VACCINATION BY ACT OF PARLIAMENT.[1]

THE remarkable article by Dr. Charles Creighton in the new volume of the *Encyclopædia Britannica*, together with his recent work on the *Natural History of Cow-pox and Vaccinal Syphilis*, are valuable contributions to a more exact knowledge of vaccination, and likely to be specially useful in drawing the attention of the medical profession and the public generally to the question of its compulsory enforcement.

The high qualifications of the writer, as evidenced by his numerous original researches, his long article, "Pathology," in the same *Encyclopædia*, and his translation in three volumes of the great work of Hirsch on *Geographical and Historical Pathology*, are calculated to secure for him a more respectful and earnest consideration from his medical colleagues than a layman could expect to receive, and his independent and laborious researches into the subject, which have led him to alter his opinions, have already received recognition even from those most strongly opposed to his present views.

Leaving, however, the purely medical aspects of the question dealt with by Dr. Creighton to those journals which are specially devoted to medical subjects, and as outside the present writer's purpose, it is here intended to deal with certain other features of the question in such a form as it is hoped may not be devoid of interest to the general reader.

It is now six years since the President of the Royal College of Physicians, Sir Andrew Clark, publicly stated that "compulsory or non-compulsory vaccination was among the most important questions

[1] 1. *Vaccination proved useless and dangerous from Forty-five Years' Registration Statistics.* By Alfred Russel Wallace, LL.D. Second Edition, with Appendix, &c., by Alexander Wheeler. 1889.
2. *The Natural History of Cow-pox and Vaccinal Syphilis.* By Charles Creighton, M.D. 1888.
3. *Encyclopædia Britannica.* Art. "Vaccination." 1888.
4. *The Story of a Great Delusion.* By William White. 1885.
5. *A Review of the Norwich Inquiry.* By W. J. Collins, M.D., F.R.C.S. 1883.
6. *Vital Statistics. Small-pox and Vaccination in the United Kingdom and Continental Countries.* By Charles T. Pearce, M.D. 1882.
7. *The Mitigation Theory of Vaccination.* An account of Dr. Keller's Small-pox Statistics. By Alfred Milnes, M.A.
8. *Transactions of the Vaccination Inquiry.* By Dr. Montagu Makuna. 1883.
9. *Vaccination Inquirer and Health Review.* Vols. i. to x.

engaging the attention of thoughtful men." The recent small-pox epidemics at Sheffield, Leeds, Salford, Bristol, Preston, Manchester, and other places, have brought the question into prominence, and provoked discussion in the Press, and produced no inconsiderable amount of uneasiness in the public mind concerning the inadequacy of the only officially recognized specific for dealing with these disquieting outbreaks. Warnings in the leading medical journals have not been wanting that, in consequence of the disregard of vaccination in certain towns to be hereafter mentioned, these outbreaks would become more numerous and fatal.

The metropolis, where small-pox is generally endemic, has, however, for two years been singularly free from the epidemic form of the disease; but as this immunity is not expected to continue, the situation can hardly be considered satisfactory.

At a meeting of the Metropolitan Asylums Board, held in February 1886, the chairman, Sir E. H. Currie, in recommending an appropriation of £116,000 for additional small-pox hospital accommodation, said: "As sure as you are in this room, there is certain to be a small-pox epidemic in the metropolis at no distant date. It always comes round with the greatest regularity. The last one cost the ratepayers a million of money, and I am convinced that it will be less expensive if we make this provision."

And the *Lancet* for February 20, 1886, says: "We fully sympathize with the desire of the managers not to delay the steps which must be taken to meet the exigencies of the next epidemic."

At the recent Annual Meeting of this institution, held September 1888, it was reported that the Board had only fifty-six cases of small-pox under their control during the year 1887, but the Board have decided to increase the accommodation forthwith for the reception of small-pox patients to 1150 beds. The managers have therefore but little faith in the existing safeguards or the continuance of the present comparative immunity. A variolous conflagration may, it is believed, break out in the metropolis at any moment for which, according to the chairman of this Board (an institution, it should be known, established mainly to deal with small-pox), we have no adequate defence. Practically we are as helpless as in an outbreak of fire without water or fire-engines: "small-pox epidemics come round with the greatest regularity," and we must be prepared to meet them, *not* by scientific sanitary amelioration, but by the erection of hospital accommodation, where the disease runs its course according to its special idiosyncrasy.

These small-pox epidemics, which will be referred to more particularly later on, ought not, it is alleged, to be quoted as proofs of the failure of vaccination, inasmuch as no intelligent authority now claims more than a mitigative or ameliorative effect for it. It may therefore be useful to ascertain what it was that Jenner claimed to

have accomplished by his discovery, and how far the promoters of the vaccination law were responsible for adopting his pretensions; and further, whether the promises put forward by either the inventor or his disciples have been justified by experience.

