

SANITATION, NOT VACCINATION, THE TRUE PROTECTION AGAINST SMALL-POX,

A PAPER READ BEFORE THE SECOND INTERNATIONAL
ANTI-VACCINATION CONGRESS AT COLOGNE,

OCTOBER 12th, 1881, (WITH APPENDIX,)

By WILLIAM TEBB.

"To get men to listen is half the battle, and the hardest half, in all reforms."

WENDELL PHILLIPS.

"The true preventions of disease are pure blood and a healthy life."

DR. B. W. RICHARDSON, F.R.S., at the Brighton Health Congress, Dec., 1881.

In medicine it was well that imperfectly established doctrines should be from time to time tested by the light of more recently acquired facts.—*Lecture before University College by DR. H. CHARLTON BASTIAN, Sept. 30th, 1872.*

"Ce n'est plus le *medecin* qui peut et qui doit décider de cette question importante ; mais *uniquement* le bon sens."

"This important question no longer can nor ought to be decided by the doctor, but simply by sound common sense."—A. LUTZE, M.D., Cothen.

"The primary object to aim at is placing a healthy stock of men in conditions of air, water, warmth, food, dwelling, and work most favourable to their development. The vigour of their own life is the best security men have against the invasion of their organization by low corporeal forms of life—for such the propagating matters of zymotic diseases may be held to be."—DR. FARR in *Registrar General's Report for 1867*, p. 219.

The propagation of disease, on the pretext of thereby arresting disease, is bad in logic, wicked in morals, and futile in practice.—*New York Medical Tribune*, 1881.

LONDON SOCIETY FOR THE ABOLITION OF
COMPULSORY VACCINATION,

114, VICTORIA STREET, WESTMINSTER, S.W.,

AND

E. W. ALLEN, AVE MARIA LANE, E.C.

Price Two-Pence, or Ten Shillings per Hundred.

Inoc
Vacc

PREFACE.

The International Anti-Vaccination Congress.

THE first International Anti-Vaccination Congress was held in December, 1880, at the *Salle des Conférences*, Paris, and had the effect of drawing public attention to the question throughout the continent, and especially in those States where Vaccination is enforced under pains and penalties. Eighteen delegates were present, representing France, Belgium, Switzerland, Prussia, Württemberg, Holland, England, and the United States. Dr. HUBERT BOENS, Member of the Belgian Academy of Medicine, was elected President, and about twenty addresses and papers were read, containing a vast amount of medical and statistical evidence against Vaccination; these have been published and widely distributed. One of the most important results of the Congress has been the withdrawal of Dr. LIOUVILLE'S Bill to strangle liberty in France by making Vaccination and Re-Vaccination compulsory. This was due to the representations made by the delegates to M. DUHAMEL, principal secretary to the President, M. TIRARD, Minister of Agriculture and Commerce, and M. CONSTANS, Minister of the Interior, at audiences courteously granted for the purpose.

The Second Congress was held at Cologne on the 9th, 10th, 11th and 12th October, and has been a most encouraging success, not exceeded by any demonstration in the history of the movement. The various Leagues and Societies in opposition to compulsory Vaccination in Switzerland, Württemberg, Prussia, Saxony, Belgium, France, England, and the United States, were represented by 40 delegates.

A series of maps were exhibited, showing the incidence of small-pox and Vaccination, by Dr. OIDTMANN, Mr. CARL LÖHNERT, and others; also tables demonstrating from Swedish official returns that small-pox epidemics have come and gone wholly irrespective of Vaccination—the heaviest epidemics sometimes following closely after the most thorough-going Vaccination. A large number of pamphlets and publications in various languages were circulated

among the members. The clever cartoon of the *Leicester Town Crier*, showing how successfully Mr. P. A. TAYLOR had crushed and overwhelmed Dr. W. B. CARPENTER, created much amusement. The extent and variety of Anti-Vaccination literature, from the portly volumes of Dr. GERMANN, of Leipsic, to the broad-sheets and leaflets of the various Leaguers, must have occasioned surprise to those visitors and reporters who were new to the subject.

Space will not permit the reproduction of the numerous letters from Europe and America, which shew the interest taken in the International gathering, but we cannot refrain from quoting a few.

The COUNTESS DE NOAILLES, one of the most generous supporters of the cause in England, or indeed in Europe, wrote:—"You well know the intense interest which I have taken in the subject for fifteen years; in fact I am convinced that compulsory Vaccination is the greatest evil under the sun—in civilized countries at least—because it is the one that alone extends to every child born in the country, which can be said of no other bad law."

Mr. ALDERMAN TATHAM, Mayor of Leeds, regretted his inability to attend, and wished the cause every success.

Dr. C. T. PEARCE said: "I cannot but rejoice to know that a movement in which I took chief part in promoting in England so many years ago has spread so widely here, and extended so far in all the world."

Dr. ANCELON, of Nancy, wrote:—"We are in France much interested in the success of the approaching Congress at Cologne, inasmuch as one of the deputies for the Department of the Meuse—M. LIOUVILLE—has formulated the maleficent notion of proposing a murderous law (*loi meurtrière*) in France to compel all citizens to Vaccinate and Re-Vaccinate according to the caprices and pleasures of Messieurs the Vaccinators. You may reckon on my complete devotion to your cause."

Dr. J. W. JACKSON, one of the leading hygeists in America, dating from Dansville, New York, said: "My head and my heart are with the International League for obtaining the abolition of compulsory Vaccination, but as it is impossible for me to be present, I beg to extend my most earnest wishes and sympathies for its success."

Dr. E. RUSHMORE, of Plainfield, New Jersey, wrote to Mr. TEBB:—"With your anti-compulsory movement I am in strong sympathy, and wish the Congress success."

Dr. C. L. SPINZIG, author of one of the most valuable and important works published in America on Small-pox and Vaccination, wrote from St. Louis:—"As early as my health will permit I shall reply to M. PASTEUR, and hope to prove that the foundation of his superstructure is unscientific, and that his deductions that the specific entity of cholera, anthrax, malaria, &c., can be counter-

acted by invaccinated poison, are arbitrary and delusive. I hope you will meet with a satisfactory success, and that pretension will be eradicated by truth."

Mr. GEORGE COTTER BEALE wrote:—"I wish you all the success you could desire in connection with the approaching Conference."

Mr. HENRY PITMAN, of Manchester, wrote:—"I hope our foreign friends will feel that they are working for the emancipation of the English people from the vaccine delusion quite as much as for their own medical freedom. International co-operation has been the great want of our movement."

