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IS VACCINATION
... A ...
DISASTROUS DELUSION?

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IS VACCINATION A DISASTROUS DELUSION?

HUNTING the truth through a jungle of conflicting statistics is a form of sport to which most people exhibit a very reasonable repugnance, and it is doubtless because an elaborate balancing of disputed figures appears to them an indispensable preliminary to a sound decision on the vaccination controversy that so many persons are ready to announce emphatically that they know, and want to know, nothing about it.

It is the object of this article to show that a judgment adverse to vaccination may be grounded immovably on recognised principles of common-sense, drawing only upon facts of common knowledge and general admission. It is necessary, however, in the first place, to ask the reader to throw off the hypnosis which an established tradition imposes even upon intelligent minds, so that the facts may be viewed from the right focus and the issues allowed to dispose themselves in their just and natural perspective.

The first thing to claim remark about vaccination is the unique position it occupies as the only medical prescription enforced by law and involving the surgical inoculation of disease upon healthy bodies. On this account it is, or should be, perfectly obvious that the practice stands in need of a moral and scientific sanction which should be unique like itself—which should, in fact, be absolutely overwhelming. The burden of proof—and of irrefragable

proof—lies indubitably with those who enjoin, not with those who refuse, it.

If this is not obvious to everyone now, when the rite has surrounded itself with the artificial respect always accorded in some measure to an established institution, it was clear enough to most people when, fifty years ago, it was first proposed to associate legal compulsion with vaccination.

It was felt that the least that could be asked of vaccination was that it should involve no risk and confer a complete and enduring immunity from small-pox, and it was mainly on the strength of the assurance to that effect readily proffered by the high priests of medicine of that day that opposition in Parliament was overcome.

Some people thought then, and some people (including the writer) think now, that much more even than this is needed to justify legal compulsion in the matter. It should be shown that small-pox is a much more pressing and universal danger than in fact it is or ever was, and that it cannot be fought by the hygienic and sanitary methods which have proved effectual in all kindred diseases, and have the advantage of strengthening the resistance of the constitution, not against one infection, but against all. Even if this could be shown, the reason for compulsion is still to seek, for, if vaccination were an effectual prophylactic, the vaccinated can stand in no danger from the unvaccinated; and, if these latter have not enough intelligence to take an obvious precaution, it would seem entirely desirable that they should be permitted to perish out of the land.

When, therefore, we remember that all the claims and pretensions on which vaccination originally established itself, so far from having been strengthened in the lapse

of years and the spread of scientific thought and research, have been either in part or in whole gradually surrendered—surrendered after obstinate and prolonged resistance to overmastering accumulations of adverse evidence; when we remember that it is now officially on record that risk attaches to vaccination, and that its protective efficacy is limited both in time and in degree, we are left to wonder how the propriety of its legal enforcement can still be thought admissible even to argument. As, however, numbers of otherwise reasonable people do in fact find it no-wise outrageous or inadmissible, we have to deal with their tacit assumption that the risk attending vaccination is very small and the advantage very great.

The question of risk has the first and by far the larger claim on our attention, for, if the operation were merely useless, we might regard with equanimity, or even with philosophic amusement, the curious fervour which the medical hierarchy, and, by sympathy, the Legislature, have evinced in its favour. In this aspect, however, the subject is really too serious even for satire. We have travelled a long way from the days when Sir John Simon claimed that “against the vast gain of vaccination there was no loss to count.” It is no longer a question in any responsible quarter whether vaccination is dangerous. The question is, How dangerous? Keeping as far as possible to the rule of using vaccinist and medical evidence so as to avoid peddling with particular statistics, we may turn first to the Royal Commissions, whose majority report (countered effectively and in detail by the minority report) is, on its face, a prolonged special pleading for vaccination. We find the following admissions:—

(Sec. 399.) “It is not open to doubt that there have been cases in which injuries and death have resulted from vaccination.”

(Sec. 410.) "It is established that lymph contains organisms, and may contain those which, under certain conditions, may be productive of erysipelas."

(Sec. 417.) "It may, indeed, easily be the fact that vaccination . . . does occasionally serve as an exciting cause of a scrofulous outbreak." In Sec. 413 we discover that vaccination may become exceptionally risky through special circumstances, such as the prevalence of disease in the neighbourhood; and, finally, that (Secs. 420, 421), though formerly denied, it was no longer open to doubt that "it is possible to convey syphilis in the act of vaccination."

A parent who has lost a child in any of these ways can hardly be expected to derive solace from Sec. 419, which tells us that "it could only be attributed to what is known as idiosyncrasy on the part of the child, a peculiarity of health attended by exceptional susceptibility to the specific virus of vaccinia."

It was the necessity, after seven years' investigation, of these damaging admissions which impelled the Royal Commission to advise, *unanimously*, the relaxation of the compulsory law, and which led four members to urge its entire withdrawal; and it is in face of these admissions and recommendations that honest and intelligent men and women are still, all over the country, being insulted and browbeaten by ignorant magistrates, and often refused the exemption to which they are now legally entitled.