The discovery of vaccination was readily accepted as a substitute for inoculation, and Jenner's early introduction to the King and chief members of the Royal family, as a benefactor to mankind, materially aided its early dissemination. When the subject of granting Jenner a suitable award was introduced in Parliament in the year 1802, the Chancellor of the Exchequer, Mr. Addington, alleged: "That the value of the discovery was without example and beyond all calculation, were points not to be contested, for they were made out by convincing evidence;" and Mr. Wilberforce, referring to the certified results of a medical inquiry as to the benefits of vaccine inoculation, said: "I believe that every medical name of celebrity in the City of London and its environs was attached to that certificate." Another Chancellor of the Exchequer, Mr. Spencer Perceval, speaking in the House of Commons in 1807, and referring to this report, said: "If the Committee assumed that the inoculation for the small-pox was a benefit to mankind, they might be able to estimate how much greater a benefit this discovery was which, as appeared by the report of the Royal College of Physicians, *was a certain security* against small-pox." With this report of the Physicians was delivered a report of the London Royal College of Surgeons.[1]

"Eleven hundred circulars were despatched on 15th December 1806, to all the members of the College whose addresses were known in the United Kingdom, submitting the following questions:—

"1st. How many persons have you vaccinated?

"2nd. Have any of your patients had small-pox after vaccination?

"3rd. Have any bad effects occurred in your experience in consequence of vaccination? and if so, what were they?

"4th. Is the practice of vaccination increasing or decreasing in your neighbourhood? if decreasing, to what cause do you impute it?

"To the 1100 circulars only 426 replies were received. Why nearly two-thirds of the members kept silent, when at the outset they were converted in multitudes to vaccination, is left unexplained. The replies were thus summarized by the Board on 17th March 1807:—

"The number of persons stated in such letters to have been vaccinated, is 164,381.

"The number of cases in which small-pox had followed vaccination is 56.

"The Board think it proper to remark under this head, that, in the enumeration of cases in which small-pox has succeeded vaccination, they have included none but those in which the subject was vaccinated by the surgeon reporting the facts.

"The bad consequences which have arisen from vaccination are:—

"66 cases of eruption of the skin, and
24 of inflammation of the arm, whereof
3 proved fatal."

Parliament was convinced by the testimony of this august body

[1] *The Story of a Great Delusion.* By William White. Pp. 240, 241.

(conflicting as it certainly was) and its promises of an absolute defence against small-pox, and the knowledge of a widespread public desire to find a substitute for small-pox inoculation, which had begun to be discredited, and it voted Jenner £10,000 in 1802, and £20,000 in 1807. In the year 1818 Jenner claimed to have reduced the fatalities from small-pox during the previous twenty years by an average of 34,000 per annum. In 1833 a Select Committee of the House of Commons reported that vaccination had been so great a success and had established such a hold upon the population that small-pox might be considered as extinct, and the National Vaccine Establishment might be safely abolished. In 1840 Parliament passed an Act for defraying the cost of vaccination out of the poor-rate, but the result was not encouraging. The report of the National Vaccine Establishment for 1841 says: "Small-pox has prevailed epidemically with considerable severity since our last report; but we do not abate an iota of our confidence in vaccination as the best protective against its malignant influence." This endowment of the system by the State paved the way for its compulsory enforcement upon the nation, but there were difficulties yet to be overcome. It should be mentioned that Sir Francis Burdett resisted an attempt in the House of Commons to impose the Jennerian prescription, on the 9th of June 1808, in an able speech, pointing out the numerous shifts and failures resorted to by its upholders, and the unwisdom of making it obligatory. "Government," he said, "has not the power in this, as in other countries, to compel people to submit either to the prescriptions of physicians, or to the operations of surgeons, and he doubted whether any science was likely to be much benefited by being placed under the care of Government;" and suggested, as there was such a conflict of opinion, with neither the simplicity in the mode of performance nor the security against small-pox as was promised, that instead of legislation, there should be a Committee of Inquiry. In the same debate the Right Hon. George Canning said: "He could not figure any circumstances whatever that could induce him to follow up the most favourable report of its infallibility which might be brought forward with any measure of a compulsory nature." Previous to this debate, William Cobbett had called Wilberforce's attention to the unconstitutional character of the threat to introduce legislation for such a purpose, and declared that it would be cruel mockery to speak of liberty in a country where there are laws for taking out of a man's hands the management of his household, the choice of his physician, and the care of the health of his children. Disregarding these counsels, it was determined by a section of the medical profession to follow the lead of Germany, Scandinavia, and other Continental countries, and make the rite obligatory; and in 1850 the Epidemiological Society was organized, with the ostensible object of studying epidemics, but mainly, though not ostensibly, to

promote the enforcement of vaccination. To have published this design openly would have proved too rude a shock to the robust sense of British freedom. When the report of the Epidemiological Society was ready, Lord Lyttelton was chosen to prepare a measure for the House of Lords, under the innocent but disingenuous title of the Vaccination Extension Bill. It is not within the scope of this article to quote or criticize the Epidemiological Society's report upon which compulsory vaccine legislation was founded in England. The facts may be studied with advantage in Mr. White's *Story of a Great Delusion*. The second reading was introduced on Tuesday, the 12th of April 1853, and passed after a few desultory observations, and without a division, and the Bill was passed on to a Committee of the whole House, when it was moved by Lord Lyttelton, who then confessed that the essential object of the Bill was to make vaccination compulsory. It was unnecessary, said the mover, to speak of "the certainty of vaccination as a preventive of small-pox, that being a point on which the whole medical profession had arrived at complete unanimity." Lord Lyttelton disclaimed any scientific knowledge of the subject, and quoted from the report of the Epidemiological Society as to the alleged extinction of small-pox in certain Continental States and districts in England and India by means of vaccination. Lord Shaftesbury followed, and was even more emphatic in his declaration as to the benefits of the prescription. That vaccination, said his lordship, was perfectly preventive of small-pox was proved by the testimony of an eminent vaccinator, who within a few years had vaccinated 40,000 persons, and he had not been able to discover a single instance in which small-pox had followed.