Amongst other letters are those of LORD CLIFTON, Mrs. HUMEROTHERY, Mr. P. A. TAYLOR, M.P., Mr. H. D. DUDGEON, Mr. GEORGE S. GIBBS, Dr. JAMES BROWNE, Professor of Physiology, Oregon; Dr. J. EMERY CODERRE, Professor of Materia Medica, Victoria University, Montreal; Dr. WESTERMAYER, Ecclesiastical Councillor and Member of the German Parliament; HERR GEO. F. KOLB, Member Extraordinary of the Royal Statistical Commission, Bavaria; COUNT ADOLF ZEDTWITZ; REKTOR P. A. SILJESTRÖM, late member of the Swedish Parliament, and author of several pamphlets on the results of Vaccination in Sweden; Mr. KEUCHENIUS, Member of the Dutch Parliament, and President of the Netherlands Anti-Vaccination League; Dr. GARTH WILKINSON; Mr. ENOCH ROBINSON, late Medical Officer of Health for Dukinfield; Mr. W. J. Collins, member of the Executive Committee of the London Society; Dr. MONNIK, of Vorden, Holland; Mr. HENRY BERGH, President of the American Society for the Prevention of Cruelty to Animals, New York; Mr. FRANCIS DAVIS, Jun., Enniscorthy, etc., etc., many of which have been reprinted in the *Vaccination Inquirer and Health Review* for November and December.

During the four days' session about twenty-five papers and addresses were contributed and delivered, on the legal, medical, political, and statistical sides of the question, amongst which may be mentioned, a brilliant discourse on the "History of the International Anti-Vaccination League, and the Results of the Paris Congress," by the President, Dr. H. BOENS. "The Aims and Objects of the International Congress at Cologne" were presented in a short paper by Mr. WILLIAM TEBB. "The Unconstitutional Nature of the Vaccination Law" was shewn by Dr. VON COLLEN, barrister-at-law. "The History of Vaccination" was reviewed by Dr. ADOLF VOGT, the Vice-President; and Dr. CHARLES PIGEON, of Fouchambault, France, maintained and defended the following propositions:—

1. That variola is not relatively a serious illness.
2. That vaccination is not a preservative against it.

3. That this same vaccination, on the contrary, predisposes to variola, and renders it more dangerous.
4. That vaccination exposes to syphilis.
5. That vaccination exposes equally to various other maladies much more dangerous than the small-pox.

Lastly, that vaccination is a powerful cause of degeneration of mankind.

Dr. WEBER addressed the Congress on the Vaccination question as viewed by medical men. Dr. OIDTMANN presented a communication formulating a working plan for carrying on the agitation against compulsory vaccination in Germany. Mr. THOS. BAKER read a paper entitled, "Small-pox Notes in England." Mr. CARL LOHNERT reviewed the whole question of vaccination as revealed by historical, topographical, municipal, and Imperial statistics," and dealt with M. Pasteur's recent experiments. "The Evil Results of Vaccination" were the subject of Dr. SCHOPPE, of Bonn. Herr ZOPPRITZ spoke of the state of the vaccination question in Wirtemberg. Dr. WALZ dealt with the allegations upon which the German Vaccination Law had been carried. Papers were also contributed by Dr. E. HAUGHTON, of Norwood, on "Medical Chaos in relation to Vaccination," and by Mr. W. J. COLLINS, M.R.C.S., of London, and others.

At the close of these proceedings the delegates discussed the place of meeting for the Congress of 1882, and the claims of London, Berne, Geneva, and Brussels were severally considered. London was rejected on account of the indifference with which the question is treated by members of the English Parliament, who seem anxious to be ignorant of all recent facts and evidences which are producing so deep an impression on the Continent. It was thought expedient, under all the circumstances, to carry the standard into the centre of the German pro-vaccination camp at Berlin, and a resolution to hold the next Congress in that city was carried unanimously. A hope was expressed that the work in England would be prosecuted with vigour, so that the Congress might be held in London in 1883.

The following are the members of the Executive Committee of the International Anti-Vaccination League for 1881-82.

PRESIDENT :

Dr. HUBERT BOENS, B. Sc., Member of the Belgian Academy of Medicine.

VICE-PRESIDENT :

Dr. ADOLF VOGT. Professor of Medicine and Hygiene, Berne University.

GENERAL COMMITTEE :

<i>Austria</i>	COUNT ZEDTWITZ, Graven 27, Vienna.
<i>Australia</i>	Dr. C. W. ROHNER, Benalla, Victoria.
<i>Bavaria</i>	GEORGE FRIEDRICH KOLB, Member Extraordinary of the Royal Central Statistical Commission, Munich.
<i>Belgium</i>	Dr. HUBERT BOENS, B. Sc., Charleroi. (President.)
<i>Canada</i>	Dr. J. EMERY CODERRE, Professor of <i>Materia Medica</i> , Montreal University.
<i>England</i>	Mr. WILLIAM TEBB, 7, Albert Road, Regent's Park, London.
<i>France</i>	Dr. CHAS. PIGEON, Fourchambault (Nievre.)
<i>Holland</i>	Mr. KEUCHENIUS, Member of Parliament, The Hague.
<i>Italy</i>	Dr. GRYANOWSKY, 15, Via dell' Ambrogiana, Leghorn.
<i>North Africa</i>	Dr. E. G. BERTHERAND, Director of the <i>Journal de Medicine</i> de l'Algerie, Algiers.
<i>New Zealand</i>	Mr. THOMAS HEWETSON, Upper Moutere, Nelson.
<i>New South Wales</i>	Dr. BRERETON, Sydney.
<i>Prussia</i>	Dr. H. OIDTMANN, Linnich, Aix la Chapelle.
<i>Russia</i>	Dr. REITZ, Elizabeth Hospital, St. Petersburg.
<i>Saxony</i>	HERR HUGO MARTINI, Councillor at Law, and Notary, Leipsic.
<i>South Africa</i>	Mr. B. T. HUTCHINSON, L.D.S., 2, New Street, Capetown.
<i>Spain</i>	SEÑOR JULIO VIZCARRONDO, 4, Soldado, Madrid
<i>Sweden & Norway</i>	REKTOR P. A. SILJESTRÖM, M.A., 9, Kaplensgaten, Stockholm.
<i>Switzerland</i>	Dr. ADOLF VOGT, Professor of Medicine and Hygiene, University, Berne. (Vice-President.)
<i>United States</i>	Dr. ALEXANDER WILDER, Professor of Physiology, United States Medical College, New York.
<i>West Indies</i>	Dr. C. E. TAYLOR, Main Street, St. Thomas, D.W.I.

