuspecting reader. On the question of Creighton's accuracy, for example, Dr. Eversley emphasizes (*Intro.* p.6) the fact that a modern economic historian working on plague in the fifteenth century has approved Creighton's care in using a particular source; what is not cited, however, is that in the same article a few pages earlier the author had shown that Creighton more than once misused evidence and invented plague outbreaks where none existed!<sup>19</sup> This question of accuracy in a work of reference of this sort is fundamental in discussing the value of the reprint, and it has not received nearly enough attention from the editors. It is not sufficient to say that Creighton was careful (even if he was), for the reader needs to be told what sort of sources Creighton used, and secondly, whether his selection of facts from these sources was dictated by any discernible prejudices.

On the first count, it needs to be remembered that Creighton used few records of state, and consultation of almost any class of document, such as Views of Hosts in the fifteenth century or Muster Returns in the sixteenth century, yields instances of plague, for example, which are unrecorded by Creighton.<sup>20</sup> Nor was his reading as wide as it might have been, for he tended to rely on the older and more general local histories rather than on detailed parish registers.

A good illustration of the consequent limitations of Creighton's work is provided by the great epidemic crisis of 1557–1559, the significance of which he ignored but which has recently been evaluated by Professors Hoskins and Fisher.<sup>21</sup> For his cursory description Creighton relied largely on chronicles which talk of strange fevers, and on the unverifiable statistics compiled by Short<sup>22</sup> in the eighteenth century (I, pp.401–7). The first volume of the parish registers of Kirkburton, however, had been published in 1887 and this specifically referred to plague and showed that

<sup>19</sup> J. M. W. Bean, 'Plague, population and economic decline in England in the later Middle Ages', *Econ. Hist. Rev.*, 1962–1963, 15 (2nd ser.), 427–28.

<sup>20</sup> Public Record Office, E.101/128/30, m.10 r; I owe this reference to Mr. J. L. Bolton. For summaries of Muster Returns, see *Calendar of State Papers, Domestic, 1547–1580*, p. 122.

<sup>21</sup> W. G. Hoskins, 'Epidemics in English history', *The Listener*, 1964, 72, 1044–46. F. J. Fisher, 'Influenza and inflation in Tudor England', *Econ. Hist. Rev.*, 1965, 18 (2nd ser.), 120–29.

<sup>22</sup> For a study of his work, see G. P. Jones, 'Dr. Thomas Short, an eighteenth-century writer on population', *Yorks. Bull. Econ. Soc. Research*, 1956, 8, 149–58.

### Book Reviews

more people died there in this epidemic in a few months than in any full year between 1541 and 1700.<sup>23</sup>

Furthermore in perusing Creighton's *History* it is noticeable that his sources are largely limited to works written by British medical practitioners over the centuries and the medico-historical works of nineteenth-century Germans. Of the great classical and Arab writers whose theories dominated medicine until the end of the eighteenth century there is little; consequently the descriptions of plague by such men as Gilbert Skeyne and Thomas Lodge<sup>24</sup> are quoted by Creighton (I, p.173) as trustworthy evidence based on real observation, without his realizing that they were merely repetitions of what Avicenna had said over five hundred years earlier.<sup>25</sup>

The second ground on which the student of English society needs more guidance than that provided by the editors is that of Creighton's selectivity. It is not made clear here, and indeed is often not understood even by medical historians, that Creighton's medical theories cannot simply be separated out from his work in such a way that there remains a basis of indisputable knowledge. For the facts were in the first place treated in a highly selective manner, whether consciously or not, in order to fit his theories.

In some cases such as vaccination, this selectivity is notorious but in others it is less obvious and therefore potentially more misleading. The 'sweating sickness' that afflicted Tudor England is a good illustration of this for the later work of Hamer and Crookshank enables us with some confidence to class these outbreaks as forms of influenza which frequently swept across the whole of north-west Europe.<sup>6</sup> Creighton, however, like his German predecessors in this field, adhered to the idea of a unique disease which erupted but five times (1485, 1508, 1517, 1528 and 1551). This strange disease was supposed to affect only English people; but Creighton admitted that on one occasion in 1529 it did spread to the countries of Northern Europe in which the social condition was similar to that of England, whilst France was completely untouched, presumably owing to a different social state.