The majority Commissioners, while admitting the risk, suggest that it may as reasonably be disregarded as many other risks universally taken—such, for instance, as railway travelling—and quote figures showing one death to 19,000 vaccinations. But railway fatalities in this country are about one in 50,000,000, and, even if there were no diffe-

rence between 19,000 and 50,000,000, there is much difference between a risk enforced by law and a risk willingly undertaken. Moreover, there is clamant cause to question the accuracy of the above estimate of vaccinal fatalities, for it represents only the deaths *officially* returned by medical men as due to vaccination, and it is notorious that few doctors will return a death to that cause if they can ascribe it to any other, which it is usually quite easy to do. They need only to name the affection set up by the operation, and ignore the direct or indirect origin of it. This method of "saving vaccination from reproach" has not only been recommended in a medical journal, but has been openly professed by a medical officer of health (Dr. May, of Aston) at a medical conference, with a candour that argued full confidence in the approval of his colleagues. It is, therefore, not wonderful that since 1881 (when the entry of deaths under this heading began) to the present time (when the entry has been, ominously, discontinued) the general register shows only an average of fifty deaths a year from vaccination. It is not surprising that the deaths after vaccination, so frequently recorded in the daily papers, turn out (after a strenuous argument between coroner and aggrieved relatives) to be due, not to vaccination, but to pneumonia, septicæmia, meningitis, or some other of the many diseases which the unhappy idiosyncrasy of the deceased invited. Of the number and variety of these diseases some notion may be gleaned from the report of Dr. Makuna's medical committee of inquiry, instituted shortly before the last Royal Commission, with the view of reassuring the public as to the innocence of vaccination, but which signally failed to do so. Its results ought to be better known. Four thousand medical practitioners were circularised on the subject. The question which concerns us asked what diseases the witness had, in

his experience, known to result from vaccination. To this there were only 370 answers, and it is a fair assumption that those readiest to reply would be those who had least to testify against vaccination. Nevertheless, more than forty different diseases are mentioned, including 126 cases of erysipelas, 64 of eczema, 53 of syphilis, 22 of erythema, 9 of scrofula, as well as cases of cancer, convulsions, blindness, abscesses, boils, tuberculosis, paralysis, meningitis, diseased bones, and many others. Such returns represent, of course, only cases where the mischief follows directly and obviously on vaccination, and these can form only a small proportion of the whole evil wrought. Where, by disturbance of the constitutional balance or by direct implantation, vaccination has admitted the seeds of a slowly incubating disease, it must, obviously, prove impossible to track the blame indisputably to the right door. As a rule, when a doctor has vaccinated an applicant, he has done with him; and if, as often happens, untoward developments supervene after the local affection has healed, he knows nothing of it, and if he did would probably scout the suggested affiliation. There is much evidence as to the ease and frequency with which such cases escape notice. In one of the cases of syphilitic epidemic after vaccination (of which Dr. Creighton has recorded a score in the *Encyclopædia Britannica*), which was tracked out from an accidental clue by an independent medical investigator, it was found that the eleven cases in question were entirely unknown either to the general practitioners or public vaccinator in whose district they resided.

Dr. Charles Fox, of Cardiff, published (E. W. Allen, 1890) fifty-six personally investigated cases of vaccinal casualties with seventeen deaths, and in only two of these, where he himself gave the certificate, was vaccination mentioned.

The general inference from the above facts is confirmed by the ominous increase in the last half-century of various diseases of this slowly-maturing class—diseases whose common feature is derangement and disintegration of the cellular tissue.

Of these tuberculosis is probably the most in point. It is a disease to which the cow is especially liable, and its presence in the animal (as experiment has proved) can often be determined only by a post-mortem examination. According to Dr. Perron, in a French medical journal, tuberculosis, which was once an exceptional thing, has in the last hundred years been steadily extending its ravages, in spite of the general advancement in hygiene, till it has attained the rank of a pestilence. He finds himself compelled to the conviction that the causal connection is with vaccination as the only condition which has advanced step for step therewith. Herein he finds explanation of the extraordinary devastation wrought by tuberculosis in the European armies (especially in the first and second year after enlistment) where re-vaccination is the order of the day, in spite of the care otherwise lavished on the soldiers' physical welfare. With this clue we may find significance in the figures recently published showing the deaths from tuberculosis in Germany (where vaccination is now most at home) as thrice more numerous than in England. As we have a much larger urban population, this proportion, on any other than our present hypothesis, stands absolutely unexplained.

Another malignant disease affrightingly on the increase—an increase also unexplained, in spite of the weird and wonderful guesses which range in accusation from tomatoes to common salt—is cancer. Where all is dark it is not intended to dogmatise, but it is permissible to point out that the evidence tending to implicate vaccination in

the matter has more body and substance than that of any other theory hitherto promulgated. Among so many absurd conjectures solemnly canvassed we may at least take note of some considerations advanced by an Australian doctor—Meyer. He points out that, while twenty-one years are needed to complete the growth of a human being, four or five years represent that of the cow; that the cells of which the cow's flesh is constituted grow much more rapidly than the human cells; and consequently that the introduction of bovine protoplasm into the human system must tend to upset the constitutional balance, to foster disorganisation of cellular tissue, and promote the general conditions of disparity, disintegration and destruction in which cancer finds birth. In the *Medical Press* of March, 1903, J. J. Clarke, M.B., F.R.C.S., states, as the result of his own investigations, that certain "bodies" found in the vaccine pustule are indistinguishable from certain bodies found in cancerous growths, and, commenting on this letter, the Editor of the *Homœopathic World* remarks: "It is exceedingly dangerous to vaccinate persons who have a latent tendency to cancerous growths. We have seen several cases in which cancer has blazed up immediately after vaccination." As a confirmatory item we may add a statement, recently given publicity by the *Daily News*, that the highest cancer mortality is in Bavaria and the lowest in Hungary—respectively the first and almost the last countries to accept vaccination.

An even more serious indictment, though it does not immediately concern the people of this country, is that which connects vaccination with the widespread recrudescence of leprosy in modern times—the most terrible and loathsome of all diseases which afflict mankind. It is a disease which often lurks many years in the blood before declaring itself, and that in countries where it is common

the long-prevailing practice of arm-to-arm inoculation would often be the means of disseminating it is no more than might reasonably be expected.

