

Value of vaccination : being a précis or digest of evidence taken, viva voce, 1871, before a committee of the House of Commons, on the Vaccination Act, 1867.

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House of Commons
Value of vaccination. By
T. Baker. 1871

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VALUE OF
VACCINATION:

BEING A

Précis or Digest

OF

EVIDENCE

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TAKEN, *VIVA VOCE* (1871), BEFORE A COMMITTEE

OF THE

HOUSE OF COMMONS,

(ON THE VACCINATION ACT, 1867.)

BY

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OF THE INNER TEMPLE, BARRISTER-AT-LAW,
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PREFACE.

As a rule, the ponderous "Blue Book" finds its way to the butter shop—unpurchased, unopened, and unread.

Its cost is too great for the general reader, and the time required to unearth its contents involves far greater expense than its price.

The aim of a précis writer is to condense, as shortly as possible, the matter spun out into question, answer, and cross-question; neither withholding nor amplifying any important point, but stating fairly the fact or opinion elicited from the witness, so that his main ideas shall be truly represented, stripped of verbiage and circumlocution.

Ample opportunity is afforded to the student for verifying the fairness of this précis; the numbers of the queries in the Blue Book being attached to every statement. Where cross-examination, however lengthened, fails to alter the fact or opinion deposed, such is referred to simply by the figures.

T. B.

*Kingscote, Wokingham,
September, 1871.*

PRÉCIS OF EVIDENCE.

TAKEN *VIVA VOCE* BEFORE THE COMMITTEE
OF THE HOUSE OF COMMONS, 1871.

Arranged to serve as an Analytical Index to the Blue Book.

UNDER THE FOLLOWING HEADS.

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VACCINATION.

Précis of Evidence.

I.—VALUE OF VACCINATION AS A PROTECTION AGAINST SMALLPOX.

Dr. COLLINS, M.D., after 20 years' experience as a vaccinator (137*; 449—57; 532—7; 538—45; 4335), during 6 or 7 smallpox epidemics, has ceased to vaccinate 10 or 12 years. Had known persons who had been vaccinated, and revaccinated, suffer dreadfully from smallpox; two of whom died, in the most hideous confluent form, after successful vaccination, and revaccination; one of them three times vaccinated, 144—55; 174. Gave up at least 500*l.* a year by abandoning the practice, 177; 559—60. Has revaccinated thousands, 181—5; 561—4. True vaccine according to Jenner's original theory, is the production of the greasy heel of a consumptive horse. From exudations resembling the fluid from a greasy heeled horse, taken from scrofulous joints in human subjects, he has produced a very good imitation of the Jennerian vesicle; had performed a series of operations to test the experiment. Had vaccinated direct from the cow, obtained by first giving the cow smallpox. His experience proved that matter thus procured often produced the disease it was supposed to prevent. Considers vaccination not only useless, but an evil; and that more children die in consequence of the practice, 190—5; 245—63; 305—45; 357; 400—7; 458—73; 517—18; 656—68. Quotes his petition to parliament enumerating these evils and objections, 202. The liability to smallpox diminishes every year as you get older, whether vaccinated or not, 394—5. Inoculation prevailed about 70 years, being highly approved by the College of Physicians; and it was believed that persons could not have smallpox a second time; there is always a good deal of fashion in medicine, 396—99; 487—92. Had Jenner experimented among the poor, in the back slums of London, instead of healthy Gloucestershire milkmaids, he must have arrived at very different conclusions, 415—16. Has known patients having had smallpox 3 and even 4 times. [Further evidence, p. 19].

28th February,
134*—374;
3rd March,
375—686;
2nd May,
4333—48.

* The figures refer to the number of the *question* in the Blue Book, *passim*.

3rd March, 687—704 ; Dr. PEARCE, M.R.C.S., having spent nearly 400*l.* in disseminating reliable information on this subject, and given special attention to it for 18 years (1221*), is of opinion that Jenner's theory has no foundation in physiology, nor any philosophical basis ; there is no instance in which the inoculation of one disease prevents another, 694. Quotes the celebrated John Hunter, that the introduction of mineral or vegetable poisons into the blood may be destructive, but that animal products from a man or cow are infinitely more pernicious. Refers also to Birch, then surgeon to the Prince of Wales, Moseley, Moore, Gregory, and Copland, as condemning vaccination. Prince Arthur, who had been vaccinated, is reported to have caught smallpox in Scotland, where it is supposed to have been extinguished by vaccination, 695—7. The general mortality has not been diminished by vaccination, as shown by the London mortality returns : during the four years, 1799—1802, when vaccination was first introduced, the mortality, as compared with the previous four years, had increased by more than 4000, while 787 fewer deaths occurred from smallpox. Quotes returns showing that when smallpox prevails the death rate is low ; when it is absent, the death rate is high, in this as in other countries. Alleges that Dr. Seaton's figures are fallacious, 707—50 ; 922—50 ; 1015—29 ; 1269—74. Does not think that half the London population are vaccinated, and therefore to find 84 per cent. of the cases in the Smallpox Hospital vaccinated is a very damaging fact as regards vaccination. The proportion of vaccinations to births is about the same in Ireland as England ; the statement that smallpox has been prevented or stamped out by vaccination in Ireland, has no foundation ; the epidemic wave will probably reach both Scotland and Ireland, this year or next ; ten cases had already occurred at Belfast ; eight of whom were vaccinated, and two doubtful, 1123—44 ; 1231—9. It is a question of bread and butter with vaccinators ; they got 5,000*l.* to go on with before the last Act passed ; public vaccinators have had more than a million out of the poor rates, and vested interests are very strong, 1200—9. The law, that no disease of the lower animals is infectious to man, is violated by the vaccinator. Glanders may be inoculated on man, but not infected : so of cattle plague, &c. Has known many cases of confluent smallpox after vaccination ; has had such within that month, 1221—30. Admits it is possible that the disturbance of the lymphatic system in an infant by vaccination may render it insusceptible to smallpox, still, more die of smallpox among those who are vaccinated than of those who are unvaccinated, in proportion to the population, 1288—91. [Further evidence, p. 19].

7th March, 765—894. Sir J. C. JERVOISE, Bart., disbelieves the supposed security from smallpox by vaccination ; referring to the evidence afforded

* Figures in parenthesis refer to subsequent cross-examination, *passim*.

by the Smallpox Hospital Reports, &c., 774: points out two cases and one death from a second attack of natural smallpox, also two cases and one death from a second attack occurring after vaccination and smallpox. There were various other diseases from which deaths occurred in the Hospital. Has two relatives who were vaccinated by Jenner, and subsequently, when still very young, were in such a state from confluent smallpox that their father did not know them, 774—85; 864—73. The Registrar-General, pointing out that the mortality from smallpox lessens with advancing age, deduces the argument that vaccination does not wear out; he would say rather, the nearer to vaccination the more fatal the results of smallpox. In the present epidemic may be seen what the security has been, 799—800; 826—33. He had ceased to believe in vaccination, because of its failure; affording no security against smallpox and producing other diseases, 815—25. Does not believe smallpox to be communicable either by infection or contagion, except by inoculation, which the case of the nurses would prove, 834—46. Much of what is relied on in so-called medical science, as evidence deducible from facts, is simply coincidence. Ceased to believe in vaccination when he began to think more about it. [Further evidence, p. 19].

Dr. GARTH WILKINSON, M.D. (who had vaccinated to within the last five years without thinking about it, 1406—8), states that the mischief of vaccination is seen most by the poor, in whose homes it is a scourge, 1342. He would pay fines as long as the money lasted, and then go to gaol, rather than have his children vaccinated. Should be a bad father and a base man if he did not, 1347—9. The argument that vaccination has diminished smallpox, is merely *post hoc ergo propter hoc*, and overlooks other concurrent circumstances, which may account for less pitting, 1368—74; 1521—30. We are continually coming upon venerable fallacies; but on this question prestige and interest prevent investigation. Vaccination is so entirely *secundem artem*, the large majority cannot think about it, 1420—30; 1541—4. Had ceased to believe in vaccination not from observing its evils in certain cases alone (though six positive cases are worth 10,000 negatives, which go for nothing), but from reading and meeting medical converts against vaccination. In America, Sweden, Denmark, and Germany there is a growing opinion against vaccination, 1493—1509. The majority of the upper classes in this country believe in vaccination, but not the working classes, who, from various causes, see more of the evils of the practice, 1545—9. [Further evidence, p. 20].

14th March, .
1305—1585.

Mr. G. S. GIBBS believes vaccination to be a positive evil, which does not prevent the contingent disease which it is said to prevent, 1597. Argues that if vaccination and revaccination will not protect against epidemic influence, it is useless as a preventive, 1607. Considers Dr. Ballard's returns, showing a

14th March,
1586—1607;
17th March,
1608—1937.

fatality of 15 per cent. among cases having cowpox and smallpox concurrently, to be conclusive against any protective influence. Dr. Charteris, in 1866, lost eight cases in St. Giles's Infirmary which he had vaccinated; whilst seven others, upon whom he abstained from operating, went through smallpox favourably and recovered [*Lancet*, 28th July, 1866], 1619; 1745—53. Inoculation, which was much practised for about forty years, having caused a large mortality from smallpox; when inoculation ceased, that mortality also naturally ceased, such result being in no degree due to vaccination, 1621—3. Mentions a child of seven months, perfectly healthy from birth, who was vaccinated; it was seized with a fit in a few hours after, and a second a few hours later, and died. Could produce hundreds of facts. A man was recently convicted and fined at Durham for not having his child vaccinated, his reason being that he had lost three children distinctly from the process, (2865—9). They were taken to the public poisoner, were poisoned, and died. If vaccination is not poisoning, it is nothing, 1810—17. [Further evidence, p. 20].

21st March, 1938—2093; 24th March, 2809—2811. Mr. EMERY considers, from recent observation, that vaccination is bad in the whole system. Has seen much suffering, ulcerous sores, &c., from it. There is no proof that the children would otherwise have smallpox. The two children he had seen poisoned, and had died, were vaccinated from perfectly healthy children, having no taint, 1973—90; 2020—24; 2049—57; 2070—80. Vaccination is matter taken from the horse; given to the cow; and from the cow put into the arm, and from arm to arm for thirty years; and all manner of dirt is scraped out of one person's arm and put into another's, 2058—61. Thinks people have been cruel under a mistake, for when smallpox comes, it knocks them over just the same, 2065—9. [Further evidence, p. 28].

21st March, 2094—2292. Mr. COVINGTON states, on authority of Dr. Barr, that the only smallpox case in Northampton this year to 11th March, 1871, was modified by vaccination, where a large number of non-compliants with the Vaccination Act were reported to December last, 2142—52. Knows several cases where vaccination has not been a protection; and others not vaccinated who have escaped smallpox, 2191; as much defacing has been consequent on one class of cases as the other. Except that in rural districts young men and women are generally healthy, has observed no greater immunity from smallpox among those who milk cows than among others, 2197—217. [Further evidence, p. 28].

21st March, 2323—2382. Mr. BAKER believes smallpox is not the horrible and dangerous disease it once was; its treatment being much better understood. He would not resort to vaccination for protection as he once would; now considers it affords no protection, 2363—66; 2378. [Further evidence, p. 28].

The Rev. W. HUME ROTHERY feels convinced that to put corruption into the blood of a healthy child, and thus set up a disease by artificial means to protect it against a prospective one, which may never occur, is a delusion—an unnatural and wrong thing—indefensible on any Christian or rational ground, 2461—71. Has ascertained the opinions of large numbers in Lancashire with respect to vaccination, and is certain a very decided majority are entirely opposed to it, as being utterly useless against smallpox, 2513—19; and as an unchristian, inhuman, and tyrannical law, 2589—600; 2653—9; 2787—94. Does not think it is any protection, or that it mitigates an attack from smallpox, 2528—9. Believes it to be unprincipled, based on the assumption that disorder is the proper preventive for disorder, which would necessitate immorality to prevent immorality, (2741—5). It also assumes that God has done his work so badly, that children are dangerous to society unless their blood be poisoned. It also diverts attention from the real causes of disease, 2540; 2576—9; 2604—14. It is a physical crime; and it is a moral wrong to do evil that good may come, 2712—26. Regards himself as being a disinterested witness, a better judge than if he were a medical man. The judge who, according to routine, should have tried Rush, declined to do so because he was connected with the Jermy family, thereby showing a high sense of justice, 2677—88. [Further evidence, p. 22].

28th March,
2461—2808.

Mr. R. B. GIBBS states that Jenner, who made his first experiment 14th May, 1796, did not profess to have discovered vaccination; and he maintained that the disease originated in the horse as late as 1817, six years before his death; quotes extracts proving this from Jenner's works, (2899—904): also from Dr. Shortt, that his experiments, in 1867, tend to show cowpox and grease in the horse to be identical. It was and is still matter of experiment; on that ground, as well as that Jesty was the discoverer, the grant to Jenner was opposed by Mr. Shaw Lefevre, and carried only by a majority of 13, 2818—25. Mr. Simon had declared that the profession were practically unanimous in favour of vaccination, whereas Dr. Copland, in 1848, writes: "The middle of the 19th century finds the majority of the profession in all latitudes doubtful" on the subject; and the *Lancet*, 21st May, 1853, speaking of vaccination, says it has failed frequently by producing no effect, and in protecting persons from smallpox, (2911—20). In 1867, a petition, signed by 40 medical men, proved that the profession is far from unanimous. Produced a number of letters [not read] from medical men, showing that they do not agree with vaccination. The Committee of 1833, on the Vaccine Board, sat 8 days, and examined 23 witnesses, all on one side, 2829—36. Upper class belief in vaccination has arisen because a large vested interest has been created by Government, able to influence the press. *The Times* has constant leaders and paragraphs in

28th March,
2816—2927.

its favour; but you never see anything on the opposite side. Knows that such communications have been rejected. Medical opinion in authority guides *The Times*, and *The Times* guides fashionable public opinion. The fact that there are 3500 public vaccinators, upheld by a considerable staff, in London, is a very strong reason for medical opinion in favour of vaccination, which was never the result of investigation, though now traditional, 2845—53. Three months after Jenner published his observations on *variola vaccinia*, Dr. Moseley put out a pamphlet in opposition, which is good at the present day, 2921. Small appointments are desired by young practitioners, as stepping stones, but the emoluments from private, are more valuable than from public vaccinations, 2924—7. [Further evidence, p. 22.]

24th March,
2812—2815;
28th March,
2928—3008;
31st March,
3009—3216;
21st April,
3217—3553;
19th May,
5795—7.

Mr. SIMON, F.R.S., has formed his opinions on vaccination as a preventive of smallpox, not on experience as a practical medical man, but mainly as a medical statistician, by considering masses of national evidence, and as a reader of medical history, 3325—7; was never in general practice, and his personal experience of vaccination was very small, 3399—403. Refers to his papers on vaccination, laid before Parliament in 1857 [reprinted in Appendix], as substantially containing his case, both as to the advantages derived from the practice, and the groundlessness of the objections alleged against it. In its absence, smallpox is amongst the most fatal pestilences, and there would be as much danger from it now as 100 years ago. It is not a declining disease, by the common consent of all medical men, 2931—5. Has no important additional facts to those stated in 1857, 3009. Thinks it a good general rule, that at puberty all persons should be revaccinated, 3041; 3164—5; 3177—91; 3217—26; it gives local trouble very much more frequently than primary vaccination, 3485. Describes improvements in the vaccination system since 1867; 3114—27; 3387—9; 3459—75. Some families have a particular susceptibility to certain diseases. Some have smallpox three times, and such persons would be more likely to take it after vaccination than others, 3156—9. Smallpox contagion being always present, an unprotected person generally cannot get far into life without being in the way of catching it, and does so the first opportunity. Lymph should be taken from perfectly developed vesicles; does not see any necessity for reverting to the cow for a supply; it would be easy to do so, 3166—8. Believes the French emigrants had a good deal to do with starting the present epidemic; an epidemic was due, but there was none when they came over in August last, 3171—2. We have not the means of perfect knowledge as to the protection of vaccination against an attack of smallpox; but against fatality or severity, where vaccination has been thoroughly good, it is almost absolute. Does not believe a person who has had smallpox is in better health afterwards, 3328—32. Does not see a shadow of pretext

for asserting that the protective value of vaccination has decreased. It is the only protection against smallpox, except isolation, 3366—8. As to how vaccination operates on the system, all we know is from experience and observation, which require honesty, intelligence, and opportunity, 3490—3. [Further evidence, p. 22.]

Dr. BAKEWELL, M.D., Vaccinator-General of Trinidad, considers that vaccination has been proved to cause death in some cases, though rarely, 3570. Prefers vaccination from house to house in preference to stations, as the operator is thus better able to learn antecedents of the family, 3574—84; 3790—4. It does not follow, as sometimes assumed, that every unvaccinated person catches smallpox, still less that everybody having smallpox dies. Would not make vaccination gratuitous, 3608—17; 3737—9; 3810. Would vaccinate to avoid danger of smallpox during an epidemic, running the other risks as the lesser of the two; but it would hardly be worth while in Trinidad, where there is no smallpox, 3695; 3712; 3764—77. The vaccine vesicle arrives at perfection for taking matter in about eight days, but the disease does not run its full course in less than three weeks. Thinks if vaccination be well performed, the advantages are on its side, 3713—26. Would revaccinate during an epidemic if in contact with cases; the current medical opinion is, that revaccination should take place at puberty, 3750—6. Thinks the vaccine lymph has deteriorated from being taken from the arm, in lieu of the cow; lymph from a greasy horse is said to have been the origin of cowpox, 3811—19. [Further evidence, p. 23.]

25th April,
3554—3819.

Sir D. CORRIGAN, Bart., M.D., M.P., would not reckon his personal experience of vaccination as on a very extensive scale, but has been many years connected with large hospitals, and thus incidentally very much in contact with vaccination and smallpox, 3991. Has not seen vaccine stations in Ireland; never heard any complaint of imperfect vaccination, 4017—25. The possibility of smallpox contagion arises in the incubative stage before the fever or eruption appears, 4092—3. [Further evidence, p. 24.]

28th April,
3991—4097.

Mr. MARSON, F.R.C.S., thirty-five years surgeon to the Smallpox Hospital, is very much in favour of vaccination, which, if well performed, makes a great difference in the severity of the attack, and also in the mortality. Good vaccination is where it is done in four or more places, leaving good cicatrices, *i. e.*, distinctly indented with well defined edges. An indifferent cicatrix is indistinct, smooth, without indentation, and with an ill-defined edge. When a smallpox patient has four such good marks, he almost invariably has the disease, if at all, in a very mild form, 4098—106. If thoroughly well done the marks do not wear out, 4660; the more punctures the better, 4723.

28th April,
4098—4226;
2nd May,
4227—4331;
5th May,
4624—4724.