HON. SECRETARIES :

Mr. WILLIAM TEBB, 7, Albert Road, Regent's Park, London.
 Dr. VON COLLEN, 8, Berlich Strasse, Cologne.

SANITATION, NOT VACCINATION,

THE TRUE

Protection against Small-Pox,

*A Paper read before the Second International Congress of
Anti-Vaccinators, held at Cologne, October 12, 1881,*

By WILLIAM TEBB.

AT the first International Anti-Vaccination Convention, held last December at Paris, I had the honour of explaining the existing state of the opposition at that period to the Compulsory Vaccination Acts in England. My first thought on the present occasion was that I might appropriately continue the same theme, with a record of the important events which have occurred since our last convention, including the acceptance by Mr. P. A. Taylor, the leader of the Anti-Vaccination party in the House of Commons, of the position of President of the London Society for the Abolition of Compulsion, together with a glance at the conferences and public meetings in the metropolis and elsewhere, the public demonstrations at Brighton and Leicester, the considerable accessions of active support from influential quarters, the issue of important Parliamentary returns confirmatory of our position, and the publication and distribution of literature, at least five-fold that of any similar period in England, with other indications of encouraging progress, which, if detailed, would constitute an interesting chapter in the history of our agitation. I have preferred, however, to take a wider range, and to address you on the subject of "Sanitation *versus* Vaccination, as a preventive of Small-pox."

One of the most serviceable arguments in use by our opponents the pro-vaccinators is, that prior to Jenner's discovery, small-pox was a scourge of the first magnitude, a relentless and fell decimator and destroyer of the human race. I shall not attempt to inquire how much of this is true, and how much is due to a lively imagination, except to mention one testimony, that of Dr. James Moore, who, in his "History of Small-

pox" (a work dedicated to Dr. Jenner), says that inoculation has occasioned the loss of millions of lives. These points have been dwelt upon by able pens than mine, and their testimony is before you.

Sanitation, which has for its end the prevention of disease by the removal of the causes of disease, is a science which of late years in England, America, France, and Germany, and in other countries has engaged the attention of some of the ablest and most thoughtful minds. It is not, however, a new discovery. It was taught by the Jewish lawgiver, Moses, in numerous stringent regulations for the tent and camp, and by the Greeks and Romans, as their systems of baths, aqueducts, and drainage-works testify. In Rome the remains of the *Cloaca Maxima* are pointed out to every stranger as one of the sights of the city. With the decline of the Roman Empire, sanitation became one of the lost arts, and for many centuries plagues and epidemics carried off countless thousands in all the large centres of population, and were regarded as visitations of God with which it was presumptuous to interfere. Macaulay, in his "History of England," showing the conditions of life two centuries ago, says: "Cabbage-stalks and rotten fruit accumulated in heaps at the thresholds of the Countess of Berkshire and Bishop of Durham. Rubbish was shot into Lincoln's-inn-fields, and St. James's-square was a receptacle for all the offal, dead cats and dogs of Westminster; and these were deposited under the windows of the great magnates of the realm—the Norfolks, the Pembrokes, and the Ormonds." "Men died faster in the lanes of our towns than they now die on the coast of Guinea."

Other writers confirm this testimony. The streets were mostly unpaved, with open gutters, cesspools under houses, stagnant ditches, polluted streams, tainted wells; and the air was contaminated with effluvia arising from the decaying bodies of the dead, interred in close proximity to living urban populations.

Mr. BUCKLE says, that the smells in London were so bad that sweet herbs and perfumes were kept in the rooms to neutralise them. Nor were the interiors of our houses much more wholesome than their exterior surroundings. "The floors," says a writer of the sixteenth century, "generally are made of nothing but loam, and, are strewn with rushes, which, being constantly put on fresh, without a removal of the old, remain lying there, in some cases,

for twenty years, with fish-bones, broken victuals, the dregs of tankards, and impregnated with other filth underneath from dogs and men." Clothing was seldom changed, and was pervaded with unwholesome odours; linen and cotton were aristocratic luxuries; the food was coarse and badly cooked; two centuries ago there were no fresh vegetables grown in England, small quantities being imported from Holland for the exclusive benefit of the rich. These were days when the plague, sweating sickness, black-death, remittent fever, small-pox, and all forms of zymotic diseases, engendered by filthy habits and unwholesome surroundings, abounded. Violation of the laws of Nature breeds its own cure through manifold chastisements, but it was not until the severe visitation of cholera in 1831, that attention was awakened in England to the importance of the subject.

And in 1848 public opinion had sufficiently advanced to enable Parliament to pass what was called the "Nuisance Removal Act," as well as the "Public Health Act," by which was established the General Board of Health, and thenceforward the furtherance of sanitation became one of the recognised duties of the State. A series of amending Acts of Parliament have been passed relating to the public health, embracing cleansing of streets, removal of nuisances, construction of sewers, building of streets and houses, ventilation of public buildings, regulation of lodging houses, prevention of river pollution, and similar matters, and if the authorities had been content to fight disease by preventive measures of this kind alone, the zymotics might by this time have been deprived of their epidemic power; but, unfortunately, in an evil hour Parliament was induced to listen to a faction of the medical profession, who, unable to obtain the public acceptance of their theories on their own merits, determined to do so by the authority and assistance of the State, and were enabled to force upon everybody a disease called the cow-pox, because, as it had been pertinently said, somebody might catch the small-pox. In 1853 the Vaccination Acts were introduced by a private member, and passed into law, without notice or public discussion, and it is no exaggeration to say that a more wretched and obnoxious edict has not been foisted on the English-speaking race since the passage of the atrocious Fugitive Slave Law in America thirty-five years ago. Vaccination, which is a spreading of disease, became thenceforward, by a strange

perversion of the fitness of things, officially associated with sanitation, which is the prevention of disease.