That it has in fact done so can hardly be doubted by any unbiassed person who will consult the mass of evidence to that effect accumulated by Mr. William Tebb, F.R.G.S., through personal investigation in all parts of the world, and published in his *Recrudescence of Leprosy*. No other of the many theories of this terrible phenomenon has anything like an equal weight of argument behind it.

Common sense will read clearly enough the lesson of all this. "When once you interfere with the order of Nature there is no knowing where the result will end."

It is primarily in this aspect of the risks known and unknown with which vaccination threatens the general constitution that the subject has been approached by perhaps the most illustrious of the many "rash and ignorant fanatics" who object to the operation—Mr. Herbert Spencer.

Citing an admission by Sir James Paget that vaccination probably effects a permanent change in the components of the body, he inquires whether it is likely that the constitution can be altered in relation to one invading agent and remain unchanged in regard to all other invading agents. There is every reason *à priori* to believe the contrary, and to think that a system which has taken up a morbid principle, even though it should acquire thereby immunity from cognate disease, must have its power of resistance to perturbing influences in general diminished. Mr. Spencer finds evidence of this general relative debility in the greatly increased severity and enlarged incidence of many diseases such as measles and influenza, which, before vaccination became general, were of relatively rare occurrence and trifling in their effect. By a comparison of the infant mortality returns in quinquennial periods before and since

compulsory vaccination, he finds that "the mortality from eight specified diseases either directly communicable or exacerbated by vaccination increased from 20,524 to 41,353 per million births per annum," though the infant mortality from all causes together had diminished. In the same cause he finds a probable explanation of the defective eyesight and dentition which have become so prevalent, giving examples to show that, owing to the teeth and sense organs arising out of the dermal layer in the embryo, skin diseases (of which vaccination is one) are liable to produce abnormalities in all these. Here again it is not impertinent to remember that in Germany defective teeth and eyesight are notoriously common. Also in point happens to be the evidence of an undertaker who applied to Mr. Lane (October, 1902) for a certificate of exemption. He based his objection on the knowledge of the dangers of vaccination which he had acquired in the course of his business. He said he had placed many children in their coffins who had suffered terribly from vaccination, and mentioned incidentally that, of his own nine children, only the two unvaccinated had preserved sound teeth. Two other conscientious objectors, as medical men, I must find space to quote. Dr. Allinson, in applying to Mr. Curtis Bennet, August, 1902, testified: "I have a conscientious objection. I have been a medical man twenty-five years and an assistant public vaccinator three years, and have passed through three epidemics of small-pox. During the time that I was assistant public vaccinator I saw any amount of injury, and even a good many deaths."

Dr. Knaggs, M.R.C.S., L.R.C.P., was fined at Marylebone Police Court, May 12th, 1903, for having in twenty years' experience acquired an objection to vaccination on these grounds: (1) Cow-pox was so similar to a certain loathsome disease as to be difficult to distinguish; (2)

dentition in children was greatly injured by it; (3) and in his experience the effects of vaccination were often of a very serious character.

It is time, however, to take note of a possible objection to the foregoing argument, suggested by the course of an inquest at Westcott on a case of vaccinal syphilis (see *Morning Leader*, December 5th, 12th and 16th, 1903). The coroner laboured to fix the taint on the mother, and refused to hear evidence from the Royal Commission's report that this was one of the recognised risks of vaccination, on the ground that the new method of securing pure vaccine has made such risks obsolete. On this plea I pass the following remarks:—

(1) It gives away one hundred years of vaccination at one fell swoop. (2) The same claim has been made for each of the various lymphs that have replaced each other at intervals from Jenner's "horse-grease" down. (3) Mr. Long (President of the Local Government Board), challenged in Parliament as late as March, 1902, said: "It is impossible to guarantee lymph." (4) As the characteristic organism of vaccina has never been identified, it is clearly impossible to say of any lymph that it contains that organism and no other. According to the *Indian Lancet*, "glycerine is a nutritive medium for the growth of putrefactive and other germs." The *London Lancet*, after an investigation of the various lymphs on the market in 1902, pronounced them nearly all alive with "innumerable" extraneous organisms, and placed that of the Jenner Institute only twelfth in order of merit. (5) It was to this "glycerinated" lymph that a German Commission of investigation attributed the disaster at Rugen, where vaccination infected 320 persons with a loathsome disease, and the Royal Commission recorded eighty-four cases of serious injury, with twenty-four deaths, from its use. (6) Finally, we

learn from the last medical supplement to the Local Government Board report that quest has already begun for a substitute for this pure and impeccable lymph, a medium being wanted "more competent to eliminate from the lymph extraneous organisms" than glycerine.

If more evidence is needed to prove the present lymph as malignant as its predecessors, take the report of Dr. Stewart, who, in June, 1902, at Gore Farm, attended 587 workmen vaccinated with the latest lymph and all possible precautions, and bribed thereto at 5/- a head. No less than 28 per cent. had to go on the sick list. Dr. Stewart explains that with night nursing the convalescence would have been shortened; and no doubt a week at Brighton would have been highly beneficial; but, as Mr. Bernard Shaw pointed out in the *Times*, if the whole population were vaccinated on the same system, and with the same results, the bill would run to £70,000,000 per decade.

The experience of Leicester is eloquent beyond mistake in the same sense. In 1873, when vaccination was at its height there (over ninety per cent.), the general death-rate was also at its height—twenty-seven per 1000, or five per 1000 worse than the average for England and Wales. Since that year, when small-pox killed 360 people in the town, and with them the local faith in vaccination, the death-rate has been on the decline. In 1889, when vaccination had sunk to five per cent., the death-rate had fallen to 17.5, and in 1901 to less than sixteen, one of the lowest in the kingdom, in spite of every disadvantage of soil and situation.