Does not think smallpox has any tendency to die out ; is the same as it was 1000 years ago, and will be so 1000 years hence, 4136 ; 1143 ; 4185—9. Fears there is no specific. We have no more control over the smallpox than formerly. Vaccination being now better done, thinks in twenty years' time it will be seen that the protection has been much greater than it has hitherto been ; it is difficult to get it well done, owing to opposition of mothers, bad weather, ignorance of unqualified vaccinators, &c., 4148—51. Re-vaccination should take place just after puberty ; has seen bad cases at thirteen when indifferently vaccinated. Has refused to re-vaccinate many of his own cases done fifteen or twenty years ago, as not needing to be done again, (4303—4 ; 4689—92.) Has performed 60,000 or 70,000 vaccinations in his time, 4157—9 ; 4681. Believes the system of vaccination has improved since his paper in 1853, showing that it should be done in four places. Thinks large stations giving a choice of arms advantageous, (4710—16) ; would not take lymph from a suspicious arm, 4166—73 ; 4184. Large numbers are very badly vaccinated ; all those who have been dying might have been saved, 4656—9. There are very few indeed who do it thoroughly well. There are a great many who do it as well as he does. It depends on the operator as much as the quality of the lymph ; has no doubt the vaccinators in large towns are competent, having been appointed by a gentleman who knows the subject very well. It might not be the same in country districts, but all now require to be either examined or taught. There is difference of opinion as to the best method—by scratches or punctures ; but it ought to be done well one way or the other ; (the Scotch is a good plan, 4668). There are a great many now in the country who have been taught, 4258—73 ; but we know how careless many people are, 4661. Thinks Jenner was mistaken about horse grease. Thinks the cow, inoculated from the human subject, or having the disease in a natural way, the best source for supply of lymph, 4325—31 ; 4696—705. Thinks the absence of any smallpox epidemic between 1796 and 1825 was fairly attributed to vaccination, but supposes it was partly imagination ; very likely it was due to the discontinuance of inoculation, which, unfortunately, spread the disease, and created a greater mortality than before ; the means of inoculating being readily sent about in a letter, and the inoculated cases being just as infectious as natural smallpox. Knew a lady who lost three children from inoculation, 4647—8. His late colleague, Dr. Gregory, was an authority, but a very singular man indeed : he once wrote a paper on the subject, and then unfortunately departed from it ; he thought perfect security compatible with a small and scarcely distinguishable cicatrix at least five years after the operation ; but he never investigated the subject so extensively as the witness had done, 4666—71. Only ten or twelve French patients have been in the Smallpox Hospital, and the disease was raging in the east of London before the French war broke out. [Further evidence, p. 24.]

Dr. WOOD, P.R.C.P. Edinburgh, had published a pamphlet in 1860, to allay unnecessary panic, and direct attention to the great want of vaccination in Scotland, 4349—55. Objects to special vaccinators, and to vaccine stations; preferring home vaccination open to the profession at large. A person incompetent to perform the very simple operation of vaccination would, *a fortiori*, be unfit to perform a hundred other surgical operations, 4369—78; 4403—9. There is no difficulty in getting an arm-to-arm supply of lymph, 4388; 4401—2; 4412—24; takes it the seventh day, 4442—4; 4451—4; much prefers the Scotch to the Privy Council Office method of operating [difference described], 4468—70. [Further evidence, p. 24.]

2nd May,
4349—4501.

Sir WM. JENNER, Bart., M.D., D.C.L., F.R.S., states that for the early periods of life vaccination seems to be a protection against smallpox, at any rate, all but complete (4556—7) up to puberty; should think himself guilty of a crime not to recommend every parent to have his child vaccinated; cannot conceive of any practitioner thinking it mischievous; has advised the Queen and Prince of Wales to encourage vaccination in all the Royal Family. Is not related to the discoverer of vaccination. Thinks revaccination should take place after puberty, in epidemic periods, when persons are more sensitive; would revaccinate after 7, and if the marks were not good, even at an earlier age, 4502—27. As to what age children should be first vaccinated is no authority; considers Dr. Seaton an authority as to revaccination (and Mr. Marson, 4623); the common opinion is that it should be done about 7, and after puberty, when the disease is not epidemic; has had his own children revaccinated; thinks with regard to the age for revaccination medical opinion may possibly be very unsettled, if different statements have been made on that point; thinks revaccination is a matter of great necessity, 4536—45; vaccination is giving a disease; everything which is not healthy is disease; persons in bad circumstances, ill-nourished, with poor constitutions, &c., will get rid of the effects of vaccination in a definite course, the same as others in contrary circumstances; has nothing to do with other men's opinions; has never met with a person who repented having been revaccinated, 4555—64; knows nothing of the figures, but should have said from his knowledge of unvaccinated people that many more than $2\frac{1}{2}$ per cent. were now unvaccinated; is not an authority on the mode of vaccinating; but the vaccinations of one man will succeed while those of another will not, leaving the cases unprotected; had known such cases: should require to know the statistics to answer as to practical results, 4568—73; knew an operator who failed from drawing too much blood, and washing out the lymph, 4595. His great namesake would have changed his opinions with advancing science; anything he said as to one puncture being sufficient would now be of little worth, 4597—8. If a person be thoroughly protected by vaccination 8 or 10 years when

2nd May,
4502—4623.

exposed to smallpox, if an epidemic comes he shall not be then protected though he had been a week before, being more prone under the epidemic constitution; had himself been revaccinated several times when it did not take, but during the present epidemic it took perfectly, because the epidemic influence renders people more prone to the disease, therefore every one should be revaccinated when an epidemic occurs; nevertheless a very small proportion of those previously vaccinated would die during an epidemic, compared with an equal number of unvaccinated, 4603—6; 4615—22. [Further evidence, p. 34].

5th May,
4725—4925.

Dr. GULL, M.D., F.R.S., who was 25 years physician to Guy's Hospital, with a children's hospital attached, considers vaccination as protective as smallpox itself, (4783; 4800—1); a great preservative though not an absolute protection. Would test the first vaccination at puberty, or before if the marks were not distinct and an epidemic was raging. Has recommended and requires revaccination of all candidates for the Indian Civil Service not having distinct marks of successful vaccination, 4741—54; 4914—15. Willan inoculated a child on one arm, and vaccinated it on the other, and whilst smallpox pervaded the body the vaccine perfected itself; and another vaccinated from that had not smallpox, 4756—7; does not know any practitioners of standing either in England or the Continent who disbelieves in the value of vaccination, 4773—4; 4822—3. Our public vaccinators are very skilful, the carelessness formerly consisted in not bringing the children for subsequent inspection; has no knowledge of vaccine stations except the hospital, 4796—9. Does not know Dr. Collins by reputation; has not read Dr. Nittinger's work on vaccination; does not know Drs. Bayard or Verdé de Lisle; Ricord is a man of great eminence; does not know that he has changed his opinion as regards the advisability of vaccination, 4822—9; according to Mr. Marson the effectiveness of vaccination seems to depend on the number of punctures; would be disposed to prescribe the number of cicatrices by law; we have learned something since Jenner's time, and may learn more, 4871—5. [Further evidence, p. 25].

5th May,
4926—4990.

Dr. WEST, M.D., physician to the Children's Hospital, has had charge of 50,000 or 60,000 children in the last 30 years, 4926—30; 4954; has always believed vaccination a great preservative against smallpox, but has seen a very small amount of smallpox in his practice; believes vaccination enormously increases the chance of safety, both from attack and severity; until this epidemic, was not in the habit of inquiring whether the hospital children had been vaccinated; recently it has been found in many instances, among the in-patients, that vaccination has not been performed, or has been inefficiently done; they are seldom received before 2 years of age; should not think the marks would disappear before that age, 4943—9; has not known

of any practitioner of generally acknowledged eminence who disbelieved in vaccination, or thought it not a duty to encourage it, but should not draw any certain inference from that; not having seen much smallpox the question has not arisen. Would revaccinate at puberty, being as wise a time to select as any. Thinks the risk of vaccination at large stations certainly greater than from private practice, but not more than that attendant on poverty in any other respect; all cases except accidents and smallpox, are treated in his Hospital, 4955—61. [Further evidence, p. 35.]

Mr. HUTCHINSON, M.R.C.S., Surgeon to the London, Ophthalmic, and Skin Diseases Hospitals, (4991); has had nothing to do personally with vaccination, not having vaccinated since he was an apprentice, 5022—5076, thinks the importance of vaccination for preserving the health of the country is very great, 5162. It would be a neglect of duty not to vaccinate, 5180—4. The protection diminishes in a certain series of years, would revaccinate about 13 or 14. At a large station the vaccinator has a larger selection than in private practice, 5194—5201. Thinks children get through vaccination better within a month after birth, 5220. [Further evidence, p. 54]

9th May,
4991—5221.

Dr. SEATON, M.D., medical inspector Privy Council, and president of the Epidemiological Society; is the writer of the article on vaccination in Reynolds' "System of Medicine," (5612—17.) Has vaccinated tolerably largely, but his chief special experience is knowing the way the large vaccinators throughout England do their work (5450). Quotes Report of Epidemiological Society in 1853, that smallpox unmodified by vaccination is fatal to about one in four or five of attacks, and that vaccination is a perfectly safe and efficient prophylactic founded upon the general immunity of the vaccinated under exposure, to dispute which, according to Dr. Alison, is as unreasonable as to oppose any proposition in Euclid, 5343—4. It has recently been found among nearly half a million children, that about one in eight was vaccinated up to Mr. Marson's standard, one in three well protected, and one in four badly protected, *i. e.*, their marks were imperfect, or they had but a single good one. The present regulations remedy this to the utmost possible as regards public vaccinators; Mr. Marson's standard is exacted, (5731—7.) More arm to arm vaccination has been secured by larger and fewer stations, with an average of ten vaccinifers to choose from, 5397—5411; 5709—10. Private vaccination is not nearly so good when the lymph is brought; the upper classes are not nearly as well protected against smallpox as the lower; when done from arm to arm vaccination is infinitely more successful than when the lymph is kept only a very little while. Thinks six weeks is the best age for vaccination; the nearer we get to teething the nearer the time of complications, and when at the breast infants do not rub off the vesicles,

[9th May,
5338—5400;
12th May,
5401—5792.

5424—43. Apprehends vaccination from the heifer, when it takes, quite as protective as from a child; but there is so very much failure and difficulty in getting it to take properly, therefore there would be a greater danger from smallpox by such a change of system, 5470-1-4-5. Vaccination stations are now exceedingly well worked, both as regards character of lymph and operation; the operator judges entirely from the appearance of the child, 5558—63. Occasionally new supplies of lymph have been introduced when the disease is met with in the cow, but the greater part now in use is that originally supplied by Jenner. Thinks revaccination very important at puberty; there are more sore arms and local disturbance than in primary vaccination; does not know there is any danger, but likes people to be in good health, and that it should be done leisurely and systematically, and not in times of panic. In reference to revaccination has written, "the vaccine lymph may act as an animal poison giving rise to phlegmonous erysipelas; some still rarer cases have occurred of pyæmia, terminating fatally," 5618—24. Read the works of Drs. Nittinger, Bayard, and Verdé de Lisle, several years ago, and certainly did not find anything to shake the opinion he had formed. Does not think they enjoy any reputation whatever. Is aware Dr. Nittinger speaks of vaccination as crippling and poisoning the best energies of the nation. Such works probably never came near Dr. Gull, who, no doubt, would make himself master of anything he might think required attention on all sides, but those publications are nothing more than worthless diatribes, 5647—58. Does not think anything like 97½ per cent. of the London population have been satisfactorily protected by vaccination, and the result has been seen in the smallpox hospitals. No man ranked higher than Professor Alison, who had no doubt on the subject of vaccination, and whose opinion would guide great students on physiology. Could not remember anything of Dr. Nittinger's book, not having seen it for many years; thought it great rubbish and put it aside: [having looked at the book] states there is not a single name therein mentioned who is regarded of any authority whatever, 5714—26. Does not consider a secondary vaccination a test of primary imperfect protection; has seen very fine secondary vesicles on arms perfectly protected so far as the scars went; a person thoroughly vaccinated is probably as well protected as if he had had previous smallpox. If he had his own way would undertake there should be no severely fatal smallpox epidemic, 5738—42. Does not believe that when smallpox mortality is high the general mortality falls; other diseases may be absent as a coincidence, 5771—5. There is no very large increase at present, perhaps no increase. If there were no vaccination we should not be able to say that there was not an enormous increase of mortality at this time; there would be a pestilence similar to former centuries, 5779—82. Is anxiously hoping for a reconstituted sanitary department, having all these matters under it, 5776—8. Thinks there should be

more public vaccination inspection, but we are obliged to do the best with what is given by the liberality of Parliament, 5788—92. [Further evidence, p. 25.]

II.—STATISTICS OF SMALLPOX PRIOR TO AND SINCE JENNER'S DISCOVERY.

Dr. COLLINS, [see p. 7], is of opinion that the diminished mortality from smallpox, is due to the disease being better understood; the more rational treatment adopted; the abandonment of inoculation; and the better observance of sanitary laws, 347—56. Has paid no special attention to statistics generally either at home or abroad, 474—86. [See p. 26.]

Dr. PEARCE, [see p. 8], refers to a statement of Mr. Marson that, in a series of years, out of 104 cases of a particular form of smallpox, 74 of whom were vaccinated, 44 per cent. died; also to a report of Dr. Whitmore, that of 110 attacked in Marylebone in January last, 8 per cent. only were unvaccinated, 695. Quotes Reports of Smallpox Hospital, that for the 16 years ending 1851, the proportion of vaccinated cases to total admissions was 53 per cent.; in 1851—2, 66 per cent.; 1854—6, 71 per cent.; 1859—60, 78 per cent.; 1861—6, 81 per cent.; 1868, 84 per cent. *i. e.* 16 only out of every 100 cases had not been vaccinated (1085—1105; 1156—67.) From 1836—51, 11 per cent. (including the “superadded disease cases”) of such vaccinated cases died, yet the College of Physicians lately issued a statement that the mortality in the vaccinated, or “properly vaccinated,” was less than 1 per cent., 971—94. Analyses returns containing erroneous calculations from asylums board, (1002—14; 1168—73). Also Reports of the Registrar-General, showing that when smallpox prevails, the total mortality is found to be under the average, 701—4; 905—7; 1195—8. Quotes returns from Switzerland, Wurtemberg, Sweden, France, and England, of deaths from smallpox at different ages, to prove that the liability to the disease diminishes in the unvaccinated, but is increased in the vaccinated, 706. In Bohemia the general mortality had not been diminished by the diminution of smallpox, (1109—11.) In Sweden, 1850—52, 5398 persons died of smallpox, all vaccinated, it may be presumed, vaccination having been compulsory since 1803, in “the best vaccinated country in Europe,” where however the death rate is higher than in England, 726—50; 1015. [See p. 26.]

Sir J. C. JERVOISE, Bart., [see p. 8], considers the amount of mortality among persons attacked by smallpox a very poor criterion :—that will depend much on the patients' circumstances

in life, &c.; the method of treatment also differs now from that in the last generation, 782; 802—4. [See p. 27.]

Dr. GARTH WILKINSON, [see p. 9], thinks it reasonable to suppose that statistics made up by one side would have much the same bias towards that side, as an election conducted under a government would have in favour of that government; a great deal of passion often goes into the statistics, and there is a very powerful class-interest in favour of vaccination, (1573—9); the interest of not liking to be proved utterly in the wrong; also in a pecuniary way; seeing that a good smallpox panic brings from one to two millions of money into the pockets of medical men, (1531—5). One practitioner in his neighbourhood boasts that he is now making 60 guineas a week. He has himself, within a month, declined to vaccinate 30 families, whereas he might have put 100 guineas into his pocket, 1337—41. The grant of £30,000 to Jenner gave vaccination a great status, and in proportion as it has been endowed by the State, dissent is tabooed by the powerful privileged bodies, 1367; 1557—64. The death rate has not been diminished, and that fewer persons are marked may be accounted for by improved treatment, and the smallpox being milder, 1368—73—4. All diseases are subject to ups and downs, the attack being over, the disease declines by the laws of nature, not by Acts of parliament passed as the result of panic, 1392—1400; 1570—2. [See p. 28.]

Mr. G. S. GIBBS, [see p. 9], submits a table extracted from the Registrar-General's Reports, showing that during the seven weeks ending 4th March last, of the deaths from smallpox, a very large proportion were vaccinated, and many more not specified, the two together exceeding those returned as not vaccinated, and proving that a very large proportion of vaccinated persons die of smallpox, (1897—1922). There had been 51 deaths from smallpox in 8 towns of Scotland, in 1869, where it was said that it had been stamped out by vaccination. Also produced a table constructed from statistics of the Paris Academy of Medicine, showing that the departments throughout France, during the three years, 1865—7, where vaccination was least practiced, suffered least from smallpox; and further, the mortality, in proportion, was greater where there were most vaccinated persons; these were non-epidemic years. The report which speaks of recent revaccinations on account of the epidemic, was published in 1870: quotes Dr. Seaton, who states that all the men of the British army are revaccinated, and its efficacy proved by the mortality from smallpox in the home force, being only 84 per million; he, himself, had calculated from the Registrar-General's Returns the smallpox death rate among the civil population, from five years and upwards, and handed in a table showing it to be precisely the same as in the army, 1597—1607; 1677—88; (adds a table in Appendix, showing the rate among civil male lives from 15 to 44, to be 134 per million, as compared

with Dr. Seaton's rate among picked lives in the army). In the Belfast union workhouse there had recently been smallpox, the deaths among the vaccinated cases being 1 to 9, the unvaccinated 1 to 21. In the navy, Dr. Seaton gives the smallpox mortality for the 6 years 1859—64, as 230 per million, being 3 times that of the general civil population for the same period. Points out a statement of the College of Physicians, that the smallpox mortality in unvaccinated cases amounted to 35 per cent., whereas he quotes pamphlets and figures from the last century, [Massey, Jurin, Cotesworth, Wagstaffe, Jenner, Chambers], stating the death rate as from 2 in 11, to 1 in 100; and returns from one parish, in 1755—63, give a proportion of from 6 to 8 per cent., say, making allowances, 10 to 11 per cent.; and the recent French statistics show from 10 per cent. in least vaccinated districts, to 12 per cent. in most vaccinated, (1689—95.) 156 practitioners, who made reports to the Epidemiological Society, gave 20 per cent. as the rate. Mr. Marson's statement that 35 per cent. of unprotected cases die, takes in many confluent cases, from whom no information can be obtained, and those having cowpox concurrently with smallpox, therefore they are not all unvaccinated. The total mortality in the hospital is given at 20 per cent. as against 18 per cent. in the last century. Concludes from examination of returns, that the rate of mortality from a second attack of smallpox is 10 or 11 per cent.; [Haeser, Stern, Seaton, Bousquet] and amongst those having smallpox and cowpox, at the same time, 15 per cent. [Ballard]; such being to many conclusive evidence that vaccination cannot mitigate smallpox, because if, when there present, it does not do so, still less can it when in any degree eliminated from the system, (1708—14.) In the last century inoculation was said to have destroyed millions of lives, [Moore], at all events there was a very large smallpox mortality, [Lettsom, Blane, Farr, Jenner], wherever the practice prevailed, especially in Sweden, where it was made compulsory, (1754.) When this practice ceased, the consequent mortality concurrently ceased; a result over which vaccination had no influence, (1832—53.) No such contrast was found in Spain, where inoculation had not been practiced, though vaccination was eagerly introduced. Submits tables extracted from Registrar-General's Returns, showing an increase of mortality, especially among infants, since vaccination has been compulsory, and in spite of 8 millions expended on sanitary works, exclusive of the metropolis, (1854—95), from which he estimates the loss of infant life in England and Wales from vaccination, to be 28,500 per annum, or an aggregate in the 15 years of 426,500 infants sacrificed to cowpox poisoning, 1597—43; 1662—76; 1923—32.) If other causes of infant mortality were pointed out in 1846, those should since have diminished, and therefore there ought *pro tanto*, to have been an improvement, 1696—8; 1715—17; 1728—38; 1797—1831. [See p. 58.]