In accounting for these outbreaks Creighton remained firmly in the localist-miasmatic tradition of his German predecessors, although it is true that his ground water version was more rational than their talk of English 'gluttony' and 'the spirit of the mist'. Nevertheless it was obvious to Creighton that Pettenkofer's explanation of epidemics according to the movement of ground water could not completely explain why and how a disease hitherto unknown should suddenly appear in England, and so he attempted to solve this by a series of typical postulations: a proto-form of the disease was indigenous in the soil of the Seine Basin, where it at last became active in 1717 (I, pp.271-76). In the meantime in 1485 Henry Tudor's Norman mercenaries brought the potential disease with them to Britain where it erupted as an epidemic in London in early autumn (I, pp.240, 265-66).

Creighton insists that the outbreak began in London as late in the year as September

<sup>23</sup> F. A. Collins (ed.), *The Parish Registers of Kirkburton*, 2 vols., Exeter, privately printed, 1887, 1902, I. For the use to which such material can be put, see M. Drake, 'An elementary exercise in parish register demography', *Econ. Hist. Rev.*, 1961-1962, 14 (2nd ser.), 427-45.

<sup>24</sup> G. Skeyne, *Ane Breve Descriptioun of the Pest . . .*, Edinburgh, R. Lekprevik, 1568. T. Lodge, *A Treatise of the Plague . . .*, London, for E. White, 1603.

<sup>25</sup> Avicenna, *Canon Medicinæ . . .*, 2 vols., Venice, Iuntae, 1608, II (Lib. Quart., Fen. I, Tract. 4, cap. 3), p. 69.

## Book Reviews

because these were the facts as given by a document which he was the first to describe; and those who think highly of Creighton's accuracy ought to compare this document with the extracts which he prints. Some misreadings such as 'die-proximi' for 'die s[anc]ti Jeronimi' [30 September] are straightforward mistakes, but others such as 'latrines' for 'kechyns' [kitchens] seem to betray a somewhat scatological insistence on contamination.<sup>26</sup> Nevertheless it was such a reading of this document that Creighton was determined to stress and so he painstakingly sought to repudiate the *Croyland Chronicle* that reported the 'sweat' before the Battle of Bosworth in August (I, pp.237–38, 265–66), despite the fact that such an outbreak among the troops manoeuvring in the Midlands would tend to confirm his theory of importation by Henry's Norman soldiery! Thenceforward, he continues, this disease, having established itself in the soil of England, broke out whenever there were appropriate movements of ground water and 'associated circumstances . . . hard to enumerate' (I, pp.280–81).

Now despite the length of Creighton's argument there has always been evidence that the 'sweat' was not peculiar to Englishmen and was not restricted to a mere five occasions; in France, for example, the sweating fevers of 1525–1530 were given the name of 'Trousse-Galants' in the same way as the 'sweat' in England was called 'Stop-Gallant' because it notably afflicted the rich as well as the poor—unlike epidemics of plague for example, a simple point on which Creighton is his usual contradictory self (I, pp.263, 265). Furthermore, there are references in Creighton's own footnotes to other outbreaks of 'sweat' in Britain which he seems to have determined not to fit into his main description.<sup>27</sup>

As long as reliance is placed on Creighton's narrative such facts go unnoticed and the idea of a disease that appeared only five times still gains credence. Then in order to account for such a singular fact recourse is inevitably had to theories of food-poisoning as the only possible explanation, and in this way Creighton has recently become the point of departure for further postulations,<sup>28</sup> just as in former times a mixture of localist and food-poisoning theories used to lead to the invention of new, non-existent disease entities such as Raphania and 'botulism' (properly allantiasis).<sup>27</sup>