There is an almost unmanageable abundance of similar evidence. Anyone making inquiries among those he meets will probably be surprised at the number of casualties from this cause he will hear of. Such cases are rarely obtruded, in view of the pooh-pooh attitude affected by

doctors and others towards them; but it is not uncommon to hear an invalid date his or her trouble from vaccination, and any nurse will testify that the most critical period for children is that following vaccination. Time, in short, has thoroughly justified the *à priori* distrust of vaccination repeatedly expressed by Kant, who apprehended dangerous consequences from the absorption of a brutal miasma into the human blood."

The indictment set out above is even now far from exhaustive, for it omits the various collateral ramifications of evil and mischief which derive from the same disastrous root. We owe to vaccination, by false analogy, the numerous prophylactic serums which are steadily extending their ravages throughout the world; the enteric serum which was inflicted on our own army going to South Africa, with such conspicuous effect that the losses from enteric were thrice the losses in battle; the Haffkeine plague serum, which has been lavished so generously on the poor Indian that plague has ever since been raging without interruption among the "protected" populations.

The time has come to arraign emphatically the whole principle of introducing disease into healthy bodies on the hypothetical chance of mitigating their hypothetical invasion at some future time by an increasingly rare, local and intermittent disease, the risk of which to a person living under ordinary conditions is practically nil. It is a principle which, if carried out with the universal consistency that Dr. Bond advocates, would make vaccination or revaccination for some disease or other a weekly or even daily occupation.

I have dwelt at length on this aspect of the question, because it is so largely ignored in controversy, though it is here the dispute should really hinge. Given the facts I have adduced, it becomes absolutely monstrous that the

State should countenance or encourage, far more enforce, a practice so profoundly open to question.

It should be needless to carry the controversy further, but reason is still at a discount in the affairs of men, and as there will be found many who can minimise to their own satisfaction the significance of the foregoing evidence, it becomes advisable to enter upon the other branch of the subject, and ask how far the specific efficacy of vaccination has been established.

The first argument and main stand-by of the case for vaccination proves on examination to be a gigantic *post hoc ergo propter hoc* fallacy. We are pointed to "the enormous decline of small-pox since vaccination came in." What is "enormous" turns out to be the exaggeration employed upon pre and post-vaccination small-pox to magnify it in the one case and minimise it in the other. I append some instances of this, because they will also serve to exhibit the astonishing looseness and carelessness with which medical controversialists are in the habit of handling statistics—a tendency of which space will not permit me to give any adequate illustration.

In the days when vaccination was struggling into acceptance, the National Vaccine establishment issued periodical reports (under the auspices of Parliament), which were intended to recommend vaccination to the public. In these we find the following extraordinary fluctuations in its estimate of pre-vaccination London small-pox mortality. It begins, moderately enough, with 2,000 per annum. This, according to the Royal Commission, is accurate for the century, but in the two decades before vaccination it had sunk to 1,750. In the report of 1826, however, the estimate has mysteriously mounted to 4,000, although this figure, according to the London bills of mortality, was never reached in a single year of the eighteenth century. In

1836 we find "the annual loss of life by small-pox in the metropolis and within the bills of mortality alone before vaccination was established exceeded 5,000." In 1839 the conclusion is drawn "that 4,000 lives are saved every year in London since vaccination so largely superseded variolation."

If it be said that greater care and accuracy are nowadays employed, take an example as late as 1880, furnished by Mr. Ernest Hart, editor of the *British Medical Journal*, who, in "The Truth About Vaccination," gives the annual average London small-pox mortality per million for forty years, 1728-57 and 1771-80, as about 18,000 per million living. So this great authority, the Royal Commission itself being witness, merely multiplied the right number by six. In 1884 a tract from the National Health Society, approved by the Local Government Board, states: "Before the introduction of vaccination small-pox killed 40,000 persons yearly in this country." Such figures are produced by exaggerating the London mortality and then estimating that of the whole country on the same scale, although, while in filthy London small-pox was always present, in many parts of the country it was practically unknown.

Statements equally and even more monstrous are freely met with even at the present day. These are distributed so widely through the various authoritative channels which are always at the disposal of an established superstition, that for the most part, what with medical bias and editorial ignorance, "panting truth toils after them in vain."

Even if this "enormous" disparity between small-pox before vaccination and since were a fact, instead of a fiction, it would prove nothing to the point. In the first place, the advance of vaccination involved the disuse of inoculation, which, as medical historians now admit, con-

tributed to spread instead of diminish small-pox. In the next place, small-pox, like other contagious diseases, is subject to "enormous" fluctuations in severity, to cycles of alternate recurrence and quiescence. Further, like other zymotics, it exhibits a well-marked and universal preference for the haunts of dirt and overcrowding; and, therefore, the wave of hygienic enlightenment, which arose about the end of the eighteenth century, and overflowed the world in close concurrence with vaccination, would have been enough in itself to explain the diminution of small-pox. This last consideration can only be appreciated by those who have made themselves acquainted with the loathsome condition of matters sanitary in towns up to the time referred to: the narrow streets, the reckless accumulation of refuse, the cesspools reeking at every corner. "The universal practice of cow-poxing," writes Dr. Creighton (*Encyc. Brit.*), "is based upon the assumption that this contagious skin disease imported from the tropics is a thing that Europe must reckon with for an indefinite time. On the other hand, the teaching of epidemiology is that a foreign pestilence never stays unless it finds quarters suited to its existence, and that it may even take its departure capriciously, as in the case of the plague, after it has had a certain career, or on being displaced by some congener such as typhus"—which has now itself disappeared before sanitation. I cannot refrain from citing the following delightful example of the lengths to which this *non sequitur* can be carried in the sacred interests of vaccination. It is taken from the same august pages as the preceding quotation, but from a writer of opposite views. "This institution (Royal Jennerian Society, 1802) began very prosperously, more than 12,000 persons having been inoculated in the first eighteen months, and with such effect that the deaths from small-pox, which

for the latter half of the last century had averaged 2,018 annually, fell in 1804 to 622."