The Rev. HUME ROTHERY [see p. 11] considers that no body of men are proper judges in their own cause. It is the duty of the public to judge of the results of medical treatment. It is not to be supposed that medical men will criminate themselves, or their brother practitioners, 2507; 2776—86. No statistics can prove that the vaccinated, who have not caught smallpox, would have had it if they had remained unvaccinated; but when we find that not quite two-thirds of the people are vaccinated, yet those two-thirds furnish four-fifths of the smallpox cases, it proves, as far as figures can, that the vaccinated are twice as liable to smallpox as the unvaccinated. True statistics will never be found to oppose true principle, 2610—14; 2745—51. [See p. 29].

Mr. R. B. GIBBS [see p. 11] has always regarded vaccination as a question of public health, and protested against its being considered in relation to smallpox alone. The decline of smallpox since vaccination proves nothing. Reports of statistics on the subject abroad are very various, 2873—87. [See p. 29].

Mr. SIMON [see p. 12] states that the smallpox mortality in the present epidemic had reached nearly 230 a week, but Dr. Ballot, public vaccinator of Rotterdam, writes to Dr. Seaton that, in Holland the rate had been far higher, equal to a rate of 3000 or 4000 on the population of London, 2951; 3256—66; 3432—7; 3539—40. Denies the accuracy of Dr. Pearce's assertion that the death rate is low when smallpox is present, and high when it is absent: according to tables by Dr. Greenhow and Dr. Farr, in the middle of the last century, when smallpox largely prevailed, the general death rate was double what it is at present; and Dr. Guy shows that the smallpox mortality, from 1840 to 1854, was less than a tenth of what it had been (1728—71), *i. e.*, while the smallpox death rate had then diminished one-tenth, the general death rate had fallen one-half. We do not know whether the present epidemic has affected the general mortality. Believes the expectation of life has increased. The tables cited end in 1854, when Mr. Gibbs' tables begin. Suggests certain tables to be prepared by the Registrar-General from 1838 to 1869. From statistics in his office believes there is no connection between increase or decrease of smallpox and other diseases (3398), the results are entirely negative; the continual movement of population influences these matters. Finds the general mortality of London, except smallpox, 24 per 1000 during 1850—54; 25, 1833—49; and 23½, 1855—69. The smallpox mortality in the corresponding periods having been .300, .581, and .263 respectively. The proportion of infants under one year to population also varies; having been 297 per 10,000 in 1861 (the birth rate 34 per 1000), and 275 in 1851, the birth rate being 32 per 1000. There is no law of compensation, implying that diminution of smallpox is attended by increase of other diseases. Such influences as commercial

depression, would have a greater effect. Lung diseases are increased or diminished with the prevalence or depression of particular industries, which develop them, therefore comparisons not including such considerations are undeserving of confidence. Believes respiratory diseases have diminished rather than increased, 2971—3008; 3151—3. Believes infantine mortality has diminished in London as well as that of adults, but the Registrar-General can give reliable statistics, 3528—32. In his report of 1857 had stated, according to estimates, the accuracy of which he cannot vouch, but is satisfied with, the average annual mortality from smallpox was 3000 during the thirty years prior to vaccination when inoculation prevailed. Will put it at 2500; but during three years, 1838—40 (private vaccination) the deaths were 770 a year, during nine years, from 1841 to 1853, omitting four for which no statistics exist (optional statutory vaccination), 304 a year; and during fifteen years from 1854—68 (compulsory vaccination), 184 a year. Cannot furnish any figures since compulsion has been more stringent, 3341—6. During the period 1629—35, the smallpox death rate has been computed by Dr. Farr as 1890 per million; 1660—79, 4170; 1728—57, 4260; and later 5020 per million. During the twenty years, 1660—79, when smallpox reached 4170, the general death rate is estimated at 80,000 per million, *i.e.*, smallpox contributed a twentieth of a total three times as high as the present death rate. Destructive smallpox epidemics then occurred which have ceased where vaccination is general. In Ireland, during 1830—40, the annual smallpox deaths were 5800 (pop. 8 millions, 41); 1840—50, 3827 (pop. 6½ millions, 51); 1850—60, 1272 (pop. 5,800,000—61). In 1863 vaccination was made compulsory. In 1864 there were 854 deaths; 1865, 347; 1866, 187; 1867, 20; 1868, 19; 1869, 20 deaths; there is a certain portion of accident in these low numbers. In 1841 Ireland was very ill vaccinated, 3009—29. In opposition to Mr. Gibbs' army tables, finds, during 1859—68, the smallpox death rate, among civil males from 15 to 45, was 138 per million; whereas among the soldiers, 1859—69, it was 59, thinks the comparison would be more favourable if the town death rate only were taken for the civil calculation, as it ought to be. In the navy (home force), 1859—68, the rate had been 130 per million, 3042—3. There has been no material change in the treatment of smallpox within a century, though there had been a great reform in Sydenham's time; if more ventilation and ablution be called a change, there has been; but the stifling treatment has been given up probably more than a century, which would make a difference in the mortality, 3281—6. Taking an historical view, an attack of two-thirds of unprotected population by smallpox would not be unexampled; and a mortality of one-fourth those attacked, 3359—65. [See p. 29].

Dr. BAKEWELL, [see p. 13] suggests that the census returns

should state the numbers vaccinated and unvaccinated, that we may have a basis on which to calculate the relation between vaccination and other diseases, 3577. The general mortality is not at all diminished by the absence of smallpox. In Trinidad, where there is neither smallpox, scarlet-fever, whooping cough, nor measles, the mortality among young children is double that of London, 3783. [See p. 50].

SIR D. CORRIGAN, [see p. 13] does not doubt the operation of the Irish Poor Law Commissioners in their Report of 1869, that the smallpox mortality prior to 1863, had been 1000 annually; in 1864, it was 854; 1865, 347; 1866, 187; 1867, 20; 1868, 19; first quarter of 1869, 3; and second quarter, none; which represents the effect of the Compulsory Act in Ireland; but thinks the improved general health of the people should also be considered, 4008—13. [See p. 31.]

MR. MARSON, [see p. 13], does not think the smallpox mortality rate has increased; for 16 years preceding 1852, it was 20 per cent. in his hospital, but from 1852—68, it was 13 per cent. of cases. Believes the general mortality is also less than formerly, that many who would have died in infancy prior to vaccination, now die of old age, 4638—43; 4708—9; [his statistics referring chiefly to comparison of vaccinated and unvaccinated come under the next heading, IMMUNITY, &c. [See p. 31.]

DR. WOOD, [see p. 15] states that up to 1860 the smallpox mortality in Scotland was greater than anywhere else in the kingdom; greater in Dundee than London; fluctuating in frequency and fatality, just as it did before the discovery of vaccination; in 1856 it ravaged Dundee (deaths, 229); in 1857, Glasgow. In several towns having an aggregate population of 854,000, the smallpox deaths in 1856 were 645—2.8 per cent. of the total mortality, or double the average in London, 1850—60; double also the average England and Wales, 1853—9; out of the 229 deaths in Dundee, 95 were in January (1856). An epidemic occurred about every 3 or 6 years. Returns are made for 8 towns only, in which the smallpox mortality was $4\frac{1}{2}$ per cent. of the total in 1859, there has been no epidemic since July, 1863, when the Compulsory Vaccination Act passed, 4356—66. In 1861, in certain places, the parochial vaccinations had been $3\frac{1}{2}$ per cent. of births, in 1862, $5\frac{1}{2}$ per cent., exclusive of private vaccination, 4371. The smallpox mortality, 1855—70 has been, 1309; 1306; 845; 332; 682; 1495; 766; 426; 1646, [1863]; 1741; 383; 200; 100; 15; 100; 150. Has not the number of cases. There are very few unvaccinated persons now in Scotland. The Sixth Scotch Registration Report on Vaccination shows that from 1864—9, 96 per cent. of children who survived their birth had been vaccinated, a few being insusceptible, and $2\frac{1}{2}$ per cent. lost sight of from migration:

about 8 per cent. died prior to the vaccination period; 4389—4400; 4449—50. There has been no epidemic for 8 years since 1863, which is an unprecedented time; is aware that in Sweden 94 smallpox deaths having occurred in 6 years, from whence it was concluded vaccination had extinguished the disease, yet three years later 5398 died of it, 4478—82; [see p. 52].

Dr. GULL, [see p. 16], does not consider the present smallpox mortality large; is astonished at the smallness of the epidemic, which is nevertheless a very remarkable one. The only way of judging of the severity of an epidemic is from the mortality, and so far the fact of a large mortality may be attributed either to the comparative valuelessness of vaccination, or to the severity of the epidemic, 4802—6. Has no knowledge of the statistics in London at present; but the historical epidemics were certainly more severe, 4810—17. Doubts whether the smallpox mortality before vaccination was not more than one in seven. In the hospitals now it is 44 per cent. of the non-vaccinated, 5635—6. [See p. 34.]

Dr. SEATON, [see p. 17] contrasts the mortality during 7 months in the present epidemic to 29th April, assuming five cases to one death in the unvaccinated (which would give 11,000 cases and 2200 deaths) and 20 to 1 vaccinated (or 36,000 cases and 1800 deaths) together 47,000 cases only, notwithstanding there are 20,000 children below the vaccination age, and $2\frac{1}{2}$ per cent. of the rest of the population unvaccinated, 80,000 more, together 100,000, affording a pabulum for smallpox among a population of $3\frac{1}{4}$ millions, *i. e.* 7000 a year, or 2100, per million; compared with that from 1746—55, when it averaged upwards of 3000 per million annually, (2000 annually in London, 5765—70); and half a century earlier, before the inoculation period, when it was 3139 per million, 5344—5; 5591—9 5711. In 1850-1-2 a return for 13 years gave an average of 913 smallpox deaths per annum in London, and in 8 years 7500 annually in England and Wales; 11 per cent. being under 4 months, 25 per cent. under one year, 75 to 80 per cent. under 5 years; and they found it was common to leave vaccination till children were a year old, or 2, 3, or 4; or till an epidemic of smallpox came, and then it was done in a panic, 5350. From 1841 to 1853 the average annual smallpox death rate was 304 per million, and from 1854-68 it fell to 184 per million, as the result of increased vaccination under the Act of 1853, [see p. 65], and the mortality under 5 was now only 55 per cent. During an epidemic at Greenock two or three years ago, it was only 36 per cent. under 5, and in Glasgow now it is 28 per cent.; so there was an immense increase in the vaccination at an early age, and an immense decrease in smallpox mortality, chiefly among young children,

5353. In Sheffield, 1857-8, they had nearly 500 smallpox deaths in a population of 128,000. In 1863-4, another epidemic, with 500 deaths; and in 1868-9, another fierce epidemic, with 400 deaths or more, 5375. [See p. 35.]

III. IMMUNITY OF THE VACCINATED AS COMPARED WITH THE UNVACCINATED.

Dr. COLLINS, [see p. 7], had watched cases of smallpox among vaccinated and unvaccinated, with more than ordinary care, having found clandestine inoculation, with varioloid matter practiced among both. When strong, such inoculated children, though unvaccinated, passed through smallpox with little disturbance, whilst others, debilitated by vaccination, had confluent smallpox in its most hideous form, 140—3. Had attended six children in smallpox during the present epidemic, who had not been vaccinated, all of whom were able to run about the whole time, and recovered without a mark; whereas their mother, who had been vaccinated and revaccinated, caught the disease in a confluent form, and her life was despaired of. These six children took the smallpox when visiting where another child died of the disease after vaccination. Two young men also, in the house, who had been vaccinated, suffered severe attacks, and three vaccinated sons of a neighbour, who took one of the children to nurse, were also attacked, 156—62. Marks of vaccination frequently cannot be detected: had that morning been unable to discover any trace on the arms of two ladies, who said they had been twice vaccinated; this is so in the case of about one-third of all who had been vaccinated, in his experience. In case of death such would be returned as unvaccinated, which accounts for many reports of greater mortality among the unvaccinated than the vaccinated, 163—5; 257; 277—81; 357—62; 375—88; 419—26; 519—23; 549—55. Believes the smallpox hospital nurses had had smallpox before they were appointed; but professional nurses are often so constituted as to be proof against any disease, 166—7; 328—40; 346—7; 556—7; 590—604; 629—49. [See p. 36.]

Dr. PEARCE, [see p. 8], having yesterday visited the Smallpox Hospital, was surprised to find a nurse scarified by smallpox, and nearly all the patients vaccinated, some twice over. A nurse at Stockwell, already pitted with smallpox, had been re-vaccinated by Dr. McCann, and was then in bed with confluent smallpox, (1149); quotes report of French Academy of

Medicine, relating to an outbreak of smallpox in a regiment of which 437 had recently been re-vaccinated, whilst another regiment in the same quarters, in which no revaccinations had taken place, entirely escaped, 694-5; 1061-71. Quotes returns from Switzerland, Wurtemberg, Sweden, France, and England of deaths from smallpox, at different ages, proving that the liability to smallpox in adult life, diminishes in the unvaccinated, but increased in the vaccinated, 1072-83. Many persons are insusceptible; mentions a family of seven unvaccinated, one about 5 had smallpox severely, two elder ones moderately, the other four escaped altogether. In 1853-4, had treated 89 cases in Northampton, two of these died, one vaccinated; the other a child of 3, sleeping over a store of fish, venison, and refuse, in July, became typhoid, unvaccinated. Dr. Corner reported to the Mile-End guardians 4 cases in one house, two vaccinated died, two unvaccinated recovered. The *Lancet* reporting Dr. Corner's statement omitted the fact that the two who died had been vaccinated, 706. Mentions case of a patient in Highgate Hospital, who has now smallpox a second time, having been vaccinated 4 times with 8 cicatrices, 4 on each arm, 899. Mr. Marson's theory, that the security is in proportion to the number of marks is worthless; it is one of the shifts to prop up a delusion; but one good mark is better than six bad ones, 977. The vaccination wearing out theory is a new invention, but 4 times more vaccinated than unvaccinated catch smallpox, that is the test, 1084; 1112-22. We cannot account for different susceptibilities of children; few vaccinated patients can be said to be in a healthy condition, whilst those who have recovered from smallpox are seldom ill afterwards; has looked in vain to find a case of phthisis in a person who has had smallpox, unless there be an hereditary taint: when properly treated, mortality from smallpox like scarlatina, and measles, ought not to exceed 2 per cent., 1174-92; 1272. Would not expect soldiers occupying good barracks, and well fed, to suffer largely though in an infected locality, but smallpox had broken out among the vaccinated soldiers at Sheffield when there was no smallpox in the town; similar outbreaks sometimes take place among vaccinated sailors. Revaccination is a serious matter, during periods of danger, as in the Paris regiment case. Believes that a steady deterioration in the stamina of the human family is going on, (evidenced by common loss of teeth, &c.), owing to vaccination, 1240-63. In the vaccinated, the front teeth especially go in early life, as appears by his own observation, confirmed by several dentists, 1280-3. [See p. 37.]

Sir J. C. JERVOISE, Bart., [see p. 8], testifies to the escape twice of a pauper from Aylesbury union, whilst under treatment for smallpox, going through several populous villages and calling at people's houses, without communicating the disease or doing any harm, beyond alarming the inhabitants. Had put a question publicly in the House of Commons on this case, which Mr.

Hardy had answered privately, 775—9. Refers to a recent outbreak of smallpox among soldiers at Woolwich, alleged to arise from "imperfect" vaccination. Also an outbreak causing some deaths among the Scots' Fusileer Guards at Windsor, who had been revaccinated, 786—99. There is not a ship or naval station where they have not had smallpox after vaccination and revaccination, referring to extracts as to the health of the navy at all stations, 806—7. [See p. 37.]

Dr. GARTH WILKINSON, [see p. 9], thinks the wretched, filthy, and vicious suffer more from smallpox than the unvaccinated, 1337—43; also the over stimulated; too good living is not good living; there may be increased intensity in the present epidemic, consistent with the general decline of smallpox; many of the better-off classes, as "ostlers and barmen," are saturated with intemperance, 1536—40; there is no analogy between prophylaxis and treatment, 1448—62. Could not go round to the 150 vaccinated cases reported dead in the last two weeks, and point out distinctly that they were vaccinated cases, 1487. Quotes Dr. Siljeström, a man of great scientific eminence, and a legislator in Sweden, who writes "I have always felt that if vaccination does not stand against smallpox it is nil; if it does so stand, millions to one but what it imparts other and more powerful disorders into the system," 1509. [See p. 37.]

Mr. EMERY, [see p. 10], a member of the Marylebone vestry, finds that their medical officer states that out of 110 cases since January last, 92 per cent. have been vaccinated, [See p. 43].

Mr. COVINGTON, [see p. 10], mentions a case of revaccination, at 24, of a militia recruit, 8 days after he had a fine arm, and on the 11th fell ill of smallpox, 2282—92; also two children having had cowpox and smallpox concurrently, 2138—41. According to Dr. Barr the only smallpox in Northampton this year to 11 March, 1871, was a vaccinated case; 1474 non-compliants with the Vaccination Act having been reported to the guardians to 10th December last, 2142—52. A neighbour had two daughters, one vaccinated fell ill with smallpox, the other slept with her sister, and nursed her, escaping the disease, though unvaccinated, 2228. [See p. 44].

Mr. BAKER [see p. 10] knows many instances of the failure of vaccination to protect from smallpox. Two of the sufferers had been vaccinated by Jenner himself; another was re-vaccinated at 25, and had smallpox about 30, her life being despaired of. She just escaped, thanks to vaccination, as she was told, 2325—9. Points out—with reference to Dr. Collins' statement—that the marks of vaccination often cannot be detected, and that such would be returned as unvaccinated; that medical men might get into trouble in case insurance offices

declined to pay policies on the strength of such unfounded certificates, 2377. [See p. 38].

The Rev. HUME ROTHERY [see p. 11] mentions a family of children who were attacked by smallpox, all having been vaccinated but one, and that one had the disease more slightly than any of the rest. Thinks that constitutions strong enough to throw off vaccine poison easily, may also be better able to throw off smallpox poison, than those unvaccinated who may be under the debilitating influence of filth, poverty, intemperance, &c., 2529—34; 2705—6. [See p. 38.]

Mr. R. B. GIBBS [see p. 11] states that Mr. Shafto, who is much marked with smallpox, had been vaccinated by Jenner, as was Lord Ebury, who also had smallpox in 1811, 2827. [See p. 43].