Several of the diseases I have mentioned have now practically disappeared, without any medical preventive, but solely by the effect of improved sanitation ; yet small-pox, which vaccination promised to stamp out, is still raging, notwithstanding the lavish expenditure of millions among the medical profession ; and the fell disease is a standing disproof of the Jennerian predictions. Reposing on a State-endowed remedy, which has been insolently called the greatest discovery in medical science, all special investigations into the causes of small-pox have been officially considered superfluous. During the present epidemic in London, June 10, 1881, a member of the English Parliament, Mr. Daniel Grant, asked in the House of Commons whether the Government would appropriate a sum of money to inquire into the causes of the outbreak. The President of the Local Government Board replied that the Board had no funds for that purpose ; yet the official vaccination grants amount to over £100,000 a-year ! Were it not for the determination to uphold vaccination at all hazards, the official excuse that the cause of small-pox lies in unfathomable mystery would long ago have been summarily set aside.

In a recent number of the *Leicester Free Press*, it is said :—" So far as we are concerned in Leicester, a town containing 120,000 inhabitants, with many thousands of unvaccinated children, small-pox seems to be about the least dangerous of all diseases, and is not to be named by the side of scarlet fever, measles, whooping cough, diarrhœa, or even consumption. If a case of small-pox is discovered, instant isolation is adopted, and during the last five years we have hardly had five deaths. That being the state of the case, one need not wonder that the fear of the disease should disappear, or that resistance to vaccination should increase."

Dr. FARR, in his official report for 1876, says :—" Experience has shown that the various forms of plague are influenced to a large extent by sanitary conditions. All zymotic diseases are most fatal in the densest districts, and although this may be due in part to contagion, it is certainly due in part to the concentrated impurities of towns."

And Professor PLAYFAIR says :—" No epidemic can resist thorough cleanliness." Those who have intelligently watched the

course of zymotic outbreaks, and noted the localities where they have arisen and the causes by which they are engendered, are convinced that it is within the power of Governments by means of scientific sanitary appliances and methods to stamp out small-pox altogether. Supposing vaccination to be abandoned, this revolution would be brought about, for it is the opinion of many of the ablest opponents of the vaccination laws in England that one cause of the perpetuation of small-pox in our midst is the application of this alleged remedy of vaccination. Every one now admits that a considerable portion of vaccination in England is variolation, *i.e.*, small-pox matter passed through the cow, and that what is called vaccination is nothing but modified small-pox. In no part of England has submission been so rigorously enforced as in the English metropolis, where, in addition to the energetic efforts of vaccination officers and public vaccinators, stimulated by special awards, there has been inquisitorial house to house and school to school visitation; the remorseless cow-poxing in the work-houses even of infants scarcely a week old; the hunting of unvaccinated fugitives from parish to parish, like slave-hunting in the United States; and the relentless prosecution of the parents of unvaccinated children in every police-court in the metropolis. And what is the result? Has small-pox been stamped out, as all the Jennerian prophets in succession have loudly predicted? On the contrary, in proportion as public money and State machinery have been diverted from sanitation (the only scientific adversary of small-pox), to vaccination, or the unscientific treatment by poisoning the blood, the disease has spread with the result shown by the Registrar-General in his annual summary for the year 1880, which tabulates the small-pox mortality of London for the last thirty years as follows:

Decades.	Estimated Mean Population.	Small-pox Deaths.
1851-60	2,570,489	7,150
1861-70	3,018,193	8,347
1871-80	3,486,486	15,551

The last decade showing an increased small-pox mortality of 80 per cent. It must not be supposed, however, that this mortality is equally spread over the Metropolis, or that it exists in all classes of habitations alike. In the princely mansions of South Kensington, Hyde Park, and Regent's Park, in the aristocratic districts of Bayswater, Notting Hill,

Haverstock Hill, the open and airy slopes of Hampstead* and Highgate, in the salubrious suburbs of Ealing, Clapham, South Hornsey, † Sydenham Hill, Wimbledon, Chislehurst, and Finchley, cases of small-pox are of the rarest occurrence. The epidemic is found amongst the poor, ill-fed, uncleanly, intemperate, over-worked populations of Hackney, St. Giles's, Bethnal-green, Poplar, Shadwell, Bermondsey, and Southwark, amongst those who live in the courts and alleys, in old and decayed habitations, and in the miasmatic atmosphere in which the neglected residuum of this immense city are reduced to dwell. Amongst the denizens of these unwholesome districts will be found the largest proportion of the specially unhealthy children, the offspring of the diseased and vicious to whom the so-called protection, vaccination, is prohibited by official instructions. These children have no vitality to resist small-pox and other zymotic diseases, hence it is that a larger number of the unvaccinated or unhealthy children die of small-pox than the general average. This pretended protection must needs be given not to the weak and sickly, who most require protection, but to those whose physical strength is itself an all-sufficing safeguard.

The *British Medical Journal*, an ardent pro-vaccinating advocate, in its issue of Oct. 23, 1880, says, "It is probable that a larger proportion of unvaccinated persons is to be found amongst the ignorant, dirty, and wretched inhabitants of the slums of London, and very few amongst the educated and better fed members of society. The disease is much intensified by over-crowding." Thus the highest vaccination medical authority vitiates and overturns the entire fabric of Dr. BUCHANAN's figures which, both in England and Germany, seemed a few months ago to have galvanised the vanquished Jennerians into a spasmodic vitality. When Dr. SOUTHWOOD SMITH, Mr. EDWIN CHADWICK, Mr. H. D. DUDGEON, and other leading sanitarians, commenced their work thirty years ago, by showing that filth, bad drainage, impure water, and overcrowded dwellings were the causes of zymotic diseases, the rank and file of

* Dr. EDMUND GWYNN reports (*Lancet*, Nov. 5, 1881) the death-rate for Hampstead, with a population of 45,436, at 12·6 per 1,000 for 1880, as compared with 22·2 in the metropolis generally.

† Dr. JACKMAN, Medical Officer of Health for the South Hornsey district, states that the death-rate of the district is only 10·7 per 1,000 living, and the birth-rate is equal to 39·0 per 1,000. Special inspections of the houses in the district are made from time to time by Mr. ABRAMS, the Sanitary Inspector, and a proposal is now on foot to procure for the inhabitants a constant water supply.—*Lancet*, Nov., 1881.

the medical profession ridiculed their theories with unsparing scorn. Evidence, nevertheless, as to the truth of the theory and contention accumulated, so rapidly indeed, that had not many of the doctors relinquished their fatuous objections, they must have placed themselves outside the intelligence of the age. The vaccinators yielded to public opinion reluctantly, and so far as small-pox is concerned, many of them still audaciously defend their oft-exploded theories. One of the most striking proofs in support of my contention is that afforded in a letter written by our esteemed friend and colleague, the energetic sanitary reformer, Dr. OIDTMANN, illustrating the enormous advantages of sanitation in preventing small-pox in the German invading army, and the dangerous consequences of the neglect of these precautions in the French army ; the conditions as to vaccination being alike in both cases.