These opinions were founded, he continued, on the testimony of 2000 members of the medical profession. He predicted that by means of compulsory vaccination, small-pox would soon be exterminated, and future generations would thank their lordships for the blessings that had resulted from it. On the strength of these confident promises, the Bill which introduced the most extreme form of *paternal* government England has known, was passed without previous inquiry as to its utility or necessity, and without a division.

In introducing the second reading of the Vaccination Extension Bill in the House of Commons, Sir John Pakington presented no new argument, but stated that its claim to the consideration of the House was its passage through the House of Lords, and "the ground that it provided further security for protecting the people from the ravages of disease." The report of the Vaccination Committee of the Epidemiological Society was the basis on which he founded his support for the measure.[1] Viscount Palmerston said:

[1] This report of the Epidemiological Society, published in 1852, and addressed to the House of Lords, asserted that there was one epidemic disease (small-pox) which was distinguished from all others, inasmuch as science could extirpate it by means of vaccination.

"The object (of the Bill) was prevention by means of timely foresight and precaution, and the class of society for whom that foresight and precaution were required was the poorest, and that which was the least likely to have recourse to such measures voluntarily." After a very brief discussion the second reading was carried. No attempt was made to show that those who had been vaccinated escaped small-pox, or that those who were unvaccinated were the victims of the disease, nor was any evidence produced to show that a majority of those attacked were unvaccinated. Such an inquiry might have proved fatal to the success of the measure. Despite continued failures by the recrudescence of both sporadic and epidemic small-pox, the open assurances of the certainty of the protection afforded by vaccination were not abated.

Even so recently as February 11, 1888, the *Lancet* assures its readers that "small-pox is a disease from which every one may be absolutely protected by vaccination and revaccination, so that to have it is almost a crime."

Dr. Baron, in his *Life of Jenner*, says: "From 1804, reports of failures in vaccination had begun to multiply;" and Dr. Birch, Surgeon of St. Thomas's Hospital, says, in the same year: "Every post brings me accounts of the failures of vaccination." Lord Henry Petty said in the House of Commons, in 1809: "Unless Dr. Jenner was completely blinded by conceit, he must have recognized that the general faith in vaccination, exhibited in 1801, had been much shaken by the experience of the succeeding seven years." In the Committee of Supply on July 29, 1807, Mr. Shaw-Lefevre, speaking upon the motion for a public grant to Dr. Edward Jenner, referred to the report of a Commission of Inquiry, which stated "that the practice of vaccine inoculation was the infallible preventive of small-pox." He emphatically denied the truth of this document, and showed that in fifty-six cases of vaccine inoculation small-pox had followed. "Here," said Mr. Shaw-Lefevre, "we have fifty-six cases of real failure."

The *Medical Observer* for 1810 contains particulars of 535 cases of small-pox after vaccination, 97 fatal cases, 150 cases of vaccine injuries, with the addresses of ten medical men, including two professors of anatomy, who had suffered in their own families from vaccination.

In 1808 the National Vaccine Establishment was instituted by the patrons of cow-pox, and their report of 1811 reluctantly admits that "in some instances small-pox has affected persons who have been most carefully vaccinated, is sufficiently established."

When cases of small-pox after vaccination began to multiply, Jenner with much ingenuity and prescience promulgated the theory that there were two kinds of cow-pox, only one of which protected, and that the true cow-pox only protected at a particular stage of the

disease; concerning which Cobbett said the vaccinators had always a shuffle left.

In the year 1818, cases of failure had become so numerous that they caused Jenner much annoyance and could no longer be disregarded, when to meet the emergency Dr. Hannen, of Edinburgh, brought forward the new doctrine that "vaccination" modifies small-pox. In the year 1825, Dr. Baron says, "Small-pox was nearly as prevalent in London as during any of the three great epidemics of the preceding century."

Such was the result of voluntary vaccination. The *Lancet* of July 15, 1871, testifies to the discouraging results attending its universal infliction upon the people after eighteen years' trial:—

"The deaths from small-pox have assumed the proportions of a plague. Over 10,000 lives have been sacrificed during the past year in England and Wales. In London, 5641 deaths have occurred since Christmas. Of 9932 patients in the London small-pox hospitals, no less than 6854 have been vaccinated—nearly 73 per cent. Taking the mortality at 17½ per cent. of those attacked and the deaths this year in the whole country at 10,000, it will follow that more than 122,000 vaccinated persons have suffered from small-pox! This is an alarming state of things. Can we greatly wonder that the opponents of compulsory vaccination should point to such statistics, as evidence of the failure of the system? It is necessary to speak plainly on this important matter."[1]

The *Lancet* for August 27, 1881, contains Dr. Fraser Nicholson's report of 43 cases of small-pox at the Bromley Union, of which he had charge—viz., 16 confluent, 14 discrete, and 13 modified; two of the confluent cases died, all had been vaccinated, and three re-vaccinated. Referring to the small-pox epidemic at Sunderland, a correspondent of the same journal for 23rd February 1884, reported 100 consecutive cases, of which 96 had been vaccinated.