Mr. SIMON [see p. 12] states that in the Smallpox Hospital, according to Mr. Marson, the mortality among unvaccinated patients is $35\frac{1}{2}$ per cent.; among the vaccinated, proved by reference to the scars on the arm (3175) altogether 7 per cent., and those done in the best manner a fraction of 1 per cent. When well vaccinated no difficulty in detecting the scars, but marks of imperfect quality may be overlooked; generally the marks continue through life, 2936—50. If worn out, or indiscernable in confluent cases, these statistics would be disturbed, 3227—30. In Holland children are vaccinated very late, and thus it is an epidemic of smallpox has the power of attaining enormous dimensions. Does not know the ages at which the great mortality occurs, nor the proportion of vaccinated and unvaccinated in Holland, 3256—66; 3432—7; 3539—40. In India, where 98 per cent. of the natives above ten have smallpox naturally or by inoculation, Dr. Harvey reports a death rate in Agra (unprotected by vaccination) of 128 per 10,000 (1868—9); in Delhi (less unprotected), 104; in Bhurtpoor (partially protected) 65; there had no doubt been some vaccination there; and in British European army (protected) 3.59 per 10,000 [or 359 per million]. Attributes the enormous difference entirely to want of vaccination, 2935—70. There has been a great improvement in vaccination of late years, which has made the danger of smallpox far less to the children of the present day, 3003—4. One of his staff had inquired as to the Stockwell nurse mentioned by Dr. Pearce, and found that she had not been re-vaccinated as stated; she was vaccinated in infancy, had smallpox four years ago, and was again attacked (the report does not say whether it was a bad case) 21st February last, 3031—40. Of 610 persons on board the "Octavia" (1865—6) 589 were reported vaccinated, and 21 unvaccinated; among the 589 there were 152 cases of smallpox, five of which were confluent, and no deaths; among the 21 all were attacked, 18 confluent, and six died; does not know the navy regulations as to revaccination, but for the army vaccination is uniform on enlist-

ment, 3042—44. Believes that vaccination is required of all men entering the navy. The authority for stating 21 of the "Octavia's" crew were unvaccinated would be the medical officer of the ship no doubt; thinks it not probable that the marks could have been overlooked in those cases. It is quite possible Mr. Gilbey, the lieutenant, who died, might have been unvaccinated; has no reason to doubt the officer of the ship satisfied himself. In the Appendix to his Report of 1857, quoting the naval authorities, it is stated, "We have no means of ascertaining the relative proportions of men bearing marks of vaccination and of previous smallpox in this force, but as it is a standing order that all men and boys entering the service who have not satisfactory marks of either, shall be immediately vaccinated, we may look upon them as a completely protected class;" it appears therefore that, in 1866, 21 persons on board the Octavia had not followed the regulation, but has reason to believe the unvaccinated had joined abroad, not being English subjects, 3268—80. During a smallpox epidemic at Cardiff, 1857, the officer of health found that of 711 children in four streets, 33 having had smallpox previously, were not attacked; of 608 vaccinated, 18 caught the disease; and 70 not protected, all caught it; but the mortality is not given. From Dr. Seaton and Buchanan's inquiries, believes that $95\frac{2}{3}$ per cent. of London school children were protected, (more or less, 5795—6,) and only $4\frac{1}{3}$ unprotected, and supposing that to represent the general state of the population, whilst 20 per cent. in the Smallpox Hospital bear no marks of protection, this 20 per cent. would be supplied out of that $4\frac{1}{3}$ per cent.; and the case for vaccination is much stronger than even those figures represent. The marks of vaccination among recruits for the army, representing the state of protection among the street-arab class, and as $2\frac{3}{4}$ per cent. only of those were found unprotected, 1866—8, it shows that $2\frac{3}{4}$ per cent. of the population yields 20 per cent. of the patients in the Smallpox Hospital. $2\frac{1}{2}$ per cent. of the London population under 50 may be said to be unvaccinated; but this would give 80,000 persons among which the present epidemic cannot be said to be extraordinary, considering atmospheric influences beyond human control, (3140—5; 3347—8.) (Few residents in London would reach thirty unvaccinated without having smallpox, 3192—9; 3411—25.) If a person be vaccinated within two and a half days of exposure to smallpox contagion it will be neutralised: if within twenty-four hours after that, the smallpox will be modified only; if later there will be no difference, though the cowpox appear concurrently (3522.) If done in time vaccination affords complete immediate protection—a proportion reacquire susceptibility at puberty, at which time revaccination seems to be an absolute protection, after which the danger is almost imperceptible. It must be an absurd error if it be stated that revaccination is required in Prussia at two years old, perhaps a "0" has been accidentally omitted, 3044—68; 3396—7. The story that 75

per cent. of the casual paupers in Marylebone are unvaccinated is a myth, 3108—11. Though 97½ per cent. of the London population are more or less protected, it is now the most serious epidemic since registration commenced, there may have been epidemics in the first 37 years of this century more fatal than the present. Mr. Gibbs' French statistics should be read in the inverse direction, *i. e.*, when smallpox was epidemic people ran to be vaccinated and revaccinated just as the London vaccination stations have been recently mobbed, 3273—6. Does not know whether smallpox has been a constant quantity in France—if there were no increase there would be no motive for running to be vaccinated, 3404—10. Those who know anything of vaccination in Paris will not have been astonished at a tremendous smallpox epidemic having raged there—3383. Is not aware of any change in medical opinion from the present epidemic; has no statistical results. Natural smallpox is a greater protection against another attack than vaccination, 3517—22. The nature of a smallpox attack does not depend on the severity of the disease in the person from whom the contagion is received, there is nothing beyond the atmospheric epidemic influence, and the exposure to contagion 3533—8. [See p. 38.]

SIR D. CORRIGAN [see p. 13] states that in 1862 before the Compulsory Vaccination Act there was a severe smallpox epidemic in Ireland, but since that none worth talking about. Does not personally know that smallpox has recently broken out in Belfast and other places. Thinks the freedom from smallpox in Ireland is owing to vaccination being carried out well, and the people are favourably disposed to it—3999—4003. Thinks the opinion that smallpox has been imported into Belfast from England entitled to the greatest confidence. There was formerly a minor smallpox epidemic every three years and a major every seven years, but there has been none since 1864, up to which time cases in hospitals were of such ordinary occurrence as not to excite surprise, 4014—16. [See p. 39.]

MR. MARSON [see p. 13] has found in the 16 years, 1852—67 the death rate among smallpox patients well vaccinated less than 1 per cent. (*viz.* 8600 per million); among such patients as have only one indifferent cicatrix the rate of mortality has been 21·43 per cent. (*i. e.*, 214,300 per million) those with two or three cicatrices having intermediate protection. During the 16 years, 1836—51, 3094 vaccinated patients had been treated in the Smallpox Hospital, and in the 16 years, 1852—67 there were 10,671 such cases, out of a total of 13,670 (the new, having three times the accommodation of the old hospital, 4647) of which the mortality among the 2920 unvaccinated, was 35 per cent.; among 30 cases having a second attack of natural smallpox 20 per cent. died; of 29 having smallpox after inoculation and smallpox in early life, about 18 per cent.

died; of 20 having smallpox after vaccination and smallpox 10 per cent. died; and of 10,398 having smallpox after vaccination simply, 105 of which suffered from other disease concurrently, the death-rate was a little above or under 7 per cent., according as such superadded disease cases are included or deducted; finally of 263 stated to have been vaccinated, but showing no mark, $39\frac{1}{2}$ per cent. died. Then, comparing both number and quality of the cicatrices—with one good mark, the mortality was 2.75, indifferent, 21.43, average having one mark, 13.81; two good, 1.38, bad, 12.18, average, 7.71; three good, 1.01, bad, 4.77, average, 3.03; 4 good, deducting 10 having superadded disease from the 11 deaths, 0.07, —indifferent, deducting 17 from 37, 1.69, average registering other disease cases, 0.86; did not take particulars of those having more than four marks. Taking the numbers of marks collectively, of 4595 well-marked, the mortality was 1.26, of 5698 indifferently marked 11 per cent. Persons do not generally have smallpox for from 18 to 25 years after vaccination. During the 16 years 1836—51 out of 3095 vaccinated cases there were 7 under 5 years, of whom 2 died; 56 between 5 and 10, 7 died; 866 between 15 and 20, and 49 died; 1058 between 20 and 25, 93 died; 526—25—30, 55 died; 210, 30—35; 102, 35—40; 61, 40—50; 2, 50—60. Knew one old woman who had been constantly among smallpox, attending her children and grandchildren with impunity, never having been vaccinated or inoculated, until at 83 she caught smallpox and died, (4301—2.) Has not completed table of ages for the second 16 years, but thinks they continue much the same from 18 to 25, being the age when the largest number of vaccinated cases comes in. In 1865 there were 12 cases of smallpox after revaccination, of whom 2 died, also a case vaccinated by Jenner with three indifferent cicatrices. In 1867 there were 11 such cases, all of whom recovered. About 2 per cent. of all cases vaccinated, or unvaccinated, die of superadded disease; excludes these both from cases and deaths in calculating the death rate. Supposes vaccination must have had a controlling effect on the number of smallpox cases, because so many people are vaccinated. For the period given, 80 per cent. of the cases in the hospital were vaccinated, but that does not show how many are protected through the country: *e. g.*, in the five years preceding 1833, the average number vaccinated at the London vaccine establishments was 20,422 yearly, whereas the number treated in hospital of such persons, averaged only 9 a year, or 1 to 2108 vaccinated, and the deaths 1 to 36,305 vaccinated; [*i. e.*, supposing all so vaccinated to have lived, and all of such attacked by smallpox to have been sent to this hospital.] There is no more power of controlling the fatality of smallpox now than formerly, (4628—35; 4682—6.) If not well done, many vaccinated have the disease as badly as the unvaccinated. It is much better done now than formerly. Thinks in 20 years' time or so it will be seen that the

protection is much greater. When cowpox and smallpox are running together the influence of vaccination depends on the time being not less than 48 hours after the attack; has a case now, vaccinated just too late, and it does not influence the smallpox a bit, (4687—8.) Revaccination may be protective 4 days after the attack. Has had perhaps from 15 to 20 cases which he had vaccinated in the smallpox hospital during 35 years, none fatal, but one severe; no such case during the present epidemic. Knows his own work, 4103—62. Cannot tell how many of the population take smallpox after vaccination; from 1835—45, of the admissions into the Smallpox Hospital, 44 per cent. were after vaccination; from 1845—55, they were 64 per cent.; 1855—65, 78 per cent.; 1863, 83; and 1864, 84 per cent. Has no means of knowing whether smallpox is more or less prevalent since vaccination than before, but has shown that it is less fatal in the vaccinated than the unvaccinated, 4190—6. The malignant form of smallpox has been more than usually prevalent during the last 6 months. Smallpox is generally more contagious, virulent, and fatal at the beginning than at the end of an epidemic, 4199—4201. Of 20 unvaccinated people exposed to smallpox 10 only may take it, fortunately leaving 10 to take care of the sick, 4 or 5 of which may take it 2 or 3 years after, and so on till the whole had been worked up, (4301—2.) No doubt vaccination makes a difference in the existence of smallpox. Never had a nurse attacked at the hospital. They are revaccinated when they come, unless they have previously had smallpox. At present many are engaged who have been patients before. Vaccination has not yet been well enough performed to cause any sensible diminution of smallpox. Smallpox is a much greater protection than vaccination against smallpox. In the table the deaths in cases of smallpox after smallpox were less than 1 per cent., whereas in smallpox after vaccination they were 53 per cent., 4205—26. Should not think that smallpox had increased during the last 16 years. Supposes it has increased in the vaccinated because the proportion vaccinated is greater; as time goes on there are a greater number of vaccinated to be attacked. Epidemics have been more frequent of late years. Numbers are still unvaccinated. Vaccination gives great protection if well done. If none had been vaccinated, vast numbers would die of smallpox, and if congregated as now, the mortality would probably be three, four, or five times greater, 4286—4300. The severity of attack depends much on the susceptibility of the patient; cannot tell why one has it severely and another mildly even in the unvaccinated; the danger depends on the amount of eruption, the unvaccinated having confluent smallpox die at the rate of 50 per cent.; but if it be semi-confluent only 8 per cent.; and of distinct smallpox 4 per cent.; and even those 4 per cent. die of convulsions or some other disease of childhood, the greater or less danger may therefore be entirely independent of vaccination, even in the vaccinated. In certain un

modified cases, where the mortality was light, he had assumed, though there was no cicatrix to show, they were protected to some extent, or they would have died in the same proportion as the unvaccinated. In confluent cases the marks cannot be found, and the persons' own account is taken, 4315—24. Of 104 cases of corymbose smallpox (the most severe form, save one, and very rarely seen) admitted in 30 years, 29 were unvaccinated, and 74 vaccinated; of the 29, 13 died, or 44 per cent.; of the 74, 32 died, two having had superadded disease, which, if deducted, would leave 41 per cent. Why this mortality among the vaccinated, will for ever remain inexplicable. There is yet much to learn in reference both to vaccination and smallpox, 4624—7; 4717—24. [See p. 39.]

Dr. WOOD [see p. 15], considers vaccination gives only the same protection that a previous attack of smallpox would give: the worst case he ever attended had been vaccinated; was deeply pitted with subsequent smallpox, and died of a second attack in its most virulent form; but the epidemics under inoculation were constant, whilst they occur once in 3 or 5 years only, under vaccination; and the disease is usually reduced in violence and results in every way, which he attributes entirely to vaccination, 4459—65; large numbers of adults remain unvaccinated in Scotland; should be much surprised if during another epidemic, any great mortality of children under 10 occurred; can conceive no other reason than increase of vaccination since 1863, for having had no epidemic, never having been so long free before, 4471—6; were a state of things to occur in Scotland similar to Sweden, [see statistics, p. 25,] he would be obliged to admit that the Vaccination Act had not banished smallpox so much as believed, 4482. Is aware of recent increased epidemics in London, and doubts the assertion that 97½ per cent of the population are vaccinated, it is very difficult to reconcile such a statement with the facts; believes with Dr. Heim, the character of the cicatrix cannot be relied on, and that revaccination (on the 4th day, Bryce's test,) is the only test of proper vaccination, 4488—90. [See p. 39.]

Sir WILLIAM JENNER [see p. 15], has not gone into the effect of the State encouragement of vaccination, 4528; judges from the mortality of the unvaccinated and the vaccinated, which seems so very remarkable; was not aware that hospital statistics had ceased to be published, 4550—4; without being able to rebut opposing statements in the least, thinks the neglect of vaccination an absolute crime, 4565. [See p. 52.]

Dr. GULL [see p. 16], considers that a large proportion of the population are vaccinated, but that it has been very carelessly done, which has long been a sort of opprobrium to England, that we were the worst vaccinators; *e.g.* in Germany and Denmark it is very much better done. Formerly a virulent

smallpox epidemic has caused an enormous increase in the general mortality ; infers therefore, that had there been no vaccination, the present outbreak would have been a perfect pestilence ; to neglect vaccination in our crowded towns, would be much the same as pushing a firebrand into an arsenal of gunpowder. The disfigurements by smallpox are more numerous than the deaths, 4761—72 ; in the last century the smallpox epidemics were far more severe, 4778—80 ; has not drawn any comparison between the number of vaccinated in England having smallpox, and those in Germany. Sweden, Norway, and Denmark are the best vaccinated countries, 4784—8 ; was not aware that in Mr. Simon's paper of 1857, it is mentioned that vaccination in Norway is deferred until school-time begins ; could not concur in that ; should object to the delay ; has no knowledge of vaccination in Norway, except general report, 4831—5 ; 4904. Persons are more susceptible to vaccination during a smallpox epidemic, there is a variable susceptibility ; knows no greater authority than Mr. Marson, who never finds any difficulty in producing vaccine disease, 4806—9 ; has no knowledge of the epidemic in Holland, or of the Dutch law, 4864—5 ; would say of the recent cases among the vaccinated, that most likely many of them were not well done, 4882—4 ; you may rarely have smallpox after smallpox ; this epidemic is unusual only in its severity. There is greater susceptibility to smallpox in hot climates ; the natives of India are very glad to have vaccination performed. In Denmark the smallpox mortality was very high at the beginning of this century, and it was stamped out by vaccination ; after 1825, the immunity gradually subsided, and when vaccination was relaxed, believes smallpox again took off much life. To look at the vesicle at the end of the week is the best way of testing vaccination. [See p. 53.]

Dr. WEST [see p. 16], considers that in the absence of vaccination smallpox would come in as an overwhelming pestilence. Believes infant life to be more secure than in any previous period ; that vaccination accounts for the diminution of smallpox in vaccinated communities, 4984—9. [See p. 40.]

Dr. SEATON [see p. 17], states that during the present epidemic, those directly exposed to the infection, as a rule, if vaccinated have escaped, if unvaccinated, have suffered, being in other respects under similar conditions. Mr. Cross of Norwich, in 1819 had found, out of 603 persons, 215 unvaccinated, of whom 200 had smallpox ; 91 vaccinated, 2 only ; and 297 having had smallpox formerly, none. In London schools (1863,) out of 2837 without vaccination marks, 1010 had smallpox ; while out of 49,570 with marks, 88 only had smallpox ; mentions similar results at Cardiff, and Hull, 5344. In Mold, where vaccination has for 20 years been specially attended to, among a population of 16,000, having frequent smallpox importations from Liverpool, during the 14 years, 1853—67, there had been

only 4 cases in children who had not reached the period allowed for vaccination ; one fatal case born with the disease, the mother having smallpox ; and a few modified cases in persons coming in contact with imported cases. Scotland is being built up in the same way, 5345—50. In Holland vaccination is deferred till after 2 years ; three-fourths of public vaccination in Rotterdam is done between 2 and 10, hence the recent great fatality compared with our own, as by this delay there is an immense young population ready to take and extend smallpox, 5473. Does not know whether it be correct that smallpox broke out a few years since in the barracks at Sheffield, when there was none outside. Thinks Scotland and Ireland are now getting the best protected countries in Europe, having advantages over Sweden, &c., in getting it done at an earlier age. Denmark, Sweden, and Norway, are well protected ; also Prussia, but there they leave vaccination until a year old, their law that it must be done before one year old, having been in operation for years and years : the large smallpox mortality under one year had not attracted sufficient attention. If in the week ending 4th May, 58 smallpox deaths occurred in Berlin, the mortality would be as great as in London for a particular week, but cannot judge of anything with only a single week's return, which must also be taken in conjunction with the population under one year, being virtually unprotected. Cannot tell at what age they are vaccinated, but the tendency is general to leave it to the period allowed, 5600—11 ; (probably many of the deaths are French prisoners, 5784—5.) Agrees with Mr. Marson that there are no medical means of controlling smallpox and other eruptive fevers beyond putting the patients in the best hygienic condition, 5632—4. [See p. 40.]

IV. INFLUENCE OF SANITARY IMPROVEMENT IN RELATION TO SMALLPOX.

Dr. COLLINS [see p. 7], has observed that the greatest smallpox mortality occurs among the outcasts of society, physically low in the scale of existence, not having power to resist disease, and who bear no comparison with the well housed, fed, and clothed, whether vaccinated or not, 165 ; 213—18 ; smallpox is always found as an endemic in the back slums and fever dens of London, 389—93. The sanitary condition of the country is much better than formerly, whereby epidemics are kept in check. Smallpox is endemic where no proper sanitary regulations exist, 427. [See p. 40.]

Dr. PEARCE [see p. 8], points out, that as Jenner intimates, cowpox is generated in dirty byres, and horse grease in dirty stables; so smallpox prevails among the dirty, low, illfed, unwashed population, 694. Plague, jail fever, leprosy, elephantiasis, sweating sickness, the black death have passed away with advancing civilization; and has not the cowpox of Jenner? but we have plague spots still, as shown by the prevailing smallpox epidemic. Nurses in a well ventilated hospital are in far less danger than the denizens of such hotbeds of disease, 695. A better sanitary condition would reduce the whole mortality; but while the causes remain one disease prevails one year, and another the next, 911—17. To read the description of the purlieus of Westminster, where smallpox broke out, is really heartrending in this age of civilization, 1145. The treatment is now much better than formerly, and marking from smallpox is now a disgrace to the profession, 1153—5. All diseases were more malignant in the last century, prior to sanitary improvement, 1188. Agrees with Lord Palmerston, who said, "first cleanse your city and then pray to God;" he would add, *and then avoid vaccination*, 1199. [See p. 41.]