In the *Natur-Arzt*, published at Dresden in 1873, Dr. OIDTMANN says :—"In my numerous marches and halts in the campaign of 1870-71, I directed my particular attention to the health statistics. After the taking of Verdun, I noticed that the rooms in which the French hospital patients were miserably decimated during the bombardment, were inexpressibly close and ill-smelling—breeding places of small-pox poison. The only German physician of the garrison being unwell, it fell to my lot to root out these filthy lurking-holes of pestilence. At a later period, after the battle of St. Quentin, I was physician of the garrison staff of that place, and all the statistics of the French, German, and International Hospitals for six weeks in succession passed through my hands. The number of French who, during that time, died in these hospitals of pyæmia (blood-poisoning) and phlegmonia (blood impurities) was so wonderfully great in proportion to the small death-rate of the German hospitals, that the vaccination statistics of your English newspapers can hardly admit of comparison with it. What then was the cause of the 'protection' of our people from these two diseases ? Had they been inoculated for pyæmia and phlegmonia ? Certainly not. But, whereas in the French hospitals a veritable pest atmosphere reigned night and day, yet at Abbeville, on the contrary, where we had no French army doctors, and where the arrangements of the hospital were in the joint hands of myself and the medical men of the place, the statistics of recovery from small-pox were highly favourable, and indeed equal for French and

Germans. The enormous difference between the small-pox mortality of the two armies, was caused by the crying neglect of hygienic precautions in the French military department, and by the excessive concentration of their system of stationary sick depots, as opposed to the freshness of the hygienic arrangements of the German hospitals, and the ambulatory movements of their scattered troops. No more decisive proof can exist of the correctness of my theory—that the strength and spread of small-pox is both proportioned to and progressive with the fostering and shutting in of the small-pox vapour—than these statistics of the Franco-German War.”

Proofs of the truth of the value of sanitation are, however, nearer at hand, and a satisfactory demonstration is afforded by the associations in London which have devoted their attention to improving the dwellings* of the poor. A wholesome habitation in a crowded district is shown to diminish the death-rate by a third or half, as compared with that of the occupiers of old houses in the same locality. I have before me a report of the thirty-sixth half-yearly meeting of the Improved Industrial Dwellings Company, held at the Mansion House, London, August 5, 1881. This association controls 3,681 tenements or habitations (with a population of 18,000 persons), nearly all of which are located in the denser parts of London, and the mortality is only 16·7 per thousand, while the death-rate of the adjoining houses is 30 to 35. Although the report is for a year when there was a severe epidemic of small-pox the secretary, Mr. JAMES MOORE, informs me that only one death from that disease occurred. The thirty-seventh report of another, the Metropolitan Association for improving the Dwellings of the Industrial Classes, read June 6, 1881, gives the death-rate of an average population of 5,675 at 15·5 per thousand. And as the average mortality of the entire metropolis is 23 per thousand, there has been a saving of life of seven or eight per thousand. In the last-named association there has not been one death from small-pox during the past ten years, while the surrounding habitations have often been the hotbeds of contagion. An equally satisfactory

* Dr. SOUTHWOOD SMITH, referring to the improved conditions of the inhabitants of the model dwellings, at p. 17 of his “Results of Sanitary Improvements,” says:—“There has been in the improved dwellings complete exemption of typhus, cholera, and, it may be added, small-pox; yet it must be admitted, that other forms of zymotic disease—scarlet fever, measles, hooping cough, and diarrhoea—have occurred, though rarely, and these maladies have in no instance spread.”

result has been achieved by the Victoria Dwellings Association, which has been in existence six years. Their buildings are situated at King's Cross, a crowded centre of the Metropolis, and at Battersea, one of the outlying suburbs. The average population has been 2,500, out of which only twenty-four deaths occurred during the past twelve months, or less than half the Metropolitan death-rate, and not a single death from small-pox since the association was formed. The facts prove the truth of my contention, that sanitation is sufficient to prevent and stamp out all zymotic diseases including small-pox; and even if it could be shown that vaccination would do the same, it is nevertheless wholly unnecessary. Earl SPENCER, in opening the Sanitary Exhibition in London, on July 16, said that already in Great Britain the death-rate had been so much diminished during the past ten years that 300,000 lives have been saved, as compared with the previous decade, and this was largely due to improved sanitation. An official report on the sanitary condition for 1881, says that more than three-fourths of the reduction is due to the decrease of severe zymotic diseases, the product of filth, which good sanitation can remove.

It is clear, therefore, from the foregoing facts, that small-pox can be extirpated by means of sanitation alone, a remedy which, besides being absolutely efficacious, can be adopted by municipalities and by individuals with the certainty that it is attended with none of the dreaded evils inseparable from the compulsory injection of lymph of doubtful origin and unknown virulence and power. The testimony of Dr. FARR and Professor PLAYFAIR, both pro-vaccinators, and the evidence deduced from the death-rate of the various improved dwellings associations, leave Governments without excuse for continuing a system which, besides being of non-effect as a preventive, is often the cause of ineradicable mischief. Compulsory medicine, according to the testimony of Mr. MACLAREN, the late Lord Advocate for Scotland, and other high authorities, is opposed to the ancient constitution of England, and is, therefore, a gross infraction of the liberty of the citizen and of parental rights. The work of our Congress is to assist in restoring the birthright of our citizens, to give back to parents their highest duty and privilege—the sacred right to protect and defend their offspring from evil, and to liberate the oppressed of many nations from an ignorant, unjust, and indefensible tyranny.

The laws which I arraign are overbearing, but being founded on injustice, must ere long crumble before a growing public opinion, which now demands, and will soon compel, their unconditional repeal ; and the pretended duty of experimenting upon our neighbour's children will cease to supersede the real duty of protecting our own.

APPENDIX.

CONTAGIOUS DISEASES & PASTEUR'S INOCULATIONS.

BY DR. BENJAMIN W. RICHARDSON, F.R.S., LL.D., &c.