In an outbreak of small-pox at Liverpool, a city conspicuous for overcrowding and sanitary neglect, where there is no organized opposition to the vaccination law, which is rigorously enforced, the *Lancet* of July 5, 1884, says: "The epidemic of small-pox, which has for some time been prevalent at Liverpool, has now attained alarming dimensions. Traffic, except for residents, is, in certain streets, suspended, and the public institutions for the reception of small-pox patients are full to overflowing." The medical officer of the Taunton Sanitary Hospital in 1885 reported that of 171 patients in the small-pox hospital, 169 had been vaccinated and that 24 had died.

It is, however, impossible in this brief summary to deal with more than a fraction of even the recent vaccine failures, but an epidemic of

[1] During this notable epidemic, the largest within a hundred years, the Registrar-General omitted to record how many amongst the deaths were vaccinated and how many unvaccinated. His attention was called to the omission, but without result

small-pox at Sheffield, of dimensions which remind us of those of the last century, before sanitary reform had been forced upon the profession and the Government, cannot be overlooked. The leaders of public opinion—comprising the conductors of all the newspapers, the clergy, the medical practitioners, the municipal council, and the chiefs of the Health Department—are thoroughly penetrated with a belief in the saving virtues of the Jennerian system. The local press has persistently boycotted every article, letter, or fact tending to throw doubt on the efficiency of vaccination; the clergy go out of their way to laud the inoculation of the vaccine disease as the only possible escape from the dreaded pestilence, and prayers are addressed to the Deity for protection, by means of cow-pox. In Sheffield, need it be said, there is no anti-vaccination league. When, in the midst of the pestilence, the municipal authorities confessed their inability in the most helpless fashion to cope with the outbreak, and Dr. Stevens and Dr. Fred. W. Barry, of the Local Government Board, were sent from Whitehall to advise with them, the only suggestions they could offer were the immediate erection of additional hospital accommodation and universal revaccination. The proverbial excuse of the charlatan, when his medicine has failed to cure, is, that enough of it has not been taken, and that the dose must be increased. The unfortunate patient, who might have escaped the disease, thus often falls a victim to the doctor. When small-pox has appeared in the crowded and insanitary districts of the metropolis, the vaccine officials have put forward the pretence that it has been due to "inefficient" vaccination, but no such extenuating plea could be urged in Sheffield, where the public vaccinators had received in gifts of public money, between 1876–1886, no less than £2233 18*s.*, in addition to their fees, and 95 per cent. of the population are returned as having had the benefit of this "efficient" vaccination. Revaccination was resorted to, and the population, under the influence of a panic, originated by Government officials and fostered by means of house-to-house visitation, inflammatory posters on the walls, public vaccination lectures, sermons and prayers, and the closing of the libraries, were driven to the vaccination stations as the only means of safety. Sheffield, it should be noted, has long held the unenviable distinction of being one of the dirtiest towns in the United Kingdom, and outbreaks of small-pox have been frequent, as might be expected in a place where sanitary laws are habitually disregarded. The *Sheffield Telegraph* describes the main streets with "their coatings of greasy filth forming a favourable breeding-ground for organic impurities," which are stated to be "normal conditions." The sanitary authorities perversely closed their eyes to the real causes of the outbreak.

This remarkable epidemic began in June 1887, and the deaths reported by the Registrar-General are as follows:—June, 2; July, 4;

August, 11; September, 31; October, 47; November, 79; December, 104; January, 1888, 116; February, 98; March, 104; April, 42; May, 22; June, 20; July, 4; total 684, representing about 7000 cases. In accordance with the advice given by the medical profession, private practitioners, the clergy, and the Press, revaccination became *de rigueur*, and workmen who refused to submit to the ordeal were summarily dismissed from their employment, the vaccination stations were crowded, and were kept open at extra hours to meet the artificially induced demand. "Nearly every other man you meet," said the *Daily News*, "has his arm in a sling." On the 23rd November 1887, the *Times* reported that vaccination had become general throughout the town, but, instead of the pestilence diminishing as was officially predicted, the foregoing figures show that several months of revaccination were followed by an augmentation of small-pox deaths.

In August 1872, Mr. Robertshaw and Mr. Joseph Pearson called the attention of the Board of Guardians to the following statistics, compiled from the returns of the registrars in the Sheffield and Eccleshall Unions, as given in the *Sheffield Independent*, August 12, 1872. In 1862 less than half the births were vaccinated, and the deaths from small-pox in that year were 18. Before the year closed a small-pox panic arose, and in the following year, out of 7800 births, there were nearly 6000 vaccinations, when the small-pox deaths rose to 354. Again, in 1867, the vaccinations were less than half the births, and the small-pox deaths were 55. On the 1st January 1868, the new Vaccination Act came into force; there were 8027 vaccinations out of little over 9000 births, and in that year the small-pox mortality rose to 395.