Comment on this gem of didactic ineptitude is needless. To touch it were to tarnish it.

When we have thus carried the first line of the vaccinist defence, we find ourselves faced by an array of carefully selected statistics which turn out to be mostly either inexact or impertinent. On the statistical question a few prefatory remarks are advisable. It is often repeated that statistics may be made to prove anything, but no one can appreciate the full force of this saying who has not given some attention to medical polemics. There seems to be something in the conditions and pursuit of medicine which unfits doctors to deal accurately with figures. If scrupulous care and accuracy are ever needed, it is in dealing with medical statistics, where so much of inference often hinges on so little of data, where the facts are withdrawn and often withheld from public inspection, and where the figures depend for their validity not only on the absolute good faith of the observer, but on his freedom from the unconscious bias of preconceived theory, which often produces error not only of inference, but of actual inspection.

Instead of arguing at large, I take the last report of the M.A.B. on a small-pox outbreak (1901-2), though it is less favourable to my purpose than many others. We find that, as usual, besides cases returned as Vaccinated and Unvaccinated, there is another class, entitled Doubtful. On former occasions this class has sometimes outnumbered the other two together. Even here, with 436 cases out of 7,500, it is quite large enough to make accurate conclusions impossible. There is no excuse for this class. Since 1873 even private as well as public vaccinations have been officially recorded, and the majority of these Doubtfuls (of whom 430 claimed to have been vaccinated) could

have been put beyond doubt. If the authorities continue to put such numbers into this class, knowing it will draw the fire of the enemy, it is a fair inference that their case cannot afford to dispense with it. When we come to compare the fatality in the three classes, the explanation of this leaps to the eyes. While in the vaccinated and unvaccinated it is given at nine and thirty-one per cent. respectively, the doubtful have the terrible death-rate of fifty-one per cent. The absurdity of these figures is evident from the fact that, if accurate, they show it is worse, in the proportion of five to three, to be possibly unvaccinated than to be certainly unvaccinated. Of course, the reason is that the worst cases have usually an eruption so profuse as to hide the vaccination-marks; and the invisibility of the marks is held to warrant the inclusion of such among the "doubtful" class, which is thus used to relieve the vaccinated of their worst cases, and to reinforce the theory of "mitigation." The unvaccinated class, however, is also, though less obviously, open to challenge. Apart from the presumable percentage of false entries, which previous exposures have shown to be sometimes a very large one—mistakes often so glaring as to seem hardly compatible with good faith—we find it includes no less than 418 cases (ninety-three deaths) which are stated to have been successfully vaccinated only after infection by small-pox. Obviously, and by Mrs. Anderson's own admission, this leaves a large margin for possible error; and, even if there were none, it is hard to see how death from small-pox *plus* vaccination should redound to the credit of vaccination.

What puts it beyond doubt that these differences in the fatality rates have no connection with vaccination is the fact that the mortality per cent. on all cases together comes out at 16.87—this time, as usually, the same as

before vaccination was heard of. Yet it is on the strength of these figures that Mrs. G. Anderson (in prodigious letters to the *Times*) urges compulsory revaccination every ten years. The fact that she admits 134 vaccinated cases under ten ought to be enough to knock the bottom out of her proposal, even if 177 deaths under ten had not been returned unvaccinated because vaccinated too late.

As this alleged shifting of the incidence of small-pox from childhood to later years is one of the main arguments for vaccination, it is time to point out that, in order to give it any weight, the following propositions must be made out:—(1) Similar fluctuations in age-incidence of small-pox did not occur before vaccination; (2) similar decline has not occurred in unvaccinated children; (3) similar decline has not occurred in other diseases; (4) deaths under ten headed "no statement" are all unvaccinated; (5) the Registrar-General is wrong in saying of children's deaths from chicken-pox (fifty-second annual report) "it is very probable that most of the cases of chicken-pox were in reality modified small-pox, true chicken-pox being an ailment that is rarely, if ever, fatal"; (6) so far as it exists it could not result from vaccination opening the door to other diseases, which thus clear away susceptible material.

Not one of these statements can be proved. Most of them can be disproved.

We have seen, then, that the vaccinist position is provided with a series of back doors through which the defenders can always escape in a vicious circle.

If a vaccinated case is slight, it may be called measles, chicken-pox, or what not. If serious enough to hide the marks, it can go to the doubtful or unvaccinated class. If the case recovers, it is due to vaccination. If it dies, there are these explanations available: (1) Inexplicable

idiosyncrasy of patient; (2) vaccinated too shortly before; (3) vaccinated too long ago; (4) not properly vaccinated.

The unlimited extensibility of these classes is obvious when we remember that there is no agreement among medical men either as to what is "proper vaccination" or as to how long it will last. Jenner's original claim of "life-long immunity" has long since gone down the wind, in spite of his pathetic remonstrance that "revaccination will rob my discovery of half its virtues." The period has been reduced by successive stages. One repetition at puberty satisfied Dr. Seaton. Dr. Oakes and others require it every ten years. According to Sir W. Jenner, it should be repeated at seven and at every epidemic; while Dr. Guy F.R.S., has this startling deliverance: "It is now admitted by all competent authorities that vaccination during epidemics of small pox tends to diffuse rather than arrest the disease." Dr. Gayton thinks the protection "very fleeting indeed," having in fourteen years seen 1,306 vaccinated cases under ten (137 deaths) and fifty-eight cases under two. Dr. Birdwood's experience in the hospital-ships leads him to lower the period to two years, and each and all have to make reservations for exceptional cases. As even this limited protection is only promised in reward for "successful vaccination," it is obviously of the first importance to know what "successful vaccination" is, and it is a bewildering fact that on this, as on all other questions connected with vaccination, the best authorities exhibit a multifarious diversity of view. First, the right lymph must be found. There are many to choose from—horse-grease pure, horse-grease cow-pox, spontaneous cow-pox, cow-pox produced by small-pox inoculation, calf lymph, arm-to-arm lymph, and many others, including monkey-lymph and corpse-lymph. The original strains have been lost and crossed again and again in obedience to the