The *accidental* perils which beset the young in the seed-time of health, and which we accept as evils which sanitarians are bound specially to combat; those serious perils which spring from the exposure of the body to the poisonous particles which produce disease by contagion or infection, come next before us for removal. We call these perils contagious diseases; we call them plagues or pestilences, and in respect to them we have learned much that is accurate, and, I fear, much that is inaccurate. What is accurate is, however, the most important. We know the number of these diseases; we know that their number is limited, that it is confined to thirty at the most, and practically to little over half thirty. We know that the members of this class of diseases have different periods of incubation—that is to say, of period intervening between the reception of the poison and the development of the symptoms produced by the poison. We know that the symptoms of the diseases, once developed, run a regular course. We know that some persons are more susceptible to them than others. We know that, to a certain extent, one attack of suffering from many of the diseases is a cause of exemption from a future attack. We know that the diseases assume an epidemic or spreading character, and that each of them has its season in which its spread is so remarkable that its general course may be charted or outlined as connected with the time of weeks or months or years. And if, regarding the nature of the poisons which produce the diseases we know least and are most divided, we have, at all events, this precious knowledge, that the poisons themselves are removable and destructible, so that they lie within the range of human control. What is more, we have the

clearest demonstration that while the poisons of these diseases can be generated, cultivated, and disseminated, when the conditions for such generation, cultivation, and dissemination are present ; so they can also be prevented to such an extent that places which were their favoured homes can be made the places in which they cannot live.

* * *

Science, in the main most useful, but sometimes proud, wild, and erratic, is lately proposing a desperate device founded on an hypothesis clever and specious, but not yet gilded with wisdom or proof, for the prevention of these infectious perils. She proposes to prevent one peril by setting up another. She would inoculate new diseases into our old stock in the anticipation that the new diseases will put out the old. This may be called homœopathy on the grand scale ; and if it goes on we may soon see the ranks of sanitarians divided into two ranks, as we see in medicine the regular and the homœopathic practitioners. I pray you be not led away by this new conceit of prevention. In infinitesimals, the homœopathic principles may be harmless enough, and on the old adage,

“Our doctor is a man of skill ;
If he does you no harm, he will do you no ill.”

may sometimes seem to compare favourably with heroic methods of cure ; but homœopathy on this grand scale, this manufacture of spic-and-span new diseases in our human, bovine, equine and canine, and perhaps feline races, is too much to bear the thought of, when we know that perfect purity of life is all-sufficient to remove what exists, without invoking what is not. I doubt, indeed, whether it were not better to continue in our present imperfect state than venture to make new additions of prophylactic maladies ; and, content with Hamlet’s sage advice,

“Rather bear the ills we have,
Than fly to others we know not of.”

By a few rules, in short, which all prudent and wise people may carry out in their own homes, the accidental perils of the seed-time may be kept from the homestead as easily as from the prison-house. Let every man and wife be their own sanitarians and make their house a centre of sanitation. Let in the sun ; keep out the damp ; separate the house from the earth beneath ; connect the house with the air above ; once, nay twice a year, hold the Jewish Passover, and allow no leaven of disease to remain in any corner or crevice ; let the house cleanse itself of all impurities as they are produced ; eat no unclean thing ; come back to the first-fruits of the earth for

food ; drink no impure drink ; wear no impure clothing ; do no impure act ; and all the good that science can render you is at your absolute command. The perils incident to the seed-time of health which I have called *inflicted*, come before us altogether removable. —*From Inaugural Address delivered before the Health Congress, Brighton, December 13th, 1881.*

THE SEED-TIME OF HEALTH AND THE SEED-TIME OF ARTIFICIAL DISEASE.

(The following letter was forwarded to DR. RICHARDSON, after reading his Address, of which the foregoing is a brief extract.)

116, MARINE PARADE, BRIGHTON,
December 22nd, 1881.

SIR,—I have read the admirable address delivered by you at the Brighton Health Congress with much interest and profit. I am heartily in accord with you as to the self inflicted perils incident “to the seed-time of health,” and that the true preventives of disease are “pure blood and a healthy life.” There is, however, one peril inflicted and defended by the profession to which you belong, which is not a less potent factor of infantile debility and infantile mortality than any other you have so graphically described. I need scarcely say that I refer to the state-endowed practice of vaccination, the invention and legacy of an insanitary age. I could furnish you with scores of authenticated cases of the evil and fatal consequences of this practice, but instead I take the liberty of calling your attention (which I do most earnestly), to the enclosed official document, entitled “Deaths—England and Wales,” dated September 2nd, 1880, issued during the present year, which demonstrates the truth of my assertion.

Infantile small-pox, which vaccination is intended to stamp out, has been diminished at a cost of life which must be appalling to every humanitarian, and ought to arrest the attention of sanitarians, whose main object is to discover and prevent the causes of disease. The first two columns show that the most dreaded of all diseases, syphilis, has increased from 472 to 1,851 per million of births among infants under one, and scrofula, from 335 to 1,153 ; both diseases (with many others) being now admitted by the ablest members of the profession to be inoculable in vaccination. Amongst those

who have given evidence on this point are directors of small-pox hospitals, chiefs of general hospitals, professors at medical colleges, public vaccinators, medical practitioners at children's hospitals, and others whose experience specially qualifies them for speaking with authority on the subject. The gratitude of the public is due to you for your courageous attack upon Professor Pasteur's eagerly welcomed but pernicious theories of spreading diseases under the pretence of promoting the public health, and I venture to hope that you may one day earn a deeper debt of gratitude by exposing the Jennerian superstition, which blocks the way of all who, like yourself, are trying to extend the happiness of the human race by removing preventible disease.

With much respect, I am, Sir, yours faithfully,

(Signed) WILLIAM TEBB.

B. W. RICHARDSON, ESQ., F.R.S., LL.D., M.D., &c.

To this letter, a courteous and considerate reply has been received, marked "private."

MR. ERNEST HART'S GRAND FALLACY.

On the 27th of January, 1880, Mr. ERNEST HART, the redoubtable champion of the pro-vaccinators, delivered a lecture on vaccination, which was intended to extinguish once and for ever all anti-vaccination opposition. The chair was taken by Dr. ANDREW CLARK, who, at the close of the lecture, expressed his surprise that Mr. HART had omitted all reference to sanitation as a factor in reducing small-pox. Mr. HART, with that audacity which never fails him, replied, that experience shewed that small-pox was relatively not amenable to sanitary measures, and could only be got rid of by vaccination. This led to the following correspondence :—

WM. WHITE TO DR. ANDREW CLARK.

KEMPLAY ROAD, HAMPSTEAD, N.W.,
27th January, 1880.