This co-existence of increase dsmall-pox mortality with increased vaccination and revaccination had been previously observed at Paris, Toulouse, and Montreal, and in several instances the authorities had been obliged to put a stop to such wholesale revaccination. A correspondent of the *Times*, January 10, 1886, under the head of "Medical Science in Portugal," writes that the prevailing opinion in Portugal is that vaccination probably makes an attack of small-pox far less serious, but that it is certain to bring it on. The increase of small-pox observable under the like circumstances is alleged by statisticians and high medical authority to be due to the variolous nature of the vaccine virus. At a meeting of the Statistical Society, in June 1882, Dr. Guy observed: "That it is now admitted by all competent authorities that vaccination during epidemics of small-pox tends to diffuse rather than to arrest the disease, and that instead of being practised at such times it should be suspended."

Dr. George Gregory, for fifty years medical director of the London Small-pox Hospital, said that "one of the remarkable effects of cow-pox is to create artificially a constitution favourably disposed towards

small-pox." And Dr. Charles Cameron, M.P., in a letter to the *Times*, November 24, 1879, gives evidence of the extensive propagation of variolous lymph by Ceely of Aylesbury, and Badcock of Brighton, by inoculating the cow with small-pox, and asks: "What has become of this lymph? My reason for asking the question is that more recent and searching experiment has demonstrated that it is not vaccine lymph at all, but small-pox lymph . . . . capable of propagating that disease in its most virulent form by infection." Dr. George Wyld endorses the infectious character of this lymph in a letter to the *Daily News*, February 17, 1887.

Dr. Robert Bakewell, Vaccinator-General at Trinidad, in a work entitled *The Pathology and Treatment of Small-pox* (London: Churchill, 1872), says: "I fear that in some instances wholesale vaccinations and revaccinations at the commencement of an epidemic have spread small-pox among those who remain unvaccinated. At least it happened curiously enough that, in the best vaccinated districts in Trinidad, there was the most small-pox. One gentleman, Mr. Robert Knaggs, reported that his district of the town was so well vaccinated in the house-to-house vaccination *that an epidemic is impossible!* A few weeks afterwards he had to resign that very district because the number of cases of small-pox was so large that he was unable to attend to them. A very out-of-the-way district at a distant part of the island was entirely free from small-pox until an energetic vaccinator, newly appointed, vaccinated upwards of a hundred in the course of three or four weeks, and small-pox then broke out. Certainly small-pox spread with amazing rapidity in Port of Spain *after house-to-house vaccination* had been in operation," &c. The effects of revaccination are shown in the reports presented to the late Emperor of the French in 1867, by the Paris Academy of Medicine. Dr. Ducharme, a first-class aide-major of the 1st Regiment of Voltigeurs of the Guards, engaged with great zeal in carrying out the instructions for revaccination. He says: "After the medical inspection of 1867 of the 1st Regiment, it was decided to practise revaccination. I chose youths of rosy complexion, sound temperament, and free from acquired or hereditary disease. I completed a first series of operations on 31st December 1867. The number revaccinated amounted to 437, when, towards the end of 1868, a small-pox epidemic in a highly confluent form broke out in the regiment. This epidemic made many victims, amongst others one of the infirmary assistants, who died in the hospital of Gros Caillou. To what ought we to attribute this epidemic in a regiment in which 437 revaccinations have been performed, when the hygienic conditions, as to space, ventilation, and food were excellent; when, in the 2nd Regiment of Voltigeurs, lodged in a precisely similar barrack, in the same court, but on whom no vaccination had yet been made, not a single case of small-pox existed?" Before the epidemic at Sheffield

had died out, the plague attacked the town of Preston, and, although of comparatively small dimensions, the facts afford certain experience of an instructive character. Like Sheffield, its municipality, whilst negligent in regard to sanitary amelioration, was notably vigilant in the enforcement of vaccination, which had been so satisfactorily performed as to entitle the public vaccinators in 1883 and 1886 to bonuses amounting to £548. At a meeting of the Board of Guardians, held on the 12th of June 1888, the Local Government Inspector, Mr. Henley, said that from the reports of the medical officer, going back for several years, it appeared that Preston was a well-vaccinated town, and the medical officer stated that "the thorough manner in which the vaccination laws had been carried out afforded a valuable safeguard against the invasion of small-pox."

Although thus defended, an epidemic appeared in May last, and the Medical Officer of Health, Dr. Pilkington, reported 150 cases on June 7 to the Town Council, all of which, with the exception of one child, had been vaccinated. Up to the 11th of August the cases had increased to about 700, and 47 deaths from small-pox have during that time been returned by the Registrar-General.