Sir J. C. JERVOISE, Bart. [see p. 8], considers that Jenner's cowpox has disappeared from the country, and simultaneously the smallpox, which he was supposed to prevent by it, all disappeared, 802. There is now very little smallpox in proportion in Belgravia, and, if caught, is much lighter there than in Clerkenwell, owing to the different circumstances in which the persons live, 888—94. [See p. 42.]

Dr. GARTH WILKINSON [see p. 9], is of opinion that it would be more true to say that the most wretched, filthy, and vicious people, living in miserable undrained cottages die of smallpox, than the unvaccinated, 1337—43. Improved treatment will account for a diminution of smallpox; relates a story of a patient carried out into the garden as being dead from smallpox, and next day was found up; fresh air had done it all, 1344. Deprecates the removal of smallpox patients, who may thus infect the neighbourhoods through which they pass, (1442—7); such removal of bad cases also increases the death rate, 1350—55. Mentions the very successful use of *hydrastis canadensis* and the *veratrum viride*; the former has great power over the specific nature of smallpox, the latter arresting the inflammatory symptoms; a teaspoonful of each fluid extract being mixed in a tumbler of water, and applied over the whole surface, kept on when bad by cloths over the face; this abolishes the inflammation in from twelve to thirty-six hours, after which the *veratrum viride* is left out, being very depressing. Where the strength permits a bath with a tablespoonful of each extract may be used; a drop of each in a tablespoonful of water to be taken internally every three or four hours, at the same time they are applied externally. Mentions a very severe confluent

case in particular (besides many others); the patient was out on the eleventh day after Doctor W. was called in, the head and face being then in a continuous pustule. A clergyman had thus successfully treated all the cases in his parish during an epidemic. Sulphite of soda is almost omnipotent in erysipelas, and might be so in smallpox locally applied in the same way, 1356—64; 1448—62. Believes that all epidemics may be stamped out by sanitary improvements, proper dwellings, &c. Country villages, from want of drainage, are often worse zymotic nests than town slums, 1375—8; 1581—8. [See p. 42.]

Mr. BAKER [see p. 10] believes cleanliness to be the great prophylactic against epidemics, smallpox included; civilization had banished many epidemic diseases and ought to have got rid of smallpox; the death rate ought to have diminished below what it now is. Dr. Southwood Smith had held the opinion that smallpox might be got rid of by sanitary improvement without vaccination, 2334—40; 2379—82. Is informed that in the various buildings of the "Metropolitan Association for Improving the Dwellings of the Industrious Classes," dropped down in the midst of the fever nests of London,—the general mortality in which averages about 10 per 1000 below that of the whole of London—among a population of about 4000 there have been but two deaths from smallpox during the present epidemic. Considers this stronger evidence of the value of the true prophylactic, cleanliness, than if there had been none, as proving that the disease can exist there without spreading. This is the course Government should pursue to save the lives of the people, 2354—62. [See p. 45].

The Rev. HUME ROTHERY [see p. 11], thinks an improved sanitary state might eventually stamp out smallpox, which must be caused by impurity, and is a safety valve for the rejection of impurities, 2542. The wonder is that any ever recovered from smallpox under the insane treatment which formerly prevailed, 2745; a cesspool radiating pestilence is not a parallel case with non-vaccination; the vaccinated not being thereby affected, 2806. [See p. 46].

Mr. SIMON [see p. 12], thinks the different mode of life between the natives of India and the European troops would make no difference as regards the attacks from smallpox, though it may possibly in the power of resistance; there is much greater likelihood the infection may spread where people are huddled together, but barring that, is not aware that sanitary influences exert much control over smallpox; has no evidence that cleanliness, as regards the person and dwellings can do so, 2961—4. There has been a great reduction of some diseases, but smallpox left to itself is the same disease as it was two or three centuries ago, 3030. If there were increased infant mortality in any place would expect to find that its sanitary

condition had deteriorated, or there had been a larger employment of the mothers away from home, certainly not from vaccination, 3102—7; 3128—9. Speaks with hesitation as to improvement in wages, cleanliness, and general condition of the people; thinks it likely to have diminished some epidemics, but not smallpox, which will be better spread by contagion in towns more thickly peopled, 2333—8; knows no habits of sanitary propriety which would exempt the unvaccinated from smallpox, 3367. Does not think sanitary improvements have nearly kept pace with the increase of population, 3527. [See p. 47].

Dr. BAKEWELL [see p. 13], considers the mortality from smallpox may be very greatly diminished by sanitary measures, independently of vaccination; attributes the excessive mortality during the present epidemic to the confinement of patients in smallpox hospitals, which necessarily occasions a great increase of mortality. Want of drainage, cleanliness, &c., all increase mortality from smallpox as other diseases. It is the universal rule, 3585—6; 3730. Would isolate patients in huts, or bell tents, 3757—63; 3801—3. Considers bad air, diet, dirt, &c., also one of the main causes of leprosy, which is now almost extinct in England, 3804—9. [See p. 50.]

Sir D. CORRIGAN [see p. 13], believes that smallpox contagion (like others) may be so intensified by a number of cases within a limited area, as to risk the immunity of those who would otherwise be safe. [See p. 50].

Mr. MARSON [see p. 13], states that the mortality in the present smallpox hospital has been 2 per cent. less than in the old one at Battle Bridge, which was in a bad locality, and very injudiciously arranged internally, 4147. No doubt the sanitary condition of any place would affect the prevalence and virulence of smallpox, which spreads more in damp weather, and in winter, when the houses of the poor are kept shut up; supposes, the air being favourable to the spread of smallpox, causes it to become epidemic, 4197—4204. Smallpox patients should be isolated at once, being more infectious at its early, than its later stages. It is next to scarlet fever in point of its contagiousness, 4212—17. Every hospital is more or less bad, though the higher mortality may occur in them because the worst cases only are often sent there, 4636—7. Believes smallpox is always received by breathing infected air, not by touch, 4672. Fears it would not be possible to purify the blood so as to avoid susceptibility to smallpox in any other way than vaccination, 4673—80. The mortality of Liverpool is always greater than that of any other town, 4707. [See p. 51.]

Dr. WOOD [see p. 15] knows that scarlatina has been more

than usually prevalent in Scotland of late years; has not had his attention directed to the statement that since 1863 the total mortality has increased, 4491—2. [See p. 52.]

Dr. WEST [see p. 16], does not attribute the diminution of smallpox in vaccinated communities to anything else but vaccination, 4990. [See p. 53.]

Dr. SEATON [see p. 17], says, without hesitation, that the upper classes in England are not nearly as well protected against smallpox as the lower classes; fortunately for them they are not so much exposed to smallpox infection, 5424. Thinks an undue proportion of the worst cases are sent to hospitals, in which the mortality is higher than outside; they would be better cared for than at home, and their chances better on the whole in hospital, 5635—9; 5712—13. [See p. 56.]

V. AS TO THE ALLEGED COMMUNICATION OF OTHER DISEASES BY VACCINATION.

Dr. COLLINS [see p. 7] has found that cow-poxing weakened the powers of vitality, and often proved fatal. It imparts, or calls into activity, diseases which would otherwise remain dormant, such as syphilis,* scrofula, &c. Thinks it instrumental in swelling the bills of mortality to a most alarming extent, 173—219. Has often seen children with syphilitic eruptions after vaccination whose parents were free from taint. Diarrhoea is by no means an uncommon attendant on vaccination, terminating in ulceration, and death. Another, very common, is eczema, a running scab. Has seen children, hitherto healthy, with no trace of struma, after vaccination assume a scrofulous character, with every characteristic of a strumous habit. Convulsions by no means uncommon, also abscess. Pneumonia is a common attendant on vaccination; delirium, erysipelas, and phagedenic ulcers, are all by no means uncommon ensuing after vaccination, 186—9; 237—44; 264—76; 282—301; 493—516; 565—7. In a particular case he vaccinated an apparently healthy child with lymph from the National Vaccine Establishment, and on the 8th day, from a true Jennerian vesicle on its arm, he—at the request of the parents,

* A loathsome contagious disease, difficult to eliminate, and often therefore hereditary.

friends of the first—vaccinated another healthy child, and three weeks after, both children were brought to him, having decided syphilitic symptoms; when, on examination, it was found the father of the first child had constitutional syphilis, and that his other children were born covered with syphilitic eruptions. The parents of the second child were healthy, but the syphilis had been conveyed to it by the vaccine taken from the other, 219—36; 363—74; 437—41; 584—5. Sir Culling Eardley died from pyæmia after revaccination, 269. Was once consulted by some young ladies who had been vaccinated from their brother, who had been suckled by a syphilitic nurse, and, on being discovered, it was found that her own child had the usual syphilitic symptoms. Mr. Liston and Mr. Morton both agreed with him that these ladies had true syphilis, 447. Attributes the increase of scarlet fever and measles to vaccination, 428—36; 650—5. [See p. 58.]

Dr. PEARCE [see p. 8], affirms that many diseases, especially scarlatina, measles, whooping-cough, fever, diarrhœa, erysipelas, and phthisis, are more severe and fatal in the vaccinated than the unvaccinated. Quotes Dr. Watt, who points out a great increase in deaths by measles; and Dr. Farr, that the mortality among children is probably higher than in the last eighteen years of the last century. Scarlatina and diphtheria have been exceedingly fatal since 1855 (the first Compulsory Vaccination Act having passed in 1853); while smallpox dwindled, these two flourished at the expense of the growing population, (911—21). Fully confirms Dr. Collins, from personal observation, that severe diarrhœa frequently follows vaccination. A French hospital physician states that, among 114 typhoid fever cases, over 40 per cent., who had been vaccinated, died; but only 8 per cent. of those unvaccinated. Jenner stated that no vaccination was protective which did not produce erysipelas, and thousands die of erysipelas in the first year of life; cites returns and coroners' inquests, (961—9). Further returns show a large increase of consumption. Mentions a lady and her elder brother, unvaccinated, the only survivors of ten children, the rest having been vaccinated, five of whom died in childhood, and the remaining three from fifteen to eighteen, of consumption. The mother always attributed the deaths of her eight younger children to vaccination. The ancestors on both sides for generations were all healthy country people. There was no defect of nutrition—no rebreathed air of workshops. From this case his faith in vaccination was shaken, and he entered a field of inquiry of which he has never tired. Has come to the conclusion that the old woman was right. All chest diseases are more severe in the vaccinated. Quotes returns showing a steady increase of mortality from phthisis coincident with vaccination. Mr. Marson had endeavoured to account for this by saying, that now, delicate children who would have died of smallpox are saved by vaccination to die of phthisis; if that were so,

proof would have been found in a diminution of infant mortality ; yet there is none, but the contrary, 706 ; 1034—60. When vaccinating as he formerly did, extensively, he was astonished to find he had unwittingly transferred syphilis from lymph supplied by the Royal Jennerian Institution ; had proved that no taint existed in the parents ; had twenty or twenty-four such cases within four years at Northampton. Referring to the 540 practioners who are reported as replying to Mr. Simon's queries in the Blue Book of 1857, observes that they are chiefly surgeons of hospitals, who perhaps have never vaccinated or been in general practice ; the answers of such men are of no value, 751—62. Quotes Mr. Whitehead, of Manchester, who had seen several instances of syphilitic taint, transferred from a true Jennerian vesicle. This is positive evidence, but men may say they have never seen what they have never had an opportunity of seeing, 763—4. Dr. Ballard has stated that the true Jennerian vesicle cannot be distinguished from a vesicle containing syphilis, 1264—8.

Sir J. C. JERVOISE Bart., [see p. 8], knows well a child who was revaccinated about 10, from the best subject that could be got, by the medical man acting for the squire of the district. There never was a cleaner skinned child before, but afterwards it was a mass of ulcers or abscesses from head to foot, 785 ; 874—83. A friend having been revaccinated had erysipelas, and was cauterized, his left hand being all over black stains. If not safe for life, he will never have it done again, 799. [See p. 58.]

Dr. GARTH WILKINSON [see p. 9], mentions the case of a child, 10 months old, who, healthy before, had never been well since it was vaccinated, and died of convulsions, caused by vaccination lymphatic disease. The medical certificate of death, however, had been congestion of brain during teething ; the vaccinator being very cross with the mother if vaccination is mentioned. The causes of death returned to the registrar are frequently thus unreliable, (there is only one way in which a mother would regard such cases, 1379—91 ; 1476—82.) His own coachman's child took erysipelas concurrently with vaccination, and both the child and its mother who was nursing it, and had had smallpox, died of that erysipelas, (1401—5 ; 1483—6). In another case, a child 6 years old, revaccinated by Dr. Laurie, the arm within a few days became swelled and hard as a board, being the commencement of a break up in the lymphatic system ; putrid thrush followed, and subsequently, mesenteric disease at the centre of the system, producing a succession of abscesses in the bowels, terminated her existence about 15 months after the vaccination, (1469—74). Were medical men to study the great tracts through which the lymph circulates, they would get very different ideas of vaccination, the cellular tissue affording the largest area for the transference of diseases.

Describes a case of scrofulous swelling immediately after vaccination; any blood poison would cause *periostitis*, or any disease to which the patient might be liable; also reports the case of an eminent literary man, crippled with a skin affection, a kind of eczema of the leg, ever since being revaccinated 4 years since, (1565—9). Has often, almost daily, heard parents say, "my children have never been the same since they were vaccinated." Argues that if the 30,000 medical men of the country were thus to see three such bad cases, giving 90,000, without going out of their way to look for them, it is evident the poison may be doing all kinds of invisible mischief, and he is convinced that vaccination is seriously at war with the health of the people, 1305—36; and that such evils arise from the practice alone irrespective of the quality of the lymph: "pure lymph" itself, is a foul disease, 1410—19; 1519—20. Should infer that many subtle forms of disease not easily traceable, were really owing to vaccination: *e. g.*, the inference as to the decay of teeth is not so improbable as at first sight appears, 1434—9; 1463—68. [See p. 58.]

Mr. G. S. GIBBS [see p. 9], objects to vaccination on the grounds stated by Dr. Ballard, that it is an infliction of disease, occasionally assuming a virulent form, and proving fatal, 1586—90. Attributes the large increase in infant mortality to their being poisoned in the first year of life, in a greater proportion than formerly, by vaccination, 1629—36. Believes that constitutional diseases also may be perpetuated in the same way; every properly vaccinated person is necessarily diseased, and the foundation laid of tubercular disease of some kind. Has seen syphilis in a child vaccinated from another, to whom the parents objected, but who were overruled by the vaccinator alleging that other diseases could not be communicated, 1754—6. Quotes Professor Ricord, (*Journal des Connaissances Médicales*, 10th March, 1865.) "At first I repulsed the idea that syphilis could be transmitted by vaccination, but to-day I hesitate no more to proclaim the reality;" and Ricord had before said "if ever the transmission of disease with vaccine lymph is clearly demonstrated, vaccination must be altogether discontinued." Thinks it now scientifically demonstrated by the experiments of Villemin, Dr. Wilson Fox, &c., that when vaccination is effective it must lay the foundation of tubercular disease, 1644—61; 1705—7; 1718—27; 1757—78; 1933—37. [See p. 58.]

Mr. EMERY [see p. 10], had a healthy child 11 weeks old vaccinated in May, 1869. On the 9th day it became very ill, the arm, body and legs swollen all over red and green, having no rest night or day till its death a month after. The cause of death was certified by the vaccinator as erysipelas. Dr. Harrison pronounced that its blood was poisoned. Having been present at an inquest held by Mr. Bedford on another child who

had, according to Dr. Clark, died from erysipelas consequent on vaccination, (the verdict being "died from natural causes") ; witnessed the manner in which Dr. Lankester, who was present, having no business there, "badgered" the mother; and overheard the doctors saying they did not want the case kept open, because it got blown about;—he determined to have an inquest on his own child, which was held by Dr Lankester. Dr. Harding, another vaccinator, made the *post mortem*, without his knowledge, and Dr. Lankester objected to calling Dr. Harrison on the ground of expense, (1993—2010). At his own expense he brought Dr. Harrison, who, though produced, was nevertheless kept out, besides the nurse and the aunt of the child. Dr. Harding asked Dr. Harrison what he was to say, the answer being "Well you must speak the truth." Dr. Lankester on being asked whether he had ever known a death from vaccination before, said "No, he had not." Dr. Harding said his brother had had one, also Dr. Ballard had had one. Those deaths he believed were registered as from erysipelas. The verdict having been given "died from erysipelas caused by vaccination," (certified by 8 of the jurors,) the coroner called upon the jury to modify it, and to say "by misadventure," or "by accident," which they refused to do; nevertheless, Dr. Lankester recorded at the sessions house, the verdict as follows: [certificate produced]. "William Emery was found dying, and did die of the mortal effects of erysipelas coming on after vaccination, and the said jurors further say, that the said death arose from misadventure." The return made to and obtained from the Registrar General was "Erysipelas produced by vaccination, misadventure, *post mortem*." Has since seen from 100 to 150 children suffering immediately after vaccination, and parents who have lost their children by it. Thinks vaccination very cruel; he would not be allowed to serve a dog so, 1938—86; 2027—45. Never saw any such effects from teething, 2085—93. [See p. 67.]

Mr. COVINGTON [see p. 10,] mentions case of a healthy child, twelve months old, in whom syphilitic appearances appeared five days after vaccination, 2100—2. His own child was taken ill immediately after vaccination, and suffered for nine months, and afterwards from abscesses, &c., for four years, (2175—90; 2222—37). In a third case, a child of four months immediately broke out with sores, and died in the tenth month, the certificate being that it died from convulsions; the parents believed the death resulted from vaccination. A fourth case vaccinated in the third month, when perfectly healthy, became an intense sufferer for twelve months, and the surgeon said nothing could save it; when called in he said, "Why you have had the child vaccinated," but when the parents were subsequently prosecuted for not vaccinating another child he declared such exclamation had been ironical. In a fifth case a child, two years old, previously ailing, though the pock did not rise

in a month, a scalding discharge broke out, mortification ensued, and it died in nine months, 2094—2137 ; 2153—69. Believes vaccination conveys consumption, syphilis, and many other like diseases, 2192—6. The fact of Northampton having enjoyed an immunity from smallpox for three years, while the evil effects of vaccination have appeared on every hand, forms the groundwork of altered opinion there. In his opinion, if asked, it must be to the interest of doctors to spread disease as vaccination does, 2258—71. Many educated and intelligent people are opposed to vaccination, because they have thus lost their children, 2272—81. [See p. 59.]

Mrs. KEMP produced an infant nearly nine months old, who was vaccinated seven weeks ago. It was then well, except a small sore on its head ; as the arm took, the face and ears broke out all over ; two young doctors told her it was smallpox ; another said it was not, but would not tell her what it was ; she thought it was now getting well, but its head was always on one side hanging over his shoulder, 2293 ; 2322. 21st March,
2293—2322

Mr. BAKER [see p. 10], knew a child, previously healthy, who had been suffering from eczema since it was vaccinated. Parents are told that vaccination has nothing to do with it, but it is open to them to say such men do not know what they are talking about, 2329—32. [See p. 59.]