If Dr. Eversley has missed a valuable opportunity to point out this basic defect of the *History* as a standard work, then Dr. Underwood in his introductory essay on 'Creighton, the man and his work' has neglected an even greater opportunity to explain how it was that Creighton came to develop and maintain his theories of disease. For the interest of Creighton as a writer lies in the fact that time and time again the logic of the argument in his *History* would seem to bring him near the germ theory of disease, as for example when he talks of Texas cattle fever, or of the poor and of the Norman mercenaries who had become immune by long contact to diseases which proved fatal to others who knew it not (I, pp.269, 274–75, 386, 589, 629). Yet at the same time it seems to have been his very training as a scientist and pathologist, and not mere conservatism, that made him veer away and seek alternative

<sup>26</sup> British Museum, Add. Mss., 27, 582; cf. f. 72 with I, p. 241 and f. 71d with I, p. 267.

<sup>27</sup> For a recent survey of this problem, see R. S. Roberts, 'A consideration of the nature of the sweating sickness', *Med. Hist.*, 1965, 9, 385–89.

<sup>28</sup> See, for example, A. Patrick, 'A consideration of the nature of the sweating sickness', *Med. Hist.*, 1965, 9, 272–79.



## Book Reviews

explanations. It is not enough for Dr. Underwood to say that Creighton was unfortunate in writing his *History* at a time when medical advance was rapid (*Intro.* p.130), for he himself was a product of that advancement and it was the progress of pathology that made Creighton, as perhaps Virchow before him, adopt a hostile attitude to the claims being made for bacteria.

Thus it is wrong to present Creighton simply as a man who reached his peak as an orthodox pathologist in 1884–1885 (when his article on Pathology for the *Encyclopaedia Britannica* was written and published) but who was already conservative in his attitude to infectious processes and thereafter became dialectical. Two years earlier in fact Creighton had developed from his pathological studies of cancer and tuberculosis<sup>29</sup> a highly controversial theory of ‘autonomy’ of diseases which purported to explain infections as the result of habitual disturbance of the physiological processes,<sup>30</sup> and despite a strong attack by the *British Medical Journal*,<sup>31</sup> he followed this up in 1886 by a more detailed exposition of his theories on disease.<sup>32</sup>

These two works are not discussed at all in Dr. Underwood’s overlong essay of ninety pages, but it seems, to this reviewer at least, that a true appreciation of Creighton can only be gained by admitting their crucial importance. Creighton’s interest in the history of disease grew out of his reading and translation between 1881 and 1883 of Hirsch’s work on the history of disease which was firmly in the localist-miasmatic tradition.<sup>33</sup> Creighton then turned back to his own pathological work to construct a model of physiological disturbance which could be developed to explain the processes of diseases, such as smallpox and yellow-fever, which had always presented some difficulty to the miasmatic school. Thus in some cases, like that of malaria, Creighton completely rejected miasmas in favour of a physiological explanation that took account only of the heat-regulating mechanism of the body according to season.<sup>34</sup>

Creighton then was not rigidly conservative, for he was seeking all the time to exploit modern knowledge in the task of understanding the past; and even in regard to the germ theory of disease it can be argued that Creighton did not ‘adopt such a rigid attitude to the role of the bacteria’ as Underwood says (*Intro.* p.87). The vehemence of his earlier attacks in the 1880s<sup>35</sup> leaves little mark on his *History*. Indeed in 1892 in a letter defending the first volume against the criticisms of a reviewer, Creighton said: ‘that there is no polemic in the book against bacteriology . . . none of my conclusions as to the theory of . . . [diseases in history] can be said to “contradict bacteriological discoveries” . . . and bacteriologists of . . . reasonable disposition need have no difficulty, if drawn towards history at all, in reading into my account of historical pestilences of various kinds whatever powers or functions

<sup>29</sup> C. Creighton, *Contributions to the Physiology and Pathology of the Breast . . .*, London, Macmillan, 1878; *Bovine Tuberculosis in Man . . .*, London, Macmillan, 1881.