With the diminution of small-pox at Preston, an alarming outbreak occurred in July at the St. Joseph's Industrial School, Manchester, concerning which, on the 9th of August, Mr. F. A. Channing asked a question in the House of Commons. It appears that in all 67 persons were attacked, including three revaccinated Sisters; and as no child is admitted to the institution without proofs of vaccination[1] (the lady superintendent, Mrs. Gunning, stating that she only knew of one exception—a case where the vaccination was doubtful), it is almost certain that, although seven were reported by Dr. Falconer Oldham as unvaccinated, the entire school had received the benefit of Jenner's protective. Mr. Councillor Kenworthy has furnished me with the results of an inquiry made by Mr. Robert Hainsworth as to the recent small-pox epidemic in September 1888, at Leeds. Out of 123 cases only 5 were unvaccinated, all of whom had the disease in a mild form, and recovered. There were 13 deaths in the Borough Hospital, of whom 11 were vaccinated, 1 doubtful, and 1 unvaccinated was recovering from small-pox and died of throat affection. Every case was personally investigated, and Mr. Hainsworth found the conditions under which the patients lived were prime factors in determining the extent and virulence of the outbreak. In other words, the pestilence, as at Sheffield and Liverpool, was due to disregard of sanitation.

In the new edition of Mr. Alfred Russel Wallace's pamphlet,

[1] An outbreak not unlike the one at Manchester is recorded in the 33rd Report of the Bristol Orphan Homes, by George Muller: "It has pleased the Lord to lay upon us during the last year the heavy trial of allowing the small-pox to enter among the orphans, though every child under our care has been vaccinated." In all there were 293 cases and 18 deaths.

Vaccination proved useless and dangerous from Forty-five Years' Registration Statistics (E. W. Allen), the author shows that the average small-pox death-rate, 1838 to 1853, exceeded that of 1854 to 1867 by 229 per million of the living, while the average of the years 1868 to 1886 exceeded that of 1854 to 1867 by 46 per million. In the Appendix to the same work it is stated that during the sixteen years the Metropolitan Asylums Hospitals have been in operation they have received 53,579 cases of small-pox for treatment. Of this great total no fewer than 41,061 are classed as vaccinated, 5866 unvaccinated, and the remainder doubtful. While of the most fatal cases of all, 486 were vaccinated, yielding 432 deaths; and 167 unvaccinated, with 150 deaths.

In order to justify the continuance of compulsion in the midst of these oft-recurring epidemics, resort must be had to various ingenious arguments. It is alleged that where small-pox has followed vaccination the rite has been "inefficiently" performed, or the vaccine matter has proved inert, and more frequently that revaccination would have saved them. The champions of vaccination, Dr. Seaton,[1] Mr. Ernest Hart,[2] and other authorities teach that the effect of sanitation in controlling small-pox, if appreciable is insignificant, and that salvation is only attainable by vaccination and revaccination. This illustrates the broad line of demarcation which separates the advocates of the rival systems. Other authorities have latterly inclined to the belief that vaccination and sanitation ought to go hand in hand.[3] Were the Jennerians to allow that this malady could be extinguished by sanitation they would lay themselves open to the charge of supporting the anti-vaccine theory, as illustrated by the Leicester and other experiments.[4] It has often been unfairly urged that the opponents of State medicine have no substitute to offer for Jenner's prescription; but for twenty-five years anti-vaccinators, both at home and abroad, have unceasingly been urging local authorities, instead of infecting the blood with cow-pox, to seek safety from sporadic and epidemic diseases by means of public and private sanitation. Dr. H. Oidtmann, the leader of the anti-vaccination movement in Germany, when acting as surgeon in the invading army of 1870–71 showed how the Germans suppressed small-pox in the uncleanly casemates of the beleaguered French garrison towns by sani-

[1] *Report of Medical Officer of Local Government Board for* 1874, p. 84.

[2] The *British Medical Journal*, October 20, 1888, says: "There is not a tittle of evidence that the best sanitary arrangements, or even social advantages, confer any exemption whatever from small-pox any more than from measles or whooping-cough, which attack alike the children of the prince and peasant."

[3] "The freedom of any community from this disease is doubtless dependent, in the first instance, upon the condition of the vaccination of the inhabitants, but there is much reason for believing that other conditions—such as overcrowding and absence of means of isolation—are important factors in leading to the dissemination of this disease."—*Lancet*, 25th December, 1886.

[4] In his address at the British Association, Bath, September 1888, Sir Frederick Bramwell referred to a town where the deaths from zymotic diseases had fallen from a total of 740 per annum to a total of 372 per annum, practically one-half.

tary regulations; and facts from every part of the civilized world have been brought forward at the various International Anti-Vaccination Congresses held at Paris, Cologne, Berne, and Charleroi, demonstrating that even in infected cities the rule is constant, that in the parts where the houses are well constructed on elevated ground, the streets wide, and the surroundings healthy, small-pox stands aloof.

In the Report of the Medical Officer to the Local Government Board for 1884, reference to small-pox mortality in the metropolis is made in the aggregate. In like manner the Registrar-General's quarterly return, ending June 30, 1885, speaks only of the small-pox death-rate as specified for England and Wales, and for the twenty-eight great towns as 170 and 210 per million respectively. The following figures show that in areas and districts the proportion of small-pox deaths per million of population (annual rate) during that quarter was:—Nine districts of London (excluding the remaining twenty), some having a few sporadic cases only, 430; one of which (Hackney) yielded 1544; another (Greenwich) 2621; West Ham, subdistrict, just outside but a continuation of East London in the neighbourhood of the Lea, 10,133; Dartford (ditto), Kent, 38,122.