fluctuating theories of the day. When the lymph has been selected it must be inserted aright, and here doubt dogs us still. While the Local Government Board enjoins four vesicles, Dr. Curschmann, the great German authority, requires twelve, six on each arm; and Dr. Bond, secretary of the Jenner Society, thinks protection is proportionate to the number of vesicles, or, in other words, the more the better. Yet there are eminent authorities to quote for nearly every other number. Drs. Drysdale and Lee prefer one; Dr. Adam, of Liverpool, two; Dr. Greenhalgh, of London, three; Dr. Sandwith, five; Dr. Debenham, six; and so forth and so forth.

It is perfectly obvious, then, that the statistical case for vaccination leaks profusely at every pore, and even if it were otherwise, and the vaccinated always came out better than the unvaccinated in statistics, the fact would still be inconclusive *quâ* vaccination, because the two classes are differentiated otherwise than by vaccination. Unvaccinated include: (1) Infants under the age of vaccination; (2) sicklies exempted as such; (3) the dregs of society, waifs and strays, whose poor living and foul habits invite disease. Thus handicapped, the unvaccinated might be expected to make an even worse showing than they usually do.

When these statistics are open to examination and endorsement by impartial experts they may acquire a scientific value, but at present statisticians agree in being able to make nothing of them.

There is, accordingly, nothing left us in the way of a sound test but to leave local and particular statistics and envisage aggregates and areas large enough to eliminate accidental circumstances and inaccuracies of registration. It is when we do this that the futility of vaccination emerges in proportions that can only be called enormous. Is it

conceivable that, if there were any appreciable virtue in vaccination, such facts as follow could be adduced abundantly?

(1) In India, where small-pox is epidemic, and where vaccination has, therefore, a rich field in which to exhibit its potency, its influence is thus appraised by the Punjab Army Commission of 1879: "Vaccination in the Punjab, as elsewhere in India, has no power apparently over the course of an epidemic. . . . The whole Indian experience points in one direction . . . that to the general sanitary condition of towns and villages must we look for the mitigation of small-pox, as of cholera and fever."

Similarly, in the report for 1884-5 on North-West Provinces and Oude: "We are brought face to face with the fact that, notwithstanding the existence of an active vaccination service, small-pox swept over the Provinces just as if there had been none." Later still, the resolution of the Bengal Government on the report of the Sanitary Commissioner on vaccination in 1902 yields this striking excerpt: "The Lieutenant-Governor would be glad if the Sanitary Commissioner could arrange to adduce some more direct evidence than is at present furnished of the efficacy of vaccination in warding off the disease or mitigating its severity." This can, no doubt, be "arranged."

(2) The military forces, which in this and most other countries are composed entirely of revaccinated men—men, too, in the prime of life and health—show no immunity when brought within reach of contagion; show, on the contrary, generally a worse attack-rate than the civil population. Dr. Ruata, comparing the small-pox liability of men and of women in Italy, shows that up to twenty they suffer equally, but after that age the men suffer much more, although, coming then under military regulations, they are much better vaccinated.

(3) After twenty years of compulsory vaccination, this country was traversed in 1872-3 by the worst epidemic of the century. In Leicester, among other places, it wrought such havoc, despite thorough vaccination, that thenceforward vaccination was replaced by rigorous measures of sanitation and isolation, and to such effect that small-pox, though often since imported there, never again made headway.

In Germany, with the oldest vaccination law in the world, the same epidemic killed 124,000 vaccinated and revaccinated citizens.

(4) According to a table in the minority report of the Royal Commission, ninety per cent. of London small-pox is vaccinated. As it has not been claimed that the general population is vaccinated up to ninety per cent., this leaves the vaccinated absolutely without advantage from the noisome rite they had undergone.

(5) Numerous such comparisons can be drawn as that between well-vaccinated Sheffield and ill-vaccinated Dewsbury, whose attack-rates per 10,000 were respectively 192 and 63.

Only a thoroughly sound and scientific *à priori* could weigh against such a mass of adverse evidence; but if we examine the theory of vaccination, we shall find it as incoherent and inconsistent as the practice. Jenner's explanation, which, though much mutilated, still lingers, was that vaccinia prevented small-pox because it was of the nature of small-pox which he presumed to prevent a second attack. He did not attempt to justify either premiss, though both are open to challenge. It has yet to be proved that small-pox belongs to those maladies which, rightly or wrongly, are held to protect against a second attack, rather than to those which, like ague, malaria, or influenza, admit, if not invite, a recurrence. Dr. Vogt, Professor of Hygiene

and Sanitary Statistics at Berne University, after a careful collation of the statistical tables of all Europe, concludes that the rarity of second attacks of small-pox is explicable on the doctrine of chances alone; and that, in fact, the recurrence is more common than the theory of chance would warrant, averaging one and three-fifths instead of one per cent. If, therefore, vaccinia is a kindred disease, it would, on this theory, leave increased susceptibility rather than immunity. Moreover, on this theory of kinship the "mitigation" theory perishes irretrievably, for it is attested by the most eminent authorities that second attacks of small-pox are, as a rule, especially severe. The theory of kinship, however, is untenable. The scientific researches of experts in bacteriology and epidemiology, like Drs. Crookshank and Creighton, have shown that the diseases are quite distinct in nature, and that the nearest analogue of cow-pox is really syphilis, or the great pox.