Mr. ADDISON deposes that on the 8th September, 1870, he had a sound, pure, and healthy child, three months old, vaccinated against his will, to obey the law ; three days after it broke out in a fearful rash, which continued to increase for eight weeks, when it died. It was taken to the hospital on the 17th, treated as an out-patient three weeks, and an in-patient four weeks. The medical certificate given was "hereditary syphilis," but on the house doctor being asked to say "death caused by vaccination," he added the words, "attributed to vaccination ;" never having had such a disease in his family he felt bound to have an inquest, which was held on the 10th November, before Mr. Humphreys. The doctor who made the *post mortem* admitted to him that vaccination was the cause of the child's death. He, the father, however did not hear the evidence given before the coroner, as he was not allowed to enter the inquest room, and was not called ; six other independent witnesses brought to prove the previous health of the child were also kept out ; only his wife, their second born child, and the mother of the child from whom the lymph was said to have been taken (he had been told by the vaccinator it was taken from a lady's child) were examined. It was a very unjust inquest. The verdict, [of which a copy was produced,] was, "the said Rose Addison was found dying, and suddenly did die, of the mortal effects of pyæmia, and the said jurors do further say that her said death arose from natural 24th March,
2383—2460.

causes." Has heard of hundreds of cases of suffering from sores for years after vaccination. His own child died at last completely rotten; is confident vaccination was the sole cause, and no power on earth shall ever shake that conviction from his mind, 2383—60. [See p. 67.]

The Rev. HUME ROTHERY [see p. 11], had a healthy child which suffered from a long series of very large boils, coming on 3 months after vaccination, which he believed to be the cause, (2689—94); describes another case of a healthy child 9 months old when vaccinated, afterwards afflicted with sore eyes for many years, and they are still weak; it being afterwards found that sore eyes prevailed in the family from which she was vaccinated. A third case a fortnight after vaccination (at 9 months old) became afflicted with an offensive eruption all over the body; is now 3 years old, has seldom since been free from sores and scabs; her elder brother, not vaccinated, father and mother, and families are remarkably healthy. A fourth case, now 4 years old, healthy before vaccination, has never since been so; the bowels were relaxed for 9 months after, when foul sores broke out, which continued and appear likely to continue; there is a hole in one hand, and the foot probably crippled for life. In a fifth case, vaccinated when a baby, the family on all sides perfectly healthy, cancer appeared on the chin at 18 months old, and she lost the left breast from cancer at 13; it was discovered on inquiry by the doctor, that the mother of the child from whom the lymph was taken, had a cancer of which she subsequently died. A sixth case, exceedingly well before vaccination, was never well afterwards; its flesh rotted on the slightest scratch of a pin, and now and then broke out in scabs and sores; it died when 20 months old. Six other children were vaccinated from the same child—who is said to have been syphilitic—as this one had been, not one of whom survived. Mentions a seventh case, a healthy baby before vaccination, became ever after an indescribable sufferer, and died at nearly 8, his body being literally rotten; father, mother, and five other children, all remarkably healthy; a girl from whom this boy was vaccinated, and another vaccinated from him, have neither of them been well since vaccination. In an eighth case a healthy boy, 4 months old was vaccinated, three months after the arm began to break out, the head was one mass of sores which continued for 12 months; often had to be carried in arms night and day, the mother would sooner have gone to prison than witnessed a twentieth part of its sufferings; believes that was syphilis; there had never been any disease in the parents' families. All the above cases were from Middleton, 2628—30. Could mention a considerable number of other cases, 8—all of death—from Rochdale; 12 from Smallbridge; Barrow in Furness, Maryport, and Johnstone in Scotland, all attested before magistrates with the understanding that they were to be laid before this committee, 2461—2512; 2632—5. Could mention a number of

other cases, but the sufferers are afraid to come forward, 2727—40; 2760—75. Is of opinion that lymph is rottenness, to sow which cannot produce health. A child may appear healthy, but no one can say where a latent taint exists, (2707—11); and when batches are vaccinated from the same arm, the needle passing from arm to arm, may convey a taint from any one to any other of the batch. Believes the general stamina of the population is deteriorated by vaccination, which is always more or less injurious. Young people are not so strong as formerly; poisoning the blood must inevitably deteriorate the race, (2660—7; 2699—2704; 2808). Medical authorities differ; Dr. Nicholson, a pro-vaccinator, strongly impressed with the opinion that disease cannot be thus conveyed, writes, "If a case can be made out against vaccination by all means let the law be repealed;" whilst Dr. Blanc, also a vaccinator, says, persons who deny such transmission are greater foes to vaccination than its declared adversaries, 2520—27; 2551—75; 2580—8. [See p. 60].

Mr. R. B. GIBBS [see p. 11], refers to Mr. Henry Lee, a great authority on syphilitic diseases, who states that he could come to no other conclusion, but that syphilis was communicated by vaccination in the Rivalta cases. Dr. Marone, at Lupara, in 1863, writes that previous to those occurrences he had no experience of syphilis among those villages; the lymph obtained by him from Campo Basso was mixed with a little blood; he was pointed out as a guilty party in the catastrophe, which induced him to be silent, also for fear of discrediting science; vaccination was declared to be the foundation of all this misery, (2905—10). Has seen children in various stages of eruption attributed to vaccination, 2840—4. Mentions case of policeman Clancy who was revaccinated by order 9th February last, taken ill on the 12th, and died 7th March; he had been vaccinated when young, and also had smallpox; cause of death certified as bronchitis—a rash of corrupt matter came out on his forehead and abdomen, and remained till his death; his widow (in the room) believes that he died from the effects of vaccination. Has heard of a good many other cases, and of arms amputated, and so on, but has not had time to trace them, 2854—61. [See p. 60].

Mr. SIMON [see p. 12], says there is not the least doubt that syphilis has on several occasions been communicated on the continent by what has purported to be vaccination. Mentions a case where vaccination was performed by a porter of the Paris Academy of Medicine, and what purported to be vaccine lymph, was taken from a child covered with syphilitic skin disease, of which it died in a few days, (3213—16); a criminal abuse for which no punishment would be too severe. This was not vaccination. Lymph ought not to be taken from a subject who can be reasonably supposed syphilitic. A vaccinator should

assume that such would convey syphilis; but the negative evidence is very great as to syphilis not spreading by average vaccination. Practically we should expect lymph taken from a syphilitic child would be syphilitic, as the safe side to err on, without attaching importance to negative experiments, (3130—39). In 1857 had pointed out the necessity for careful superintendence of vaccination, and every precaution as to qualification of public vaccinators is now taken. Believes no such case as that at Rivalta or Paris ever occurred in England, but there have been single cases where syphilitic infection by vaccination has been alleged, and where it has been difficult to say positively whether it had been really so caused. Does not wonder that Dr. Collins, who vaccinated when an apprentice, found extraordinary results from vaccination; but the case mentioned by him does not hold water, there being no precedent for syphilitic eruptions following within three weeks on syphilitic inoculation; a much longer period would elapse. Sir B. Brodie had never seen a case where vaccination could be supposed to have imparted syphilis, yet Dr. Pearce, in three or four years, finds from twenty to twenty-four cases; but these cases are not sifted, and in such a low place as he describes there would be no end of room for fallacy, hereditary taint being most probable. There would be no danger in taking vaccine lymph from a child having an hereditary taint as yet undeveloped, though no practitioner would knowingly take lymph from such a child, (3523). Syphilis does not skip over a generation like gout. It is absurd to suppose scarlet fever has been caused by vaccine. A vaccinator, knowing his profession, carefully chooses his time for vaccinating; very rarely the child is put out of health by it, but what would smallpox do? (3335—7). There has never been a death directly from properly performed vaccination. An occasional death within seventy years has arisen from the contagion of erysipelas caught by the vaccinated arm, (3485; 3506—7). Dr. Pearce's case of syphilis, five days after vaccination, is a flagrant fallacy. Syphilis could have nothing to do with vaccination five days before. Mr. Addison's case, whether syphilis or not, could not have been syphilis produced by vaccination, 3070—3101; (3349—51); the shortest time would be from three to five weeks for local signs of syphilitic inoculation to appear: four times twenty days would be within the average number, 3173—4; no reason to suppose Mr. Covington's cases had anything to do with vaccination, 3511—16. Hundreds of surgeons have lived long lives without seeing any case of syphilis communicated by vaccination, and where occasionally others of fair character have believed they could quote a case or two, the sources of fallacy have been very considerable; would confess great doubts as to the quality of any operation having that result. Not the least doubt that syphilis has been communicated in what has purported to be vaccination, 3349—51; 3494—3501. Greater care in recording deaths from syphilis would no doubt account for a great apparent increase of that disease, 3138—9. It is

a peculiarity of animals that a mere slight wound may give tubercle; Mr. G. Gibbs has entirely misapplied the experiments of Dr. Wilson Fox, who denies that vaccination, as such, has ever been known to produce tubercle, 3147—50. So far as he knows, there is not the smallest reason to suppose that tubercular disease is communicated by vaccination, 3486—7; 3542. Never knew a case of pyæmia induced by vaccination, 3169. Believes fears of vaccination are scarcely entertained except from pains taken to exaggerate occasional mischances. Such statements as the alleged Shorncliffe deaths from revaccination are lies; generally where there are true statements of phenomena, there are untrue inferences. Is aware Ricord has changed his views in accordance with the great progress in the knowledge of syphilis within the last dozen years; has himself learned something on the subject within fourteen years, when it was believed that the only inoculable form was the primary sore, now known not to be so; but cannot conceive that hundreds of hospital surgeons would never have seen a case of syphilis communicated by vaccination, if the danger existed. A few besides Mr. Hutchinson (an extremely accurate person with large opportunities of observation) thought they had seen such cases. Had then thought Mr. Hutchinson's four or five extremely exceptional cases were outweighed by the other evidence, but last year that gentleman had informed him that during the last thirteen years he had not met with a single such case, 3,200—12. Vaccination is perfectly indifferent to life except as serving to cut off the one great danger—smallpox. Dr. Epps' opinion, that if the virus does not poison the system against the poison of smallpox, it still poisons, is all moonshine, 3333—4. Does not think it possible that unsuccessful vaccination may have some other effect, 3526. Ricord is of high eminence, but he certainly does not agree with him that syphilis, being found communicable by vaccination, the practice must cease. Experience shows that, while vaccinations are annually done in millions, allegations that will bear examination (not the cock-and-bull stories he has refuted) are of the very utmost rarity in regard to syphilis being so communicated, and the risk is quite infinitesimal; (vaccination is not a wrong on account of any such fragmentary evil, 3479). Is aware Dr. De Paul reported 450 such cases to the French Academy, but it has been a polemical question in Paris, and it would be desirable to get one's facts from a calmer atmosphere, 3352—6; presumes this cannot refer to anything less than a collection of all reported cases in the world since the discovery of vaccination, 3481—4. The purity of vaccine lymph is easily detected by the eyesight; it is notorious that blood can convey syphilis, but careful vaccinators never allow blood to mix with the lymph, and the risk is so nearly non-existent, that evil results are almost unknown, 3369—82; 3445—58; 3545—7; 3550—3. Revaccination, very much more frequently than primary vaccination, does give local trouble, 3485. There is no reason to suppose more people

have bad teeth now than in the last century, and if so, no reason for connecting it with vaccination, 3524. [See p. 61].

Dr. BAKEWELL [see p. 13], has seen cases in which vaccination produced a great deal of illness, local inflammation, and general fever; one child came out all over with a bright reddish pimply eruption, lasting a fortnight, after which time he did not see it; such eruptions are not uncommon. In another case the child had a perfectly healthy skin, prior to vaccination about a year ago, and the skin has never been sound since, a miliary eruption over the body appearing on the eighth day, followed by pustular eruption about the face, a sort of contagious *porrigo*, a specimen picture of which after vaccination, he produced, taken from the plates of Hebra the great skin professor of Vienna: has seen cases of erysipelas, one especially severe, produced by vaccination, (3796—3800); there is a very strong opinion among medical men in the West Indies, that leprosy has been communicated by vaccination. They often applied to him for lymph from England, though there would be an equal chance of English lymph being contaminated by syphilis; had seen several cases of leprosy, where vaccination seemed to be the only explanation; has a case now, a child from India, a leper, both parents being English; saw another, a creole of Trinidad, also of English parents. Sir Ranald Martin agreed with him that the leprosy arose from vaccination, expressed in the Leprosy Report of the College of Physicians. The Governor of Grenada, (where vaccination practically is not used,) had said there were only 5 or 6 lepers in Grenada, 3554—65; 3804—9. Scraping the lymph off the vesicle, will bring away epidermic scales, and thus other diseases may be inoculated without blood. Leprosy is very common in Trinidad, and increasing; also in Demerara, Barbadoes, and Jamaica; it is much more common than it was in the days of slavery, and the fact of its increase being coincident with vaccination, has made people extremely alarmed about vaccinating from those having a leprous taint. Has seen several cases of leprosy resulting from vaccination, arrived at that conclusion with reluctance, in the face of difficulties. Leprosy, and syphilis also, might be conveyed not only from the child from whom the lymph is taken to others, but from the vaccinated to the vaccinifer in dipping the lancet, backwards and forwards from one to the other, by blood; also by epidermic scales undetected by the operator; the current medical opinion is doubtful; 3619—94; 3704—11. Has no doubt death resulted from syphilis, produced by vaccination, in the Rivalta cases. There are 258 such cases mentioned by Lancereaux as having occurred in France, Italy, and Germany. Thinks there are others of which we have no knowledge; Mr. Whitehead of Manchester, (who reported several such cases) was a very distinguished man, 3740—9; 3787—9. [see p. 62.]

Sir D. CORRIGAN [see p. 13], states that vaccination does

not produce a specific disease; there is no disease called vaccination disease, which could cause death. When syphilis is communicated it appears on the part poisoned, and he never knew, or heard of a syphilitic sore on the spot where vaccination was applied, it would be contrary to all analogy; instances syphilitic children having also scald head, ophthalmia, &c., conveying the latter without the former; and if not so conveyed he does not see how vaccination can convey syphilis. All the diseases charged as being conveyed by vaccination, are incident to childhood without it, and as smallpox was never charged with conveying other diseases, does not see how vaccination can do so; would not rely on statements of parents of syphilitic children that they themselves had never suffered from it. Had sent queries to 5 medical men, connected with hospitals, who had never witnessed bad consequences attributed to vaccination, 3992—5. Had never seen a case of either skin disease, syphilis, or constitutional disease, suspected to have been transmitted by vaccination, 4026—30. In deference to popular ideas would select a healthy child, but thinks a competent operator will take nothing but lymph from the vesicle, and that such, taken from a syphilitic child, may be used without any but the proper vaccination result. Has nothing to do with other persons' opinions, 4059—87; does not know to what he would attribute syphilitic appearances in the vaccine cicatrix; having never seen such a case, will not admit its possibility, 4094—7. [See p. 62.]

Mr. MARSON [see p. 13], states that smallpox excites or lights up other diseases, *e. g.*, when scrofula is in abeyance any severe disease like smallpox would set it in action, 4152; 4274—85. Vaccination when properly performed is not attended with any injurious consequences; he sometimes sees rather a sore arm, but it is not every child that looks well that is in perfect health, and now and then they are vaccinated when bordering on some illness. Had never seen syphilis after vaccination, or had reason to suppose a child had taken syphilis from being vaccinated by him. Has seen erysipelas follow occasionally, (4182—3); and slight papular eruptions, showing that the vaccination has gone well through the constitution. Erysipelas may be expected occasionally from the child being done at an unlucky time, and if it has a cold it makes it feverish, and that would be a bad time, 4163—5. Does not think that pure lymph, taken from a syphilitic child, would communicate syphilis. M. de Meric, who believes that it might, is a very clever man, and would give a very good opinion. M. Rollet holds a similar opinion. The fact that syphilis may be conveyed by vaccination has been proved in the Rivalta cases, also in France, and Germany. It is not impossible that matter exuding from the vesicle might convey disease; has never seen such a case. Thinks it not fair to take lymph from a diseased child. With common care disease ought not to be so conveyed; knew a prac-

tioner who had several severe cases of erysipelas after vaccination, and therefore considered him a careless man, 4227—57. Mr. Hutchinson's cases of syphilitic communication would not change his opinion, because it must be very rare, 4332. [See p. 63.]

Dr. WOOD, [see p. 15], never saw the crusts of vesicles produce any bad effect; thinks they are more liable to putrefy, and would not like to introduce putrid matter into the living body; cannot always detect by sight any impurity in the lymph, 4445—8. Sometimes vaccination produces slight erysipelatous irritation; has never seen scrofula or consumption, or any constitutional disease which he could distinctly trace to the influence of vaccination; all his idea of disease is against it, reasoning from analogy, 4455—8. Never listens to alleged causes of syphilis or scrofula. If those diseases show themselves soon after vaccination, they are unjustly ascribed to vaccination, 4466—7. [See p. 63.]

Sir W. JENNER [see p. 15], has had enormous practice among children, at the ages when they have been recently vaccinated, and ten or twelve years afterwards; was ten years physician to the children's hospital, attended by thousands annually, having had as many as 150 in a morning, &c; has never seen any evil except local troubles, as inflammation of the arm; has never known a case of death, serious illness, or syphilitic infection resulting from vaccination, 4502—13. Not the slightest foundation for supposing vaccinated persons are more liable to diseases, as fever, lung disease, &c., 4516. Could not say there are no cases in which injury arose from vaccination, has heard of such cases; should not take lymph from a child suffering from disease; does not know that it would be dangerous; if so, thinks he should have seen injury from such, 4531—5. Considers Ricord a man of eminence, but thinks the assertion attributed to him, if not qualified considerably, of very little worth. If syphilis was ever communicated by the lymph, it must be so infinitely rare as to be practically insignificant, and of no worth; is not aware of De Paul's statement of 450 cases. Vaccine lymph is *sui generis* altogether. The theory that smallpox controlled by vaccination is supplanted by scrofula, fever, diphtheria, or other diseases, is utterly without foundation. Does not know whether scrofula, or phthisis are more common since vaccination than before; has seen constitutional disturbance, and serious lesions, phthisis, and consumption resulting from smallpox, but not from vaccination, 4574—89; is not an authority as to the alleged possibility of disease being produced by the intermixture of blood with the lymph, 4590—6. Mr. Hutchinson, being a man of scientific position, is no doubt right that one child has conveyed syphilis to 9 persons; has no practical knowledge on the matter, and would rather not give an opinion either that it could or could not be so conveyed, 4607—14. [See p. 63.]

DR. GULL [see p. 16], has never seen any serious illness caused by vaccination, nor seen any one die from it. Has heard of cases of syphilitic infection, but never seen such; has often heard mothers say their children have been covered with this or that eruption since vaccination, and no doubt the fact was so, (4821.) Does not think vaccination, *quasi* vaccination, had anything to do with it, because the skin of poor children especially is such that the slightest irritation will set up porrigo, eczema, and impetigo. It is not the vaccine; the same would follow from any scratch, and the risk of smallpox would be greater than that of such irritation, (4885—7). Has no idea that vaccination would make a person more liable to fever or lung disease; there is even a lingering idea that whooping cough can be cured by vaccination, 4725—40; 4918—25. Theoretically, the blood might convey syphilis, but in view of the danger of smallpox vaccination ought to be enforced. From his extended experience, never having seen such a case of transmission, affirms that diseases are not conveyed by vaccination is a practical fact, 4755—60. Hunter and others maintained and made experiments to prove that syphilis could not be communicated by vaccination from syphilitic subjects, 4781—2. Would, simply from regard to the parents' prejudices, select a healthy child from whom to take lymph; the poor are not exposed to greater risk on this account, though it is important to avoid the theoretical possibility of communicating disease, 4792—5. Thinks Ricord's conclusion a very hasty one, if made; never himself having seen a case would consider it the most insane thing to give up vaccination from theoretical conceptions, without practical knowledge, 4830. Can conceive it possible that blood may be in the lymph unseen, and that impure blood may convey disease, but has never seen such cases—they are difficult to investigate, 4836—47. Pyæmia may occur after revaccination, or erysipelas. Sir Culling Eardley died of it, but then he would probably have died of any injury or scratch, it might have been of a tight boot, (4903); the chance of risk is infinitesimal, 4866—70. Considers the opinions as to conveying leprosy by vaccination, the decay of teeth, and the deterioration of the race, mere theories of little worth. A committee of the College of Physicians on leprosy some years ago, of which he was a member, came to no such conclusion in regard to that disease, 4885—99. [See p. 63].