Small-pox is not a question of vaccination or non-vaccination, but of conditions of life, and is practically restricted to certain unhealthy districts. Some credit is therefore due to their persistent efforts in the development of the present rage for sanitation. In the remarkable address of the venerable and distinguished sanitarian, Mr. Edwin Chadwick, at the Sanitary Congress held at Brighton in August 1888, he showed the extraordinary saving of life effected in recent years by sanitation in England, and notably the reduction in the death-rate in the English, Indian, and German armies. This saving is chiefly in the diminution of zymotic disease, and in his *Health of Nations*, edited by Dr. B. W. Richardson, Mr. Edwin Chadwick says: "That cases of small-pox, of typhus, and of others of the ordinary epidemics occur in the greatest proportion on common conditions of foul air, from stagnant putrefaction, from bad house drainage, from sewers of deposit, from excrement-sodden sites, from filthy street surfaces, from impure water, and from overcrowding in private houses and in public institutions."

If small-pox epidemics are not so frequent or so deadly as they were before the discovery of vaccination, as is alleged (although we are without reliable statistics on the subject), they could be made so by reviving the old conditions of overcrowding, abolishing the modern system of sewerage, reintroducing intra-mural burials and open drains and cesspools, and restoring the practice of small-pox inoculation.

For nearly twenty years after the enactment of compulsion, the

Press, with few exceptions, refused the opponents of Jenner a hearing, but this conspiracy to stifle discussion no longer prevails, and the *Lancet* informs us that the Press is "flooded" with attacks upon vaccination; and sensibly advises the profession not to treat them with contempt, but to answer them.[1] In order, however, if possible, to neutralize the effects of these attacks, and to tranquilize the public mind, it is thought necessary to issue manifestoes from time to time from the Local Government Board, and to put forward elaborate defences in the House of Commons, with reassuring statements concerning the safety and benefits of vaccination. In the debate in Parliament on July 22, 1887, the President of the Local Government Board, referring to the alleged danger of communicating the much-dreaded disease, syphilis, by means of vaccination, boldly denied the risk, and asserted that "of six millions of public vaccinations no case of the kind had ever occurred." But he was sharply taken to task by Dr. Charles Cameron, who said :—

"Let not the right hon. gentleman (Mr. Ritchie) attempt to strengthen his case by suppressing facts. I have no doubt he was quoting the evidence supplied to him when he said that no case is known in which it has been conclusively proved that syphilis has been communicated by vaccination. That statement was repeated for many years, and had it not been that during the sittings of the Select Committee on Vaccination, there was an outbreak of syphilis communicated by vaccination, the fallacy would never have been discovered."

"Mr. Ritchie: When was that?

"Dr. Cameron: During the sittings of the Committee."

Eight years before this, Dr. Charles Cameron wrote to the *Times*, Dec. 4, 1879 :—

"There was no admitted record in Great Britain of vaccination having conveyed syphilis from one person to another until after nearly three-quarters of a century's blindness our eyes were opened in 1871. . . . . In France, where the chief of the National Vaccine service clung less closely to this theory (that syphilis could not be conveyed), he saw the danger much earlier, and in 1867 published a list of 160 cases of syphilitic infection through vaccination, which *had been brought to his knowledge in a little over a year.*"

When such cases are brought to light, the first device is to deny the facts, and when these happen to be too well authenticated to be easily stifled in this way, the sinister effects are attributed to the use of "bad matter," dirty lancets, or the carelessness of the operator. Notable instances of wholesale infection are recorded where the most ingenious and persistent smothering has been resorted to, and although for a time successful, the incriminating facts, in the long run, refuse to be suppressed. A report producing a painful impression appeared in the columns of the *Daily News*, in the early part of

[1] It is too often the custom to think that the question (vaccination) is not worth reasoning or investigating further, but in the present day people think for themselves, and often intelligently so, on medical matters.—*Lancet*, Dec. 31, 1887.

1881, of a vaccine disaster where every precaution had been observed for securing safe and efficient vaccination. On the 30th of December 1880, fifty-eight young recruits of the 4th Regiment of Zouaves were vaccinated at the *Hôpital du Dey*, Algiers, in accordance with military regulations, under the pretence of guarding them from a disease they might never have, and it was discovered that the whole were infected with an aggravated form of syphilis. The Baron Larrey notified his wish to interpellate the Paris Chambers of Deputies on the subject, but General Farre, the then Minister of War, begged him to await the result of an inquiry then pending. The facts, said the *Journal d'Hygiène*, have not been denied, but no report has been published. Questions with the view of obtaining official acknowledgment and in the interest of the public health, were asked no fewer than five times in the House of Commons by Mr. C. H. Hopwood and Mr. Blennerhassett, first of the President of the Local Government Board and afterwards through the Foreign Office, but neither by one channel nor the other could any official information be obtained. Mr. Dodson, the then President of the Local Government Board, said he had no means of obtaining the information required. Sir Charles Dilke reported to the House that the information he had received from the Foreign Office was incomplete, but refused to reveal that which was in his possession. Mr. C. H. Hopwood repeated his question October 27, 1882, when Mr. Dodson replied as follows:—