<sup>30</sup> C. Creighton, ‘On the autonomous life of the specific infections’, *Brit. med. J.*, 1883, ii, 218–24.

<sup>31</sup> ‘An address in pathology’, *Brit. med. J.*, 1883, ii, 250–51.

<sup>32</sup> C. Creighton, *Illustrations of Unconscious Memory in Disease . . .*, London, H. K. Lewis, 1886 [1885].

<sup>33</sup> A. Hirsch, *Handbook of Geographical and Historical Pathology*, trans. from the German by C. Creighton, 3 vols., London, New Sydenham Soc., 1883–1886.

<sup>34</sup> Creighton, *Illustrations of Unconscious Memory in Disease*, pp. 85–86.

<sup>35</sup> See Underwood’s account of his attack on Koch in 1884, *Intro.*, pp. 85–86.

## Book Reviews

they may have been led, on general grounds, to ascribe to bacteria in the production of an infective principle.<sup>36</sup>

In view of what has already been seen of his explanations of epidemics, it is obvious that this statement of defence by Creighton cannot mean that he therefore believed in the germ theory of disease. What he did believe was in fact made clear by the last sentence of his letter: 'Where miasmata rose from the ground, as in the case of all the soil poisons, the part played by bacteria may be readily imagined.'<sup>37</sup>

In other words, particular bacteria whilst not necessarily nor exclusively the cause of a particular disease, are associated with it. Such an attitude was not very different from Virchow's objection that what caused tuberculosis was the reaction of the cells to the tubercle bacillus rather than the bacillus itself. Dr. Underwood notes this view of Virchow (*Intro.* p.88, footnote 59) but ignores the fact that Creighton in his *History* appears to have progressed beyond this to the extent of believing that the presence of a particular bacterium was nevertheless proof of the existence of its particular disease. Indeed so firmly does he appear to have believed this, that he hoped that science would one day be able to discover palaeozoic bacteria which could then be used to explain diseases which had died out, such as 'sweating sickness', just as extinct prehistoric animals could be reconstructed from fossils (I, pp.279–80).

What then, the reader may ask, did Creighton really object to in the germ theory of disease; and the answer is that it, or its more vociferous supporters, appeared to claim that each disease, being caused exclusively by a particular bacterium, must have existed throughout time, in unchanging form, since the very beginning of life on earth when primitive unicellular organisms like bacteria first evolved. It was this argument, rather than the germ theory, that Creighton utterly repudiated.<sup>38</sup> For his study of the history of disease, stimulated by Hirsch, showed that leprosy, the sweat and plague had all disappeared from England; smallpox, influenzas and typhus then became the dominant diseases but they too, according to Creighton, showed signs of being superseded by other diseases such as measles, cholera and other fevers. It was in this way that he evolved his idea of 'the law of succession' (I, pp. 279–81; II, pp.631, 659).

As a theory this fitted in with current Darwinian ideas that changes in environment would tend to favour some sorts of life more than others which might then decline even to extinction; and it may well be that it was in order to fit his ideas into this pattern of one sort of life superseding another that Creighton evolved his strange concept that diseases had a 'life' of their own which was 'autonomous' not only from that of the bacteria which were associated with diseases but also from that of the 'poisons' of which Creighton himself preferred to speak.<sup>39</sup> For there could be no doubt in Creighton's mind that diseases had superseded one another throughout

<sup>36</sup> *Brit. med. J.*, 1892, i, 628–29.

<sup>37</sup> *Ibid.*, 629, quoted by Eversley with two mistakes, *Intro.* p. 9.

<sup>38</sup> See I, p. 445, for an attack on this idea in respect of smallpox; cf. Creighton's letter in *Brit. med. J.*, 1892, i, 628. For arguments in favour of 'de novo' diseases, see 'On the autonomous life of the specific infections', *Brit. med. J.*, 1883, ii, 223, and 'The origin of yellow fever', *North American Rev.*, 1884, n.s. 139, 335–47.