DR. WEST [see p. 16], does not think vaccination produces disease. Never had a case of syphilis in consequence of vaccination, or alleged to be so. Remembers one child who died of erysipelas produced by vaccination. Does not imagine vaccination induces liability to fever or lung disease, 4926—42. His impression has hitherto been that syphilis could not be conveyed by vaccination, except as the result of some gross carelessness; has known nothing leading him to suppose syphilis inoculable by blood; considers it not proven, 4950—3.

Vaccination, no doubt, like teething, often develops forms of skin affection, especially eczema, which were not before apparent. Does not now see the hospital out-patients, and should not hear if parents alleged their children were suffering from vaccination. Such is often so attributed. Vaccination gives no immunity from other diseases. Measles, being a prevalent disease, children who do not die of smallpox are left possibly to die of measles. Persons seeing confluent smallpox, and having their choice of death, would prefer not to die of smallpox, 4966—83. [See p. 64.]

Mr. HUTCHINSON [see p. 17], at Dr. Seaton's suggestion, was asked by the medical man to examine into the communication of syphilis to several adult servants and shopmen who were revaccinated on the 7th February last, from one child lent to the operator (a surgeon with a vaccination certificate) from a public vaccinating station. Of thirteen so vaccinated, whom he saw 4th or 5th April, eleven had on their arms sores characteristic of syphilis—the primary sore of syphilitic contagion; the two who escaped were the first vaccinated. A few days later saw the child (six months old) from whom the lymph was taken, and though it appeared in good health, he should have no doubt it was the subject of inherited syphilis: it had an eruption on the body, then very slight indeed, and probably not present at the time of vaccination, which was successful. It was not examined in that particular either at the vaccination station or by the vaccinator; it looked healthy, and no blame attaches to the operator. From subsequent treatment it is strongly confirmed that syphilis was conveyed to those eleven; has no doubt; the secondary symptoms on several have been slight, more definite on two. In the first two pricks on the child's arm there was probably no mixture of blood, so that the lymph was pure in the first two vaccinated, who escaped the contagion. Has had a great deal of experience in syphilis; had seen several suspicious cases as having been produced by vaccination fifteen years ago, more under Mr. Startin's care, who believed it, and on whom he relied; has since seen many cases in which it has been asserted that similar transmission had occurred, but none which he believed the least suspicious. Believes these present cases to have been produced by the transference of blood cells, which he thinks very easy to avoid; such will be considered carelessness in future. Doubts whether this mischance could have been avoided by closer inspection of the child; it is possible. Thinks the number of cases in which risk is run infinitesimally small in proportion to the benefits likely to accrue from vaccination. Has another series of cases strongly suspected to be of the same kind now under investigation, and has had many suspected cases sent him during the last fortnight. Two children, four years and one year, were brought to him last Saturday, who were vaccinated the beginning of February, at a public vaccination station, from a syphilitic child, selected out of a number offered as the most

healthy children present, with nothing which could have led to suspicion. Each of these two now has syphilitic sores on the arms and a secondary rash on the body. Does not entertain any doubt that syphilis can be conveyed in the act of vaccination; is aware the general opinion of the profession is opposed to this, but not those of position and authority, who have carefully examined the question, and into the evidence collected abroad. Germany, Italy, and France have given the chief series of cases. De Paul and Ricord are certainly authorities. Does not believe syphilis is conveyed by pure lymph, taken from a syphilitic subject; there must be blood; should not think the scab mixing with the lymph of any importance. Would not like to infer anything, *e. g.*, that lymph, proceeding from the diseased blood, might convey the disease. Two of the first-mentioned cases escaped; does not know whether the arm bled in the last-named case. Having worked at the subject of syphilis specially, was able to detect appearances of that disease in the face of the first child, but not of the second without further examination; such could not be detected by most medical men; there are latent cases which cannot be detected by any one without the child's history, &c., so that it might be conveyed from a child having no appearance of it, if blood be touched; but it would be exceedingly infrequent. It was three and a half months after vaccination that he saw the second cases. The traces of syphilis [in the vaccinifer] most firmly convinced him, but were so slight, does not think they would have convinced many. Believes it quite impossible the vaccinated children could have inherited the syphilis; they have a symmetrical secondary rash. Though possible, it is not common for a child, having latent syphilis, to look quite healthy; generally it is a matter of the utmost ease to distinguish a syphilitic infant. Is not sure the 540 medical men, quoted in the Blue book of 1857, denied the possibility of syphilitic communication by vaccination; they expressed their own non-familiarity with it, and said they had never seen it happen. The general opinion held by the profession must doubtless greatly affect their interpretation of facts. Would attribute much less force to mere negative than to positive evidence. Many professional men have said, in reference to his cases, "I should not have believed it," some adding, "unless you said it." It is better to look such facts in the face, and the authorities should issue improved instructions accordingly. Thinks the very infrequent risk of accident is slightly greater in the case of the poor. One of these cases, however, occurred among very respectable persons, not among the poor. Thinks in future lymph should not be taken from the first child of the parents, but a second or third, with the knowledge the first were healthy. Would not have his own child vaccinated from a syphilitic child, though confident that pure lymph so taken would not convey syphilis. Sees children brought to the skin hospital every week whose parents refer to vaccination as the cause of their suffering, but

except one unimportant skin rash of infants, which does not often follow, has never seen any ill results which he believed due to vaccination, 4991—5221. [See p. 64].

Dr. SEATON [see p. 17], barring the rare possibility of erysipelas, and the merest possibility of infection from anything but pure lymph, is not aware of any risks or dangers from vaccination. All allegations of disease are mistaking sequence for consequence. Could name cases by the score, of children brought to be vaccinated being put off, and before coming again breaking out in full eruption, which, had they been vaccinated, would have been attributed to that. It may hasten a disease, which would show itself under any circumstances. Except as to erysipelas, and that blood will convey syphilis, knows no disease which can be referred to at all in connection with vaccination; does not mean what parents may have said. Mr. Hutchinson's cases came upon him with great surprise as new altogether; these are not absolutely proved yet, but he expects the further proof—the most reasonable interpretation is that there was blood inoculation. In consequence more stringent regulations will be issued, enjoining, as far as possible, attention to the condition of the vaccinifer, and the mode of operation. In Paris syphilis was communicated in vaccinating from a heifer, by transferring blood on an unwiped lancet, in going from one person to another. The almost infinitesimal danger of syphilitic communication, almost impossible to put into numbers the calculation of the chance, cannot be taken into account in legislation. Mr. Hutchinson's appears to be almost the only case which seems to the profession to admit of proof, and all do not accept this. Mr. Simon, when examined, was not aware of this case, it occurred afterwards. It came to his own knowledge in private conversation, and he recommended Mr. Hutchinson, who is not merely a practitioner, but a great investigator, as likely to give it an intelligent and impartial investigation. He went down to Middleton to inquire into cases of alleged syphilis from vaccination and found it all moonshine. Neither the vaccinifer (a remarkably jolly child, 5743—8) nor any of the children had syphilis. One died of measles 20 months after vaccination; another of convulsions, more than a year after; another of consumption, inherited from its mother, who since died of consumption; another from typhoid fever caught from its mother; (and one of teething, at 12 months old, 10 months after vaccination; there were but 5 cases in all, 5749—53; 5786—7). That was the substance of those Middleton cases, [see Rev. H. Rothery's 6th case, p. 46], 5451—86. Apprehends no danger from pure lymph; would not use any from a suspicious child. It is not in the least likely that leprosy has been communicated by vaccination, the College of Physicians not having come to any such conclusion. The communication of any other skin disease is so unlikely, it ought not to influence our practical proceedings, (5629—31). Gene-

rally speaking the cases are few where a syphilitic child cannot be clearly detected. There is no difficulty in selecting healthy children at the stations. No doubt practitioners will be infinitely more inquiring than hitherto, after the recent cases; yet the negative evidence that little danger has resulted is immense, 5564—87. Knows that erysipelas has followed vaccination, sometimes fatally, 5624—7. Does not in the slightest degree agree with Dr. Nittinger that vaccine lymph poisons the mucous membrane of the whole body. Is aware many cases of vaccinal syphilis have been reported abroad, but we could not test the conditions. There were two cases in Germany, where *malap Praxis* was alleged against the operator, who was punished. Presumes syphilitic matter had been used instead of vaccine. Is not aware that Mr. Startin, who reported in 1857 that he believed in the transmission of syphilis, stated on Tuesday last that he had so reported to Mr. Simon in 1856, but was not further questioned on the subject. Is aware that there have been many allegations of such transmission in this country, but not of their being well-founded—not considered by the profession to stand the test of criticism. No doubt the mode in which persons deal with facts is largely affected by the views they hold, and the profession would have been much less inclined to believe in such possibility than they would be in future. Is of opinion, contrary to Mr. Hutchinson, that blame must be attached to the vaccinator in that case. Practically, does not think there is any fear of inoculating any other disease besides syphilis, 5659—87. [See p. 64.]

VI. EFFICACY AND POLICY OF THE LAW ENFORCING VACCINATION.

Mr. CANDLISH, M. P., had his attention called to a decision in the Queen's Bench, sustaining a second conviction for the same case; and retained the impression that the Committee of 1866, on which he sat, had not intended that the penalty should be repeated, 3; 35—9. J. A. Toulson of Leeds had been fined four times, in respect of one child, still unvaccinated, 5—8; 40. James Lawton had been ten times convicted, (twice in the same day) and was then in prison, being 52 years old, 33 years member of a church, and nearly as many a teetotaller, 9—12; 42—56. Thinks more than 50 such cases have been brought to his knowledge. Mr. Lane of Grantham, having lost one child through vaccination, had been twice convicted for refusing to have his present child's blood poisoned, and was again threatened, 13. Mr. Nye of Chatham, had been in gaol 14 days in December last, for like refusal, having lost two children who had been vaccinated in 1866: five or six times he has been convicted, has

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been four times in prison, and his wife and children sent to the workhouse, 13—18. Rev. H. J. Allen had been committed to prison, but released on payment of 5*l.*; within a month was again summoned and put to 50*l.* expense in appealing to the Queen's Bench, nevertheless, he writes, "I will defend my children from being poisoned, and will resist unto death this abominable and wicked law," 19—22. Martha Sexton of Poplar, in the absence of her husband, had been sent for seven days to prison, 26. There is in substance, as the law stands, perpetual imprisonment for conscience sake, parents feeling it their duty to preserve their children from what they deem a calamity, 30—1; 114—25. [See p. 66.]

Dr. COLLINS [see p. 7], had given a medical certificate that Mr. Allen's children whom he had examined, and found covered with a cutaneous eruption, were very unfit for vaccination; but this certificate was rejected by the Duke of Manchester, and Mr. Allen convicted of an offence, because Dr. Collins was opposed to vaccination generally, 408—14. Always examined the children before giving such certificate, 524—31; 4334.

Sir J. C. JERVOISE [see p. 8], had ceased to act as a magistrate, not being able conscientiously to enforce the Compulsory Vaccination Act, and the Cattle Plague Orders, &c., 765—71. Considers the state has no right to interfere with personal liberty, unless such be injurious to the community. It is for Vaccinators to prove that smallpox is communicable, and that vaccination will prevent it: to make vaccination compulsory when the struggle for life is keenest, under fine and imprisonment of the parent, is cruel and useless, 802.

Dr. GARTH WILKINSON [see p. 9], points out that the law is unequal as between poor and rich; where the purse is not, the gaol is, 1365—6. An oath or declaration that a parent believed vaccination to be injurious, should relieve him from the penalties, 1432—3. It is not a subject for legislation; medical dogmas ought to be kept liquid, for constant use, and rapid change, 1440—1. Hardly a medical doctrine or practice exists now that existed in the last century; bleeding, mercury, &c., &c., 1510—18. If it could be proved that vaccination prevents smallpox, it ought to prevail by its own force, not by Government interference, 1555—6; 1581—5. [See p. 67.]

Mr. G. S. GIBBS [see p. 9], considers a parent has a political right to maintain a child in health, and protect it from the infliction of disease, which may prove fatal. Quotes J. S. Mill, that "no state can be called free where a man has not a perfect control over his own health, bodily, mental, and spiritual." As long as a man does no harm the State has no right

to interfere with him, (1739—44.) Parents themselves have no moral right to allow poisonous matter to be put into their children, 1591—6. Considers compulsory vaccination a gross usurpation of power, and a violation of the first principles of representative government. The enforcement of sanitary precautions is apart from the question; a healthy infant can neither be a nuisance, nor produce disease in others, 1779—96.

Mr. COVINGTON [see p. 10], states that in Northampton the number of prosecutions have been 114, and 104 were still pending; one at least has been twice fined, (2238—44); the majority succumbed, others paid the fines, and 3 went to prison; one, Mr. Hasdell, on principle would not allow others to pay. 1474 non-compliance were returned to the guardians (who were the prosecutors in the 218 cases) in December last; denies the statement of Dr. Seaton, and Dr. Stevens, that Northampton is a nest of smallpox, quoting a letter of complaint from a public vaccinator of the difficulty in carrying out the Act, in which he writes "fortunately we have had no cases of smallpox during the past year." On 11th March, 1871, Dr. Barr said "unfortunately one case of smallpox had occurred in the town," which was "a case modified by vaccination," 2142—52; 2170—2; deems compulsory vaccination an invasion of parental rights; thinks Mr. Hasdell would not have paid the fine had it been one penny, 2245—57.

Mr. BAKER [see p. 10], states that he had been told by the late Mr. Duncombe, that he had been lectured for having printed for the information of the House of Commons, a paper on vaccination, by Mr. John Gibbs in 1856, of which Baron von Humboldt had spoken with high praise; considers the opinion of such a philosopher as Humboldt, on such a question, more worthy of attention than that of any number of paid officers, or the whole medical profession. Quotes Mr. Simon's Report of 1857, abusing the opponents of vaccination; and points out that numbers of petitions to the House of Commons which ought to have been printed, were practically unnoticed by the Petitions Committee,—several members of which have been in the Privy Council Office,—in consequence, as he believes, of wire pulling behind the scenes. Does not believe these arbitrary and tyrannical Acts have ever been fairly discussed in the House of Commons, and one means of preventing discussion is not to print such petitions, 2341—53. This legislation is based on Mr. Simon's inquiry, and it has been repeatedly alleged that the fullest inquiry has been made; whereas there is no evidence that the 542 out of 16,000 practitioners, whose replies to the queries of the Medical Officer to the council, were not selected as good and safe men; and though large numbers of medical men, both English and foreign, are known to be opposed to vaccination, none of their opinions are given. If the medical officer did not know of the existence of such, he ought to have

known it; and if he did know of them, it is worse. Thinks parliament should not practically delegate its powers to medical officers behind the scenes, 2366—8. [See p. 67.]

The Rev. HUME ROTHERY [see p. 11], thinks the compulsory law should be entirely abrogated. If the majority believe vaccination to be prophylactic they can protect themselves; but if they admit that they would be endangered by the unvaccinated, they concede that the practice is useless. If compulsion is good, it ought to be carried out to submission or death, but it is utterly untenable in this case, and bad in every part. A single penalty is based on no principle whatever, 2535—39. To legalize this vaccination theory is a political injustice, setting up a medical despotism incompatible with civil liberty: compulsory vaccination oppresses the consciences of thousands, and is therefore unchristian, (2697—8); the state has no right to compel a man to do good, only to hinder him from injuring others. Such assumption has been used to uphold every kind of papal and protestant persecution; on the same principle teetotalism, or any other opinion, might be enforced, 2542—50; (2795—2807). The fact that a thing requires to be enforced is a presumption, but it is worthless; to interfere between parent and child lessens the sense of parental responsibility, 2620—22. Is positive that magistrates who inflict the heaviest penalty, are regarded as disturbers of the peace; if vaccination be enforced much longer, it will seriously endanger the peace of the country, 2651. Anti-vaccinators in Rochdale have been elected as guardians, and the same course is expected at Smallbridge, 2672—6. Though the majority of christians believe that to withhold baptism endangers eternal safety, and no atheist could say it would injure a child, yet the legislature would not now compel baptism, 2752—4. Denies that the intelligent working classes are ignorant, and being unswayed by conventionalities and vested interests, he would prefer the verdict of the unsophisticated working classes on any pending question, to that of so-called educated gentlemen, 2755—6, [See p. 67.]

Mr. R. B. GIBBS, [see p. 11,] states that Mr Wilberforce and his contemporaries would not listen to a proposal for compulsory vaccination. Sir F. Burdett had said "we ought to be cautious lest we fall into a pernicious error," in reference to vaccination, "which appears to be a failing experiment," 2827. The Committee of 1833 recommended no legislation. In 1840 free vaccination was declared not to be deemed parochial relief. In 1853, it was made compulsory, introduced by Lord Lyttleton on the advice of the Epidemiological Society. The effect has been demoralising; people's consciences being outraged by authority. The Anti-compulsory Vaccination League formed in 1866, and growing rapidly since, has only given tongue to objections previously existing, 2837—40. It has perhaps 10,000 active members all over England, 2894—8; 2923. Considering that no agreement has ever been arrived at by the profession, on any one point connected with the subject, thinks the vaccination laws,

instead of being amended, should be altogether abolished, 2862—4. There was no inquiry between 1802 and 1833. The laws have passed without hearing what both parties have thought upon the matter. This is the first time both sides have been heard, 2888—93.