"My answer to the question is, that we have not succeeded in obtaining any fresh information on the subject, and it does not appear that the French Government have any in their possession. With regard to the alleged facts that the disease referred to was communicated by vaccine matter, I am advised that the statement that two children served as vaccinifers for 280 men, and that 58 of these men were operated upon by lymph taken from one single child, is opposed to all experience in vaccination. So far from admitting the fact that this disease was communicated by vaccine matter, I cannot entertain the slightest doubt that such was not the case, more especially as it is expressly mentioned that the children from whom the lymph was said to have been taken, were in excellent health." [1]

In reference to this statement I may observe that at a meeting of the British Medical Association, Professor Huxley, referring to vaccination, said: "A minute cut is made in the skin, and an infinitesimal quantity of vaccine matter is inserted into the wound. Within a certain time a vesicle appears in the place of the wound, and the fluid which distends this vesicle is vaccine matter, in quantity a hundred or a thousandfold that which was originally inserted." [1]

Dr. Ballard, one of Her Majesty's Inspectors of Vaccine, in his *Essay on Vaccination*, writes: "I am not going to deny that occasionally severe effects, and even a fatal result, have followed the

[1] Quoted by Medical Officer of Health for Leicester: Annual Report, 1870.

introduction of *healthy* vaccine virus into the system; that sometimes it has happened that instead of producing, as it normally does, a local vaccine vesicle, the system appears to be affected by it as it would be by the introduction of some virulent animal poison."

The facts are that in August, 1881, *La Science Libre* (No. 21), contained a letter from Dr. P. A. Desjardins, a medical resident of Algiers, and an eye-witness of the disaster, who had visited the *Hôpital du Dey*, carefully examined the infected soldiers, and minutely described their painful condition. This article further contains their names, military grade, and regimental numbers, and a copy was sent by Mr. C. H. Hopwood to the President of the Local Government Board at the time he gave notice of the question. So that when Mr. Dodson's answer was formulated for him by the officials of that department, virtually denying the validity of the whole story, it was in possession of its most circumstantial details from the descriptive pen of a medical witness. "The most hopeless form of credulity," says the *Times*, "is that which unhesitatingly accepts official denials."

In March 1884, the writer of this article visited the *Hôpital du Dey*, Algiers, where the tragedy occurred. The chief of the medical staff (Dr. Dujardin-Beaumetz) at once admitted the facts, but courteously refused details without an authorization from the General in command, which authorization, it was suggested, could be best procured through the consul, Lieutenant-Colonel Playfair. He naïvely added: "This affair has been bad for the army, bad for vaccination, and bad for us; and I do not think you will obtain the required authorization." The consul was applied to, and, after much diplomatic circumlocution, politely refused either introduction or assistance; Colonel Playfair remarking that vaccination was not obligatory in Algiers amongst the civil population, but he wished it was so there and everywhere else. The General in command at Algiers was communicated with, who promptly authorized Staff-Colonel Gausaud to supply the required information. This gentleman read certain particulars from a cautiously worded paper confirming the main facts of the disaster. The vaccinifer, he said, was a Spanish child of remarkably healthy aspect, since dead of syphilis; the vesicles (five on each arm) were of normal appearance. The whole of the fifty-eight young soldiers were infected with syphilis and retired from the service, while the surgeon who performed the vaccinations was retained; no charge of negligence having been sustained against him. From other sources I learned that the unfortunate surviving youths were unable to obtain compensation for the irreparable injury done to them by this military rule, and many of them personally called upon the conductors of the Algerian journals, *l'Akhbar*, *Le Petit Colon*, and the *Radical Algérien*, &c., who published descriptive narratives of their suffering condition.

The Solicitor-General of Algiers, M. Marchal, who is also editor of *Le Petit Colon*, gave me the following note:—

"ALGER, 23 *Mars*, 1884.

"Conseil-Général Secrétariat—

"Je tiens (de source que je crois bonne) quo sur les 58 Zouaves empoisonné par la syphilis vaccinale *une trentaine sont morts*. Ils appartenaient au régiment qui a été envoyé dans la Tunisie, et c'est là que l'on pourrait avoir des renseignements exacts. J'ai eu entre les mains la liste nominative de ces malheureux, et s'il était nécessaire je pourrais refaire cette enquête.

"CH. MARCHAL, *Rédacteur en Chef du Petit Colon*."

Not being able to find a passenger steamer to Tunis, I pursued the inquiry no further, but the facts concerning this remarkable disaster, which no English medical journal has had the courage to publish, will be found in *L'Intransigeant*, 28th June, 1881; *Journal d'Hygiène*, June 30th, August 25th, 1881, and 30th March, 1882; *La Science Libre*, No. 21, August 1st, 1881; *Times*, November 9th, 1882; *La France Méridionale*, July 8th, 1882; and the Algerian press. After the publicity disclosed in these journals, the chiefs of two powerful departments of State professed to be unable to furnish Parliament, in the interest of the public health, with even the most meagre details. Had the report proved mythical, one can imagine the sort of announcement that would have been made by Mr. Dodson, amidst the ringing cheers of the assembled legislators.

In another article it is proposed to deal more particularly with the question of vaccination mortality, the theory of "mitigation," and some other interesting phases of the general question.