It is fairly certain that, if vaccination had any scientific or biological *à priori* to lean upon, it would not have been denounced alike by Kant and Humboldt, Wallace and Spencer, as well as by specialists like Hamernik and Ruata. Even the Royal Commission found themselves constrained to surrender the bacteriological sanction as a matter of "transcendental pathology" and no practical interest, and left their position to rest on the empirical case alone, which we have valued above.

We see, then, that neither in the theory nor in the practice of vaccination has the faculty in a hundred years found any rest for the sole of its infallible foot, and this fact alone should be almost enough to clinch the question of its efficacy.

It will be advisable, however, to advert to two or three odds and ends of argument which crop up with exasperating iteration in nearly every vaccinist polemic. The argu-

ment from Germany affirms that the scarcity of small-pox in that country is due to the fact that there alone exists a compulsory revaccination law. We reply that there alone exists a compulsory isolation law, besides rigorous sanitary regulations, which date only since the fearful epidemic of 1873. If revaccination be the saviour, why was Prussia, with a revaccination law nearly forty years old, ravaged equally with the rest of Germany in that epidemic?

To the argument from the alleged immunity of doctors and nurses, presumably all revaccinated, we answer that, so far as it exists, it applies equally to other infectious diseases. Breaches of this immunity are fairly frequent, considering the numerical insignificance of this class in the total population. The last returns show two nurses infected, one five months after small-pox itself, the other five months after revaccination. The cases also include an ambulance driver and a hospital laundrymaid, both presumably revaccinated. In the provinces there are cases, even more recent, of doctors infected.

It remains to speak of Gloucester, a largely unvaccinated town, which suffered severely from small-pox. Unless Gloucester were a clean and airy town, we have here the usual *non sequitur*, for it is no part of our argument that freedom from vaccination is, of course, freedom from small-pox. I call Dr. Hadwen to witness, because, as a town councillor of that city and a man of brilliant professional qualifications, who (unprotected by vaccination) was in close attendance on the epidemic all the time it lasted, he ought to know all the facts rather better than the ingenious fictionists who have perverted them to the use of vaccination. He affirms that, bisecting Gloucester east and west, the southern half contained 1700 out of the 1,900 cases, although the halves were equal in respect of vaccination. The differentiation, of course, was in mat-

ters sanitary. The worst area presented the usual features: a preponderance of narrow streets, small houses, and bad drainage. After the epidemic the main sewer had to be taken up and numerous other improvements made. It only remains to add that at the next municipal election the ward which had suffered most returned an anti-vaccinator at the head of the poll by the largest majority ever recorded in Gloucester, and Dr. Hadwen is left with the conviction that *vaccination is "the most gigantic piece of quackery ever exploited among a civilised people."*

Even "mitigation," the vaccinator's last ditch, is rendered an extremely uncomfortable place of refuge by the latest returns from Leicester, which exhibit the fatality in the recent outbreak there as about the mildest ever heard of.

Let us remind vaccinists what their case requires in face of our common-sense theory that small-pox is one of nature's scavengers. Let them leave arguing steadily beside the point and bringing out irrelevant conclusions from disputed statistics. Let them produce some foul and crowded place or people which, relying only on vaccination, has stood with impunity in the track of an epidemic; or, on the other hand, let them cite some clean, well-drained town where the Leicester system is employed which has suffered severely from small-pox.

If their case is sound, they could produce such cases in abundance. Why have they not done so?

In solemn verity, the weakness of the case against vaccination is its overwhelming strength. People may not be persuaded that so gross an imposture could maintain itself so long and by such large majorities in so justly respected a profession.

The only answer is to point to the history of medicine—a record of colossal and calamitous blunders, a record on which Mill has drawn copiously to illustrate his catalogue

of logical fallacies. In medicine there are numberless difficulties, subjective and objective, which make truth hard to reach, and the ordinary doctor cannot be expected to investigate personally every tradition he administers. Nearly every phenomenon with which medicine is concerned is complicated to enormous profusion by "plurality of causes" and "intermixture of effects." Even with a specific it is impossible to determine in what degree it shares the credit with the recuperative resources of nature and the changing circumstances and fluctuating subjective conditions of the patient. In respect of an agent which claims only preventive efficacy the chances of error are, of course, multiplied enormously. Hence, the amazing absurdity of the prophylactics which have made their appearance from time to time throughout the world and throughout history, acclaimed by one generation and scouted by another, perhaps the next. The human mind has always exhibited an inveterate predilection for the mysterious as curative agent. "Many of the absurd practices," says Mill, "which have been deemed to possess medical efficacy have been indebted for their reputation to non-observance of some accompanying circumstance." Here, of course, the circumstance in point was sanitary regeneration.

In medicine, then, as in all other special pursuits, it is imperative that the conclusions of the expert (whose tendency is to plunge so deep into detail that he loses perspective and cannot see the wood for trees) should be checked and tested by reference to common-sense and primary principles. Rather it is especially needful in medicine, for, what is rarely remembered, the public and the medical interest are in fundamental divergence. It is the medical interest to cure, the public interest to extirpate, disease: as well expect soldiers to accomplish the abolition of war as doctors to do away with disease; and this not from any conscious regard to self-interest, but from the mental tendency engendered by their occupation. Doctors love brilliant and ingenious antidotes, and esteem disease a normal condition. The public should remember that disease derives from unhealthy conditions of life, and must be combated not with disease, but with health.