<sup>39</sup> See generally, *Illustrations of Unconscious Memory in Disease*, 1886, and 'On the autonomous life of the specific infections', *Brit. med. J.*, 1883, ii, 218–24; the Darwinian analogy is discussed at 223–24.

history; and it was this fact that provided Creighton with the necessary evidence that there must have been social changes. It mattered little that the 'associated circumstances' (i.e. the facts) were 'hard to enumerate' (I, pp.280–81) for, as has been explained earlier, this is all that social history meant to Creighton.

The other attraction of the 'law of succession' was even stronger in that it appealed to Creighton's firmly held Malthusian ideas on the inevitable operation of natural checks such as disease in periodically cutting back population growth. Thus he quoted Malthus's argument that if smallpox were conquered by vaccination there would merely be increased mortality from other diseases; and for evidence that this in fact had happened, Creighton turned to Dr. Robert Watt's researches on the increasing part played by measles in infant mortality in Glasgow.<sup>40</sup>

Thus in conclusion it can be said that what is objectionable in Creighton's work was not so much his medical science as his pessimistic philosophical assumptions. His 'social history' and his 'epidemiology' are mere abstractions designed to explain the inevitable fact that as social conditions change, so diseases are changed, evolved or created; men will still die, medical science will not prevail over Malthusian fate. This, one suspects, is why Creighton could never accept vaccination as a success.

What finally then is objectionable in this edition of the *History* is that the editors in 135 pages do little to make us appreciate Creighton and his *History* for what they were. Dr. Underwood hardly begins to explain what and why Creighton believed as he did;<sup>41</sup> Dr. Eversley, in glossing over Creighton's selectivity and inaccuracy as a historian, fails to show his interest in social conditions for what it really was. We thus lose what is of value—the interest in Creighton as a man. Instead we are offered an authority of dubious value, the dangers of which have recently been seen; and it is therefore to be hoped that this reprint does not create more victims of his sort of approach. This is a point that needs to be made because the danger is a growing one in so far as some recent scientific hypotheses on the recurrence of epidemics may, by their talk of 'cosmic influences',<sup>42</sup> of *Pasteurella pestis* in the soil<sup>43</sup> and of climatic causation of the rapid reproduction of the cholera vibrio,<sup>44</sup> be seized upon as support for Creighton's descriptions of such epidemics. To do this, however, would be wasting the opportunity of using the facts and the hypotheses of modern epidemiology to throw more light on social and demographic history. Although British records may never be made to yield as detailed a picture as those of France,

<sup>40</sup> II, p. 629, quoting T. R. Malthus, *An Essay on the Principle of Population . . . .*, London, for J. Johnson, 1803, Book IV, chapter 5, p. 522; II, pp. 629–31, 653–60, quoting from R. Watt, *Treatise on the History, Nature and Treatment of Chincough . . . .*, Glasgow, J. Smith, 1813. Similar views were of course widely held, not only by men like Haygarth and Heberden, whom Malthus quotes, but even by W. Farr who did not follow 'Malthusian' ideas; see F. Roberts, 'The effects of epidemics on population and social life', *Proc. R. Soc. Med.*, 1955, 48, 785–89.

<sup>41</sup> It is not meant by this that Dr. Underwood ignores the problem, for in fact it is dealt with at length; but the whole emphasis seems to be on minimizing Creighton's heterodoxy rather than trying to explain it.

<sup>42</sup> Sir Weldon Dalrymple-Champneys, 'Non-specific physiological factors controlling the phenomena of parasitism', *Proc. R. Soc. Med.*, 1955, 48, 18; cf. the 'maritime constitution' of some French historical demographers, *Intro.* p. 16, quoting P. Goubert, 'Recent theories and research in French population between 1500 and 1700', in *Population in History*, ed. D. V. Glass and D. E. C. Eversley, London, 1965, p. 470.