Mr. SIMON [see p. 12], observes that a league of persons interested in interrupting the fulfilment of the law have been active in disseminating falsehoods against vaccination. Among these calumniators are advertisers of quack medicines, 3055—6; 3541. States that none of the opinions collected for his Report of 1857 were extruded; the physicians and surgeons of all hospitals in England were applied to, but a considerable number did not answer; with the exception of a few, selected on special grounds of personal qualification, that was the basis. Had he known any physician or surgeon of credit had stated important facts against vaccination he would not have omitted him. Dares say he read Mr. John Gibbs's letter to Sir B. Hall, printed by House of Commons, in 1856; does not remember advising Sir B. Hall to object to the printing of that paper; his office never made him Sir B. Hall's adviser. Has seen lately a letter of Humboldt's among several comical things published by anti-vaccination people. Baron Humboldt was then very old; has not seen enough of his alleged letter to speak of its value. (Does not find any statement of opinion against vaccination in that letter of Humboldt's, who writes, "my own personal opinion on this grave subject is of no importance, *seno ma non ragiono*," (3543—4). Remembers about 1856 petitions having been presented by the "Coffinites" or herbalists, not medical practitioners in the usual sense. The doctors Johnson, Epps, Pearce, Skelton, Laurie, Reed, &c., are not of that class, but should not have sent circulars to persons not in official positions. Cannot speak as to the policy of the Petitions' Committee in withholding such petitions; had no recollection of any reference being made to him on the subject. Considers the opponents of vaccination interested, as before explained [venders of quack medicines]. The estimate voted for his department this year is about 27,000*l*, being a rapid increase of late. It is not therefore surprising in view of this, and the enormous sums paid for vaccination among patients, that interest should be charged on one side as well as the other; but to let smallpox rage might be a better bargain for the profession. Thinks anti-vaccination agitators both ignorant and dishonest, (3438—44; 3541.) Does not fancy that in legislation of this kind, the common sense of the people is to go for nothing, but so far as the question is one of intelligence the advantage of vaccination is so self evident that only an idiot could resist it. Thinks all educated persons are vaccinated, but compulsion is required to conquer indolence and apathy, for which the law is sufficient as it stands, 3290—3324; (3426—31.) It is difficult to deal with crotchety people, who being conceited fancy themselves conscientious; the law would be well quit of

them did it concern themselves alone, and not their children's safeguard. (There is a strong dash of conceit which makes martyrdom pleasant, 3502—6.) On the ground that compulsion might create reaction and dislike would have hesitated to recommend it, but the result showed that such fear would have been unjustified. 3338—40; 3357—8. Thinks the proposal to have a limit of two penalties, the first being nominal, would fully answer for the masses, 3384—6; 3510. Few persons object to vaccination, apart from those alarmed by absurd falsehoods, propagated by agitators, 3390. Thinks the compulsory law of 1853 was premature, and that the improved system of vaccination since inaugurated should have preceded it; the defects are in great part remedied. It would be an immeasurably lesser evil to continue a wrong now—in rapid course of extinction, than to give it up, *i. e.*, to abolish compulsion, 3472—8; (3548—9.) The law here and there fails to secure vaccination, but in the year 1869-70 eighty-five per cent. of the births had been vaccinated in Leeds; eighty-eight and a half in Wigan; eighty-one in Exeter; eighty-eight per cent. in Lancaster; and in Ashton nearly all. The martyrs are in quantities quite inappreciable, 3508—10.

Dr. BAKEWELL [see p. 13,] states that practically the compulsory vaccination law could not be carried into effect in Trinidad, 3566—9. Holds it to be unjust to oblige a parent to submit his child to an operation which, however rarely, occasions death, 3570; 3606—3703; 3718—34; 3739. If vaccination does not protect from smallpox, why make it compulsory? Thinks the English people are gifted with common sense, and would adopt vaccination if they found it universally a protection against smallpox, 3778—83; does not say others are ignorant who differ from his opinion, not being infallible, 3598—3608. [See p. 67.]

25th April,
3820—3990.

Mr. FRY describes the poor law system of vaccination superintendence, the working of the Acts of 1853 and 1867, and the amendments desirable, in his opinion, to render the law more efficient, suggests that conscientious objectors to vaccination might be exempted from penalties; personally does not think men should be treated like felons (as is now done) for conscience sake; and that it is a great interference with parental rights to resort to compulsion with regard to their children in any case. Does not think the objectors would be numerous. The production of a medical certificate of unfitness is a bar to proceedings under section 29, but not under section 31, of the Act of 1867, under which the justice may decide independently of such certificate; suggests that this also should be amended, 3820—3990.

Sir D. CORRIGAN, [see p. 13], thinks vaccination would have been equally well carried out in Ireland had there been no penalty; does not like penalties (which repeated become persecution), but if any, it should be one small one as a warning to the neighbourhood, not a punishment to the offender; he would

exclude unvaccinated children from schools and factories, 4005—7; does not think that would be tantamount to prevent them from living; only from pursuits where congregation was necessary; to allow unvaccinated children to associate with vaccinated, would be subjecting the latter to the same danger as putting gunpowder in a warehouse which may blow up and destroy other things; to remove such an one, were it possible, if attacked by smallpox, would be like removing the powder after ignition; besides, during the 14 days of incubation, every other child may be infected; never knew a smallpox epidemic commence among the vaccinated in a town, or school, 4031—58; 4088—9; 4090—3.

Mr. MARSON, [see p. 13], finds that it is the father, not the mother, who objects to vaccination from a desire to have the family he works for as small as possible. Proper vaccinators being entrusted approves of the present compulsory law, by fine and imprisonment: hardly knows how to deal with a conscientious objector, there are very few in the higher ranks, 4174—81; 4305—14. Thinks when the smallpox epidemic broke out in Paris, the *Lancet* was warranted in attributing its absence in England to the compulsory vaccination law, because it seems to have been thus checked in Scotland and Ireland; under the present circumstances thinks perhaps the law has little to do with these epidemic visitations. There was no smallpox epidemic between 1796 and 1825, which was fairly attributed to vaccination, but that was partly imagination perhaps, 4644—7.

Dr. WOOD [see p. 15], had exerted his influence with medical authorities and the Lord Advocate, to procure the Compulsory Vaccination Act of 1863, for Scotland, since when there has been no smallpox epidemic, 4367—8. The *onus* of producing the vaccination certificate is there thrown on the parent; if not produced the medical officer is sent to perform vaccination, and if refused a penalty is incurred, 4372—3. There is little opposition. In 1868 there were 4607 defaulters, 1157 of whom were vaccinated by the public officer; the prosecutions were 9, and the penalties 5, in the whole of Scotland. In the year ending 30th June, 1870, 4098 defaulters, 1047 subsequently vaccinated by public officers, 15 prosecutions, 1 in Elgin and 14 in Inverness. Other defaulters might have been vaccinated privately. There is much more deference to the feelings of both parents and medical men, in the Scotch, than the English Act; knows no instance of a second penalty, 4367—87; 4425—41. The Act has been of extreme value [statistics, p. 24.] The registration of births is compulsory in Scotland, 4408—11; thinks a person has no more right to keep an unvaccinated child than a fierce dog. If every body could be vaccinated against the mad dog, he would be harmless, but we cannot be perfectly protected from smallpox by vaccination, 4493—4501.

Sir W. JENNER [see p. 15], considers the compulsory vacci-

nation law most desirable ; that its abolition would increase smallpox, and the mortality from it, 4529—30 ; (4599—4602 ;) thinks revaccination should be compulsory also, 4546—9.

Dr. GULL [see p. 16] thinks it would be dangerous to the community to allow the parent to be the sole judge in regard to vaccination, because there would be an explosive material about at all times, the unvaccinated being likely to become the *foci* of poison, because vaccination, though a safeguard, is not an absolute protection, 4775—6. Thinks if the population were well vaccinated children might be considered safe from smallpox up to 6 months, so that the period might be extended within which vaccination should be done, but three months is a reasonable time, 4789—91. There is not a considerable opinion against vaccination amongst the people, they would rather be vaccinated, 4820. In the face of the chances of impurity in the lymph, and of unskilful operators, and the objections of parents, would enforce vaccination even by the policeman taking the child from its mother's arms if necessary ; the limits of a man's rights is when the exercise of those rights becomes dangerous to society ; the unvaccinated, like very inflammable material, are dangerous to the vaccinated, who, though less inflammable, may take fire from the increased heat to which they may be thus subjected, (4916—18), therefore he would take the child by force, 4848—63. Would alter legislation from time to time as opinion may change, 4876—80.

Dr. WEST [see p. 16], considers the good of vaccination so immense, and, the risk so small, that it is the duty of the State to insist upon it, 4953.

Mr. HUTCHINSON [see p. 17], is most strongly in favour of compulsory vaccination ; and the accidents investigated by him, having occurred during a period of panic, is a strong reason for carrying out vaccination quietly and thoroughly, as it only can be done, by compulsion ; no one has a right to neglect vaccination as a protection against smallpox. Has not considered how far he would go ; doubts about perpetual imprisonment, 5163—73 ; 5208.

9th May,
5222—5337.

Mr. NEIGHBOUR, vaccination inspector, gives an account of the manner of inspection in his parish ; appears to have little difficulty in persuading those who have neglected vaccination to have it performed, unless when they have removed from the parish, and cannot be found. Suggests, therefore, that no one having an unvaccinated child be allowed to move without informing the registrar where he is going, 522—537.

Dr. SEATON [see p. 17], was secretary to a committee (Mr. Grainger being chairman) of the Epidemiological Society in 1850, which collected information on vaccination and smallpox from 2000 medical practitioners, presented to Parliament when Lord Lyttleton's Act of 1853, introduced without the society's know-

ledge, was before the House, 5342. The main obstacle had been apathy and indifference. In the four years, 1848—52, the vaccinations under one year had averaged 180,960, and over one year, 185,139. In 1853—4 there were done 408,824 under one, and 290,111 above, many bringing their elder children with their babies. The proportions of vaccinations to births have been, before 1853, 32 per cent.; 1861, 48 per cent.; 1862, 48; 1863, 54; 1864, 50; 1865, 48; 1866, 46; 1867, 46½; 1868, 50; 1869, 53; 1870, 50; the average 50 per cent. by public vaccinators alone; to which may be added 15 or 16 per cent. above one year old, besides an immense amount of private vaccination, 5351—2. In 1860—4, it was found that though many districts were very well vaccinated, many also were ill done. Among numerous schools visited, from 20 to 30 per cent. were found unvaccinated; in more than a few from 30 to 40; in some from 40 to 50; in one, 55½ per cent. were so found. This led to the Act of 1867. There was immense delay in getting this Act to work in London and elsewhere, but it is now getting into order; *e. g.*, in Leeds, out of 5499 births in two years, 4681 are certified as vaccinated; Northwich, 2863, 2781 vaccinated; Clutton, 1467, 1320; Frome, 1514, 1321; Congleton, 1791, 1649; Witney, 1602, 1483; Gloucester, 3000, 2550 (defaulters being looked up); Cockermouth, 3370, 3093 of births. Vaccination is now also practically complete at Manchester, Chorlton, Chorley, Gravesend, Huddersfield, Reigate, Wandsworth, Godstone, Kingstone, Milton, Thanet (including Margate and Ramsgate), and Elham, including Folkestone. The Leeds officer reports he had not issued one summons last quarter, or called in force the penal clauses in the previous quarters. There are two or three standing out. There has been no occasion to take proceedings in Manchester or Liverpool. There was a good deal of trouble at Sheffield. There was a man named Ironside, who gave a good deal of trouble, but he is gathered to his fathers. Now learns from the officer there that the opposition is lessening, and one has nothing to do but go on, and the opposition will die away. Does not believe there has been occasion to take many proceedings there. Mr. Ironside's opposition was to compulsion, perhaps, but a man named Orton and others were as much opposed to vaccination as compulsion. Arrangements for free vaccination were the same in Ireland, when the mortality annually from smallpox was 1272, as now, when it has become *nil*. Up to 1864 there were less than 20,000 babies publicly vaccinated out of 180,000 births, in Ireland; whereas now there are 112,000 done under the statute, showing what the influence of compulsion has been. Thinks extreme danger would result from discontinuing the policy of the present Act (5429—30)—does not believe conscientious objection to vaccination, on the ground that it does harm, is a largely operative cause. Should like to know how many really object, without its being suggested to them, or because they are put forward in the enviable position of public characters, having silver watches given to them. Does not know that imprisonment

would not be enviable if it was to result in a silver watch ; is not aware of the number of convictions. The principle of the Act cannot be allowed to be let go ; if there were any way of letting out those ambitious of martyrdom would not object ; or to penalties up to a certain point. Is aware, though parents have been proceeded against several times, in some instances the children still remain unvaccinated, but the number is very small in which the law would be inoperative. Does not know exactly what the Irish Act does, there being no continuing penalty. Never thought the limit of two penalties would be mischievous, or that there would have been such a number unvaccinated as to have an element of danger to the community. Thinks a considerable advantage might come out of ceasing to receive silver watches ; there might be some ulterior check as to schools, &c., as suggested by Sir D. Corrigan, 5354—96. The guardians in general willingly carry out the regulations (5828). There had been a very serious difficulty in some places, from competition among vaccinators, some bribing the people by offering to vaccinate only a little, *e. g.*, "Mr. so and so will vaccinate in 4 places, I will do it only in two," &c., 5412—22. Disputes Dr. Wood's statement that people in Scotland are not liable to fine and imprisonment, for neglect, but refusal only. Thinks the Scotch Act is rather hard as vaccination is not gratuitous, and the distances are long, 5444—8. Suggests amendments in the law. The effect of abolishing compulsion would be apathy, delay, and in the minds of some, conscientious objection ; any attempt to meet which, that would also release the others, would cause an awful increase in smallpox mortality, and therefore of general mortality. Erysipelas might occur from the prick of a pin, or putting in earrings. Describes official working of the Act, 5495—5557 ; 5688—92. Thinks if there is objection it comes from the father, it was so in one of Mr. Rothery's cases, probably from having read adverse publications without reflection, 5640—6. [See p. 67.]

VII.—EVASIONS OF THE VACCINATION ACTS.

MR. CANDLISH, M.P. [see p. 57] states that in one instance a child was sent away out of the jurisdiction of the magistrates to escape the law, 7, 57, 85, 91. Knows several cases where parties have thus several times removed, and one man emigrated to avoid the penalties, 26. Knows persons of all ranks, and vast numbers of the intelligent population, who are opposed to vaccination, 27 ; 77—80. The law is not compulsory in the sense of securing its object ; penalties are affixed, and the child remains still unvaccinated ; there is no other compulsion than taking the child by force, which no House of Commons would dare sanction, 60—62 ; 93—103. Thinks there should be one

penalty only, 58—60; but that would practically be the sale of an indulgence at trifling cost to the rich, 69—71.

DR. GARTH WILKINSON [see p. 9], thinks that while the compulsory law continues leagues and clubs should be formed, to protect the poor from gaol, and to rouse the country, 1431.

MR. EMERY [see p. 10], has found much aversion to vaccination among all classes, wherever he has been; many who are able, shift from one parish to another to avoid prosecution. The poor cannot pay a penalty, some of them have gone to prison rather than have their children vaccinated, 2012—19; 2025—26; 2046—8.

MR. BAKER [see p. 10] believes that to escape persecution many births are not registered, and thus the use of the Registrar-General's officers, as spies and informers, has partly resulted in doing away with the use of his statistics. Some remove or send their children out of the jurisdiction; some refuse to produce their children, or to criminate themselves by answering questions. Knew two instances where mothers had ostensibly complied with the Act, but got rid of what they consider its curse by wiping or sucking out the poison immediately after vaccination, and thus prevented any results. If this were done 20 times the result would be the same, and a certificate of insusceptibility probably at length conceded. It would be impossible to compel vaccination where thus resisted. One woman had wiped out two punctures, which did not rise, and left the other two which did, showing that susceptible children may be saved in that way, 2369—76.

MR. ADDISON [see p. 45], states that there exists a great deal of feeling and agitation against vaccination in his neighbourhood, and that people resort to various subterfuges to evade the law, by removal, giving false addresses at the registry office, and neglecting registration altogether, in order not to get within the power of the law, 2445—54.

THE REV. HUME ROTHERY [see p. 11], knows that a great many persons evade the law by refusing to register the birth. A friend of his had removed to avoid persecution, 2641—4.

DR. BAKEWELL [see p. 13], states that in Trinidad magistrates will not punish except by the smallest fine; and every sort of loophole was allowed, so that one conviction could only be got out of a dozen clear cases. Half the children born were therefore not vaccinated. Out of 32 cases three only were able to be found, wrong addresses being given at registration, and all information by neighbours being denied from sympathy, 3572—3; 3770—2.

DR. SEATON [see p. 17], states that registration being voluntary a great number of births escape: the birth registers in England are not nearly so complete as in Scotland, where registration is compulsory under penalty, 5487—94.

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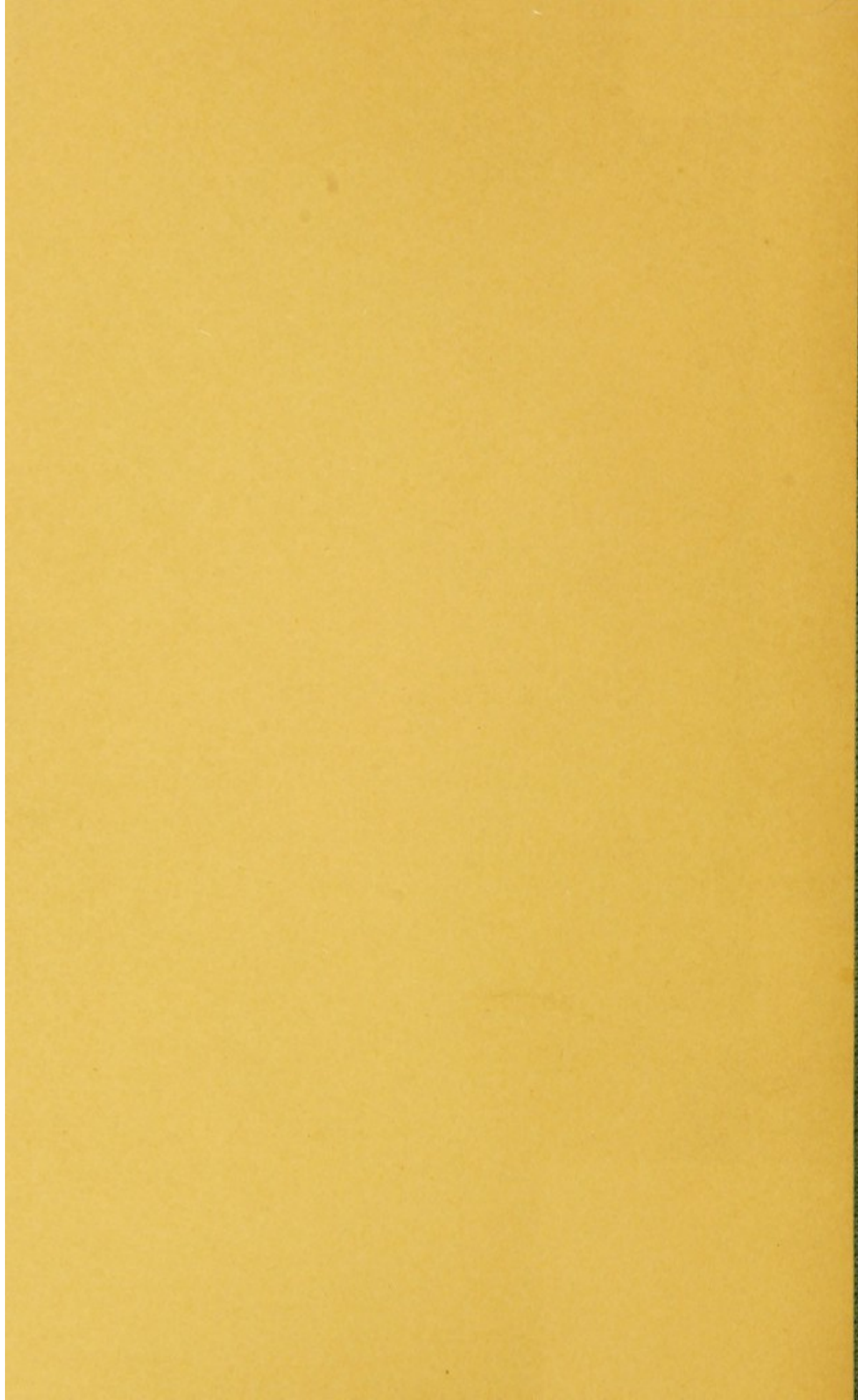
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