It is not intended, it is not necessary, to bring a railing accusation against doctors in general, or question the high standard of personal worth and honour which rules in the profession. It is only necessary to assume that they, like other people, suffer from human nature; and, this being so, it is imperative to remind the public that its patient and passive acquiescence in medical popery exposes it to dangers of the gravest kind. Apart from the various conduces to intellectual error already adverted to, there is, in the present instance, a very special liability, conscious or unconscious, to personal bias. It is emphatically good, in a professional sense, to support vaccination; it is bad to question it. "I hope it is no very cynical asperity" to smile at the ardour of such enthusiastic propagandists as Dr. Greenwood (President of the Society of Public Vaccinators), who, in respect of a single quarter's professional activity, sent in a bill to the Marylebone Guardians of £2249. On the other hand, it is permissible to find a special significance in such a case as that of Dr. W. Scott Tebb, who, though selected on his merits from among other candidates by the local authorities as Medical Officer of Health for Penge, had his appointment cancelled by the Local Government Board because he had written a scientific work dealing too faithfully with vaccination.

The unanimity of the medical officers of health is, therefore, not a strong argument for vaccination. It is a unanimity maintained by the State, and, in the words of Dr. Creighton, "would crumble to pieces the moment the sanction of Parliament was withdrawn." At the best, it could not equal in weight the famed Ring testimonial of 1800, wherein nearly all the professional lights of London solemnly certified that primary vaccination (now, according to Mr. Long, "practically a farce") was a life-long safeguard against small-pox, although it should have been obvious to all living that the testimonial was premature by about fifty years. As an argument *ad hoc*, a hundred years of this very "mitigated" medical unanimity amounts to nothing at all. All history shows that, when once a false persuasion has climbed into favour, committed conspicuous adherents, built up vested interests, and involved the profit

and prestige of a close faculty and the energy of caste instinct in its support, still more when it has enlisted the countenance and coercive injunctions of the State, it tends to maintain itself with a tenacity which generations and even centuries of struggle and resistance are inadequate to relax. Nevertheless, the confused shifts and wretched plight to which the medical Frankenstein has been reduced in the endeavour to excuse and justify the monster it has let loose on humanity encourage us to believe that the day of its downfall is already at hand.

A policy which insists upon defiling, at repeated intervals, the blood of every human being, however healthy and endowed with the power to resist disease which health bestows, with a virus obtained by squeezing the filth from sores raised on a calf's belly, a virus of whose nature and pedigree there is no scientific knowledge, but which has proved capable of causing loathsome and mortal diseases, and all this with the sole purpose of obtaining a very qualified, temporary, and doubtful protection from one only of the many thousand diseases to which flesh is heir—a disease, moreover, which grows so rare that even in the late so-called epidemic its fatality was surpassed many times by half a dozen other diseases about which no artificial panic has been induced; a disease which has been proved both preventible and mitigable by hygienic means, a disease of which the risk, except in slums, is practically negligible, and which the Finsen treatment has now robbed of its most dreaded feature—such a policy needs only to be clearly stated to be seen for what it is, a monstrous and indefensible outrage upon the common sense and sacred personal rights of every human being, and especially every Englishman. An unbearable tyranny, it has roused, and justly roused, an exasperation so intense that it is impossible to give it satisfying expression without breach of the proprieties of debate. There is determined insurgence at work, and it will not subside till vaccination has been finally relegated to the shelves of that well-stocked scientific museum where the dishonoured fetishes and perished fallacies of medicine remain on view for the warning and instruction of mankind.

A FEW OPINIONS ON VACCINATION.

"I hold it to be proved that compulsory vaccination has been a complete fallacy; that so far as logic has enabled us to prove anything, it has proved that vaccination, in the absence of sanitation, is inoperative on mortality, and that, in its presence, it becomes a sheer superfluity."

SIR W. J. COLLINS, M.D., B.S., D.Sc., F.R.C.S.

"Vaccination is the most gigantic piece of quackery ever exploited among a civilised people."—DR. HADWEN.

"Small-pox, typhus, and other fevers, occur on common conditions of foul air, stagnant putrefaction, bad house drainage, sewers of deposit, excrement-sodden sites, filthy street surfaces, impure water, and overcrowding. The entire removal of such conditions is the effectual preventive of diseases of these species, whether in ordinary or extraordinary visitations."

SIR EDWIN CHADWICK, C.B.

"Science is in the main most useful, but is sometimes proud, wild and erratic, and has lately proposed a desperate device for the prevention of infectious perils. She proposes to prevent one peril by setting up another. She would inoculate new diseases into our old stock, in the anticipation that the new will put out the old. I pray you not to be led away by this conceit. This manufacture of spick and span new diseases in our human, bovine, equine, ovine, canine, and perhaps feline species is too much to endure the thought of, especially when we know that purity of life is all-sufficient to remove what exists, without invoking what is not."

SIR B. W. RICHARDSON, M.D., LL.D., F.R.S.

"Everyone who knows anything of public health questions will agree as to the practical unity of epidemics and their determining causes, and that exemption from all alike must be sought, not by any one thing, such as vaccination, but by inquiring into and removing the causes of epidemic susceptibility generally."—FLORENCE NIGHTINGALE.

"I consider that vaccination has failed to stamp out small-pox, and that only improved sanitation is likely to have that effect. The arbitrary and indiscriminate enforcement of vaccination is the cause of many deaths."

T. D. NICHOLSON, M.D., C.M., M.R.C.S.

"Vaccination affords no protection at all. The anti-vaccinists have mastered nearly the whole case. They have knocked the bottom out of a grotesque superstition."—DR. CHARLES CREIGHTON, M.D., M.A., &c., Author of "Jenner and Vaccination," &c., &c.

Read "THE VACCINATION ENQUIRER AND HEALTH REVIEW," published monthly in London, and obtainable from Australian booksellers if ordered.