TO ANDREW CLARK, ESQ., M.D.

SIR,—I cannot help thanking you cordially for your impartial conduct in the chair at Mr. ERNEST HART'S lecture, and for the manner in which you indicated the grand fallacy that vitiated his discourse. The sanitary improvements and changes in habit and

diet which have reduced zymotic disease have also reduced small-pox ; but our rabid vaccinators assert that these improvements and changes have had little or no influence on small-pox, and that the reduction is chiefly due to vaccination. This Dr. SEATON maintained in his Report for 1874—the highest water-mark, perhaps, of vaccinating fanaticism.

You asked, and Mr. HART asked, why we did not answer his statistics ; but Mr. HART made no attempt to answer Dr. PEARCE'S. The truth is, statistics cannot be answered off-hand, and any one can secure an easy triumph by roaring out figures which his adversaries have no instant means of checking.

Mr. HART, and you too, wished to know how we accounted for the extraordinary mortality in hospitals among the unvaccinated. We reply, the mortality, as stated, is incredible, and is greater by far than the mortality from small-pox in ante-vaccination days. At the same time, I would ask, Who are the unvaccinated ? and reply, They are the waifs and strays of our civilisation, the children of vagabonds, with feeble constitutions to start with, the victims of every form of disease. The unvaccinated are also the unbaptised, and the lack of baptism is as likely to have contributed to their deaths as the lack of vaccination. If the inquiry were made, it would be found, I have no doubt, that the unvaccinated in hospitals die at a higher rate than the vaccinated of pneumonia and scarlet fever.

You were a little hard on our friend EMERY for his ascription of mercenary motives to medical men. I admit the imputation is injudicious, and in innumerable cases untrue ; but at the same time human nature is human nature, and we need not be so romantic as to suppose that the gains of vaccination have no influence on the maintenance of vaccination. How many Clergymen of the Irish Church favoured GLADSTONE'S measure of disendowment ? and are not parsons and doctors much the same the world over ?

Yours faithfully,

WM. WHITE.

16, CAVENDISH SQUARE, W.,
31st January, 1880.

To WM. WHITE, ESQ.

DEAR SIR,—I beg to acknowledge the receipt of your lucid and able letter, and to express my regret that the pressure of work entitled to precedence prevents me from entering into that consideration of it which otherwise I should gladly have given.

Faithfully yours,

ANDREW CLARK.

WHAT SANITARY REFORM HAS COME TO.

MR. EDWIN CHADWICK, C.B., speaking on the 11th June, at the Annual Conference on the Progress of Public Health, complained bitterly of the increased cost of sanitary administration with a marked decrease of efficiency. He said—

“During the first five years of the first General Board of Health, fundamental sanitary principles were laid down, and examples of large direct reductions of death-rates were obtained in a number of towns, and extended action on those principles promoted in other places. But this sanitary service has been merged with other functions, and placed, not in the principal position due to it, but in a position secondary to the mass of other functions heaped upon that Board. For twenty years, some £27,000 a year has been expended upon the Medical Department; about double the expenditure upon the first General Board of Health, the Sanitary Engineering Department included! And what has been the outcome of that double expenditure? I have inquired, and I cannot learn of one instance of a town or place where a death-rate can be shown to have been reduced by it; and the reduction of death-rates is the only real test of the efficient expenditure of the public money. *You will apparently only find traces of its action against one epidemic, which is of no more than the fifth magnitude, namely, small-pox, and that action very incomplete.*”

Just so! Sanitary reform has fallen into the hands of medicine men with a craze for vaccination—a handy prescription that pays well. What we have to say is, that small-pox is merely a member of the group of zymotic diseases, which have to be dealt with as one and interchangeable. What is good against typhus and scarlet fever is good against small-pox; and to assert the contrary is to contradict the plainest teaching of experience.—*Vaccination Inquirer.*

ANCIENT AND MODERN TREATMENT OF SMALL-POX.

Even before Jenner's discovery of vaccination, the improvement of medical science, consequent on the increased knowledge of the structure and functions of the human body, had greatly mitigated the fatality of small-pox. Formerly the patients were shut up, loaded with bed-clothes, in heated rooms, from which every particle

of fresh air was excluded, and stimulants were administered as if on purpose to hasten the fate of the sick. But sounder views of the wants of the animal economy at last prevailed; and, by the admission of fresh air, the removal of everything heating or stimulating, and the administration of cooling drinks and other fit remedies, thousands were preserved whose lives would have been lost under the mistaken guidance of the older physicians.—ANDREW COMBE, M.D., *Principles of Physiology*, Chap. XVI.

M. PASTEUR AND THE EXPERIMENTUM CRUCIS.

BY W. J. COLLINS, B. Sc., M.B., M.R.C.S.

To return to M. PASTEUR'S paper and to the most important question raised in it—*By what means is the cholera virus attenuated and destroyed?* The answer is clear, logical, and conclusive, and if we may rely with certainty on the experiments, must be productive of the most important results in sanitary science. Here is the *experimentum crucis*:—Tubes containing the fresh virus were hermetically sealed, just sufficient air being allowed to remain to permit the development of the virus, as shown by its increasing cloudiness. These tubes were kept for periods of from two to ten months and then opened, when the virus in every case was found to be as virulent as ever. On the other hand, tubes of fresh virus kept exposed for various lengths of time to the influence of *pure air* gradually and progressively, with almost mathematical precision lost their virulence and became innocuous. The microscopic parasite was dead!

So, says M. PASTEUR, "*it is the oxygen of the air which weakens or extinguishes the virulence*"; the presence of the cause (the oxygen) is followed by the presence of the effect (the death of the parasite and extinction of the virulence of the poison), the absence of the cause by the absence of the effect, and the greater the amount of the cause the greater is the effect. What more logical! "This is probably more than an isolated fact, we may here be in the possession of a principle. It may be hoped the inherent action of atmospheric oxygen, a natural force which is everywhere present, will be found efficacious in other virus. May we not presume henceforth that it is to this influence that we may attribute the limitation of great epidemics?" Thus writes M. PASTEUR, and without accepting unreservedly this plausible hypothesis, it is curious to see how readily it offers an explanation of many scattered

facts with which we are acquainted, *e. g.*, the efficacy of isolation and the limitability of infection, the utility of oxidising disinfectants, the salubrity of the country and the morbidity of the town, the success of the cool or open air treatment of diseases, the decline of zymotic disease before the progress of sanitation; the theory harmonises these facts and supplies a reason for what was before only empirical, though none the less true.—*Vaccination Inquirer and Health Review*, December, 1880.