<sup>43</sup> H. H. Mollaret, 'Conservation expérimentale de la peste dans le sol', *Bull. Soc. Path. exot.*, 1963, 56, 1168–82; Y. Karimi, 'Conservation naturelle de la peste dans le sol', *ibid.*, 1183–86.

<sup>44</sup> A. Cockburn, *The Evolution and Eradication of Infectious Diseases*, Baltimore, 1963, pp. 180–95.

### Book Reviews

there are already good studies of particular crises like that of 1557–1559,<sup>41</sup> of particular regions like the West Riding,<sup>43</sup> the Vale of Trent,<sup>45</sup> the Lake District<sup>46</sup> and the area around Bromsgrove<sup>47</sup> which can all be used as a basis for further work.

These studies incidentally all serve to show that Creighton's descriptions based on mainly literary evidence are not very useful for plotting the course or estimating the impact of epidemics of the past; and it is something of a paradox that many medical writers seem to prefer to rely on his sort of literary record as a basis for 'historical arm-chair diagnosis', whereas social historians, realizing the limitations of documentary evidence on such matters, seem more ready to seek analogies from modern scientific medicine. It is surely safer to look first to modern work on rural diets<sup>48</sup> and pellagra<sup>49</sup> in remote parts of Yugoslavia and U.S.A., or on the conservation of plague in a foyer such as Iran,<sup>50</sup> rather than to Creighton's selective descriptions of the larders of manorial lords and medieval burial practices. A combination of such medical *facts* with demographic studies will soon show what is of value in traditional sorts of evidence, and that will then facilitate rather than impede a better understanding of the role played by disease in our social history.

<sup>41</sup> J. D. Chambers, 'The Vale of Trent, 1670–1800', *Econ. Hist. Rev.*, Supplement No. 3., 1957.

<sup>43</sup> W. G. Howson, 'Plague, poverty and population in parts of North-West England, 1580–1720', *Trans. Hist. Soc. Lancs. and Cheshire*, 1961, 122, 29–57.

<sup>47</sup> D. E. C. Eversley, 'A survey of population in an area of Worcestershire from 1660–1850 . . .', *Pop. Stud.*, 1956–1957, 10, 253–79.

<sup>48</sup> See, for example, E. J. McDougall, 'Rural dietaries in Europe', *Bull. Hlth Org.* L.o.N., 1939, 8, 470–97.

<sup>49</sup> F. Sargent and V. W. Sargent, 'Season, nutrition and pellagra', *New Engl. J. Med.*, 1950, 242, 447–53, 507–14.

<sup>50</sup> See notably the work of M. Baltazard, summarized by the author, in 'La peste: état actuel de la question', *Acta med. iran.*, 1961, 4, 1–19, and 'La conservation de la peste en foyer invétéré', *Médecine et Hygiène*, 1964, 22, 172–74. The present author hopes soon to publish a study of the history of plague along these lines.

---

*The Royal Apothecaries*, by LESLIE G. MATTHEWS, London, Wellcome Historical Medical Library, 1967, pp. xiv, 191, illus., 25s.

This scholarly book provides the first complete account of the pharmaceutical and medical practitioners who, under the names of spicer or apothecary, have provided an essential service for the kings and queens of England from the early thirteenth century to the present time. The duties have changed considerably during the centuries and the later royal apothecaries would probably have raised their eyebrows if asked to provide coloured wax for the royal seals, spiced wines for court festivals, perfumes to 'ayer the grete chamber', urinals for the use of Privy Councillors, or to embalm their late masters. The above list by no means exhausts the variety of non-medical duties undertaken. One of the author's few omissions seems to be the fact that William de Stanes, apothecary to Edward III, supplied materials for some of the earliest gunpowder used in warfare and himself served in the French Wars.

The short but valuable introduction shows that royal apothecaries were not confined to England but were also found on the Continent. Separate appointments for