THE CAUSES OF SMALL-POX IN 1813.

B. D. says :—"It is the poor wretched families that suffer most by catching the small-pox; in a dirty, close, confined, small room, the air soon becomes malignant, and when one of the family has small-pox, the rest soon have it."—*Gentleman's Magazine*, 1813.

THE SECRET OF HEALTH.

A course of self-restraint in the parents—the secret of health and happiness—is, in my opinion, worth ten thousand vaccinations to the children. Having endeavoured, in some measure, to give them this boon—which is further enhanced to them by the circumstance that neither my parents nor myself were ever vaccinated—I am naturally most anxious that it should not be all lost to them by my consenting to their reception of the vaccine corruption, by which their blood *may* become mixed up with the blood of the scrofulous, the insane, the profligate, the dram-drinker, the inveterate tobacco-smoker—the damaging effects of which will, in a greater or less degree, cling to them through life, and to their children after them.—REV. GEORGE CARDEW.

VACCINATION AND SANITATION.

BY THOMAS BAKER, BARRISTER-AT-LAW.

SIR,—The Registrar-General's return to the House of Commons (No. 392, Session 2, 1880) shows that the deaths among infants under one year per million of births, from all causes save seven, had diminished 37,919 in the year 1878, as compared with 1847; being the result of a hundred and fifty millions sterling spent on sanitation. On the other hand, the mortality per million of births from the remaining seven causes, directly or indirectly inoculable, had increased 26,313. The balance, among infants under one, is about 11,000 apparently in favour of sanitation. Syphilis, one only of the inoculable causes above alluded to, has

multiplied fourfold. It has been proved that syphilis can be communicated to adults forty years old in re-vaccination from an infant's arm (see p. 283 Commons' Vaccination Committee Report); how much more may it be so communicated to infants at three months?—and these returns demonstrate the fact. Moreover, those who survive the injury are far worse off than those who die. The weak infants killed off by this practice cannot live to die of contingent small-pox; but, notwithstanding this tare-eradicating process, no less than 37 out of every 100 small-pox deaths are still, according to this return, children under ten, *i.e.*, before arriving at the official re-vaccination age. The Return No. 76, Session 1, 1880, tells us that when 305 per million died of small-pox, two-thirds of them were under five; but after many years of enforced vaccination, when 271 per million was the small-pox death-rate, one-third of these only were under five. Whilst, therefore, at all ages above five 100 per million only so died during the first period (*i.e.*, before compulsory vaccination), 174 per million were carried off in the second. This diminution of the infant, in proportion to the total, small-pox rate is triumphantly pointed at by those who look through official vaccination spectacles as a great saving of infant life; but the answer is, that under one year alone the number sacrificed annually by the poisoned lancet is just 26,000, to save 50 from small-pox!—*From the Echo, March 12, 1881.*

It has been asserted by some professed experts, that sanitary improvements can be of little, if any, avail in the mitigation or prevention of small-pox. DR. SOUTHWOOD SMITH, on the other hand, whose name is held in the highest veneration by well-informed people, as by far the most prominent authority on Sanitary Reform, held the decided opinion that if such improvements were fully carried out, small-pox, like other fevers, might be almost entirely banished *without* the prophylactic aid which vaccination is claimed to possess. Those who have been at the pains to examine the death registers may, indeed, observe that the London Small-pox epidemic of 1881, was chiefly prevalent in those districts which, not being above the sanitary average, have the element of dampness in addition. The districts, that is to say, lying on the river banks—Fulham, Lambeth, Greenwich, and Hackney—the three first on the Thames, the last having the Lea, two canals, and marsh land in its immediate vicinity. This fact coincides with what was observed of the 1871-2 epidemic. Towns on rivers were chiefly

affected, and the mouths of dirty rivers suffered most. The highest mortality in England was at Grimsby. In Ireland, at Cork ; in Scotland at Leith ; whilst the Hague and Rotterdam were conspicuous abroad.

However this may be, it must be admitted that of all the puzzles of modern times, no puzzle is so great as that of the Official Sanitary Reformer, who can only show an insignificant diminution of the general death-rate from all causes, as the consequence of the vast expenditure, which has of late taken place, on his assurance that an immense reduction would speedily result. There has been a diminution—from one to two in the thousand, but it is a miserable apparent failure when compared with the promises held out. It may at all events be safely averred that had such a result only been prognosticated, the vast outlay would never have been accorded. Official Sanitarians cannot account for the disappointment, but anti-vaccinists can. They can point to the death registers and show that the multiplied mortality from inoculated plagues very nearly balances the saving from sanitation,—the direct effect of universally enforced vaccination.

It would be a highly interesting inquiry—had we a really scientific statist at the head of the Registration department, instead of a mere counter of figures,—what, if any, visible effect has been shown on the register by the recent re-vaccination panics among the well-to-do classes. It is not the poor who are frightened by these panics ; but those who can afford to pay a substantial fee to preserve, as they are made to think, their good looks. Dr. FARR found it easy, during the cholera in 1849, to give returns showing the social status of those who died from the epidemic,—(this could equally be done during a small-pox visitation)—and there could be no difficulty in discovering among what classes the general death-rate has been slightly diminishing during the last decade—and whether the expectation of life above 15 has been increased or the reverse among the upper classes of the community, especially in districts where re-vaccination has been sedulously encouraged.

REALITY *versus* DR. CARPENTER'S
ROMANCE.

CHINESE IMMUNITY FROM DISEASE.

Important testimony has been borne to the effects of residence among the Chinese, by the medical officer of the State Board of Health of San Francisco, which was laid before the Congress. He states that, he never knew any disease or pestilence originating or spreading in the Chinese quarter. He admits that they live quite close, and attributes their healthy condition and immunity from disease to their frugal life. "They eat," he says, "only what is necessary to live upon. They eat to live, and do not live to eat. They are clean in their habits, and they drink no whisky. I have never seen a drunken Chinaman in my life. They consequently obtain a better resisting-power to the attack of disease. They constantly wash themselves, and keep themselves and their clothes clean. The death rate is greater among the whites than among the Chinese; greater with adult white people than with adult Chinamen. There have been no epidemics among them; and there has been less small-pox among them than among the whites, the ratio of population being allowed."—*Pall Mall Gazette*, May 1st, 1882.