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THE PUBLIC HEALTH.

Leprosy and Vaccination.

BY

WILLIAM TEBB.

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THE INCREASE OF LEPROSY.

THE subject of the great increase of Leprosy is exciting widespread public attention, and has become one of pressing and imperial importance.

In a speech delivered at Marlborough House, London, June 7th, 1889, the Prince of Wales stated that one of the chief centres of Leprosy is India, where there are 250,000 lepers, and that our Colonies contained unnumbered victims to this loathsome disease. Whether this is an under- or over-estimate I am not prepared to say, but there is every reason to believe that the disease has spread with unparalleled rapidity during the past half century. *The British Medical Journal*, September 13th, 1890, reports that "a comparison of statistics regarding lepers during the thirty years 1851-81, shows that their number has been increasing in India at the rate of about 30,000 every ten years. During the last ten years the rate of increase is supposed to have been higher." I have before me communications from staff surgeons, medical officers of health, superintendents of leper hospitals, and medical practitioners, showing the spread of Leprosy in various provinces of India, and in other countries. The Rev. G. McCallum Bullock, of the London Mission, Almora, writing 21st August, 1889, says:—"It is the general opinion of residents, both European and native, that Leprosy has increased in Kumaon during the past thirty years, and there are upwards of 1,600 lepers in Kumaon alone out of a population of $1\frac{1}{8}$ millions."

Mr. H. Brown, of Simla, who has devoted much attention to the subject, writes, October 2nd, 1889, that "Leprosy is increasing in India almost by leaps and bounds, and the Government, disinclined as it has hitherto been to give the subject attention, is now obliged to move in the matter. The present number of lepers in India has been calculated at 300,000, but there are probably twice as many." A new home for lepers has just been opened at Matoonga, near Bombay, with accommodation for 200 lepers, and is already crowded, many applicants being refused admission. The enormous increase, especially during the last two decades, is believed to be largely due to a preventable cause, and

one for which the medical department of the English, Indian, and Colonial Governments cannot be freed from responsibility. In Ceylon, as I learned by personal inquiries made in the island in January last, Leprosy is extending rapidly amongst the native population. The Leper Asylum at Hendala, near Colombo, one of the oldest in India, which in 1880 contained only 100 lepers, has now 208, and Dr. Meier, the resident superintendent, does not hesitate to say that in his opinion the disease is steadily increasing. There are about 200 lepers at large in the city of Colombo, and about 1,800 in the island. Dr. Kynsey, the Surgeon-General for Ceylon, reported in 1885 that Leprosy had decidedly increased since 1862, as the numbers of patients then in the asylum was 63, but had increased in 1885 to 151. Dr. Kynsey says:—"I have no doubt that a certain reproduction of the disease is going on whatever the factors are at work, and that the proportionate growth of Leprosy in the Colony is by no means diminishing."

What is true of India is also true of Burmah, the West Indies, British and Dutch Guiana, South America, New Caledonia, Tonquin, Hawaii, Russia, Portugal, and South Africa. The only country, so far as my inquiries have extended, where Leprosy is diminishing is Norway, where, owing to improved hygiene, personal and municipal sanitation, and possibly to segregation, the disease has been to a certain extent controlled. Two years ago I found the leper asylums at Barbados, Trinidad, and British Guiana, full to overflowing, and lepers walking about the streets, selling provisions in the markets, begging, &c., and was informed of wealthy lepers who attended balls and receptions given by the Governors and other influential inhabitants. At the General Hospital, Georgetown, Demerara, a member of the medical staff called my attention to several lepers, in the same ward with other patients for whom no room could be found at the leper hospitals at Mahaica and Gorchum. As fast as the new wards are built they are filled, and more accommodation is called for. One of the highest authorities, Dr. John D. Hillis, F.R.C.S., for 10 years Medical Superintendent of the principal lazaretto in British Guiana, and who has devoted twenty years' inquiry to this important subject, says:—"To the most casual observer (in British Guiana) the increase must be apparent, irrespective of the fact that the asylums cannot be enlarged fast enough to contain the cases that are compelled, by want and the rapid advance of the fell disease, to seek admission and relief within their walls; whilst hundreds of others, it is well known, do not enter but remain outside to mingle with

or contaminate their surroundings. . . . Not only is Leprosy on the increase in the colony, but the increase has been greatest in the last decade.”

Sir W. F. Haynes Smith, Governor of the Leeward Islands, a very old resident of British Guiana, informed me, in 1889, that all the facts which had come under his observation pointed to the serious increase of this disease in the West Indies and in British Guiana, which opinion His Excellency has since confirmed in an official manifesto. And Governor Sir William Robinson, of Trinidad, in a report to the Secretary of State for the Colonies from Government House, Port of Spain, dated 9th May, 1889, says :—“After fifteen years’ residence in the West Indies I can fully corroborate Dr. Rake’s statement that Leprosy is on the increase, and I am not surprised at it.”

In the report of the Surgeon-General of British Guiana for 1887 the medical superintendent of the Leper Asylum, Dr. C. F. Castor, says :—“I hear on all hands that Leprosy is spreading not only here, but all over the world very considerably.”

In the Sandwich Islands Leprosy is allowed to be the chief of the destructive forces which are gradually depopulating the native race of this beautiful archipelago. Its rapid increase is by far the most urgent and anxious question of the hour, and successive Medical Officers of Health seem powerless to cope with it. Mr. Dayton, the President of the Board of Health, Honolulu, and an old resident in the island, was kind enough to furnish me with facts relating to its introduction, establishment, and increase throughout Hawaii, and the steps taken to deal with it by isolation, medical treatment, and hygiene, and also with copies of official reports published by the Board of Health. In the appendix to the report presented to the Legislative Assembly of Honolulu, in 1886, Mr. R. W. Meyer, Agent for the Honolulu Board of Health, says he saw the first case of Leprosy on the island in 1859 or 1860, but others date its introduction to 1840. According to the latest returns handed to me by Mr. Potter, the Secretary to the Board of Health, in October last (1890), 1,154 lepers were segregated in Molokai, to which must be added thirty sent from the Hospital of Suspects at Kalihi to Molokai, on the 30th of the same month, while there are probably several hundred secreted by relatives in the various islands. On 31st March, 1888, the number officially reported to be at large in the various islands amounted to 644, but special efforts have been made during the past three years to capture these afflicted creatures and segregate them at Molokai. A

medical practitioner informed me that well-to-do lepers were not interfered with, and he gave me the names of several at large who occupied prominent positions in the island, and he observed that it was not intended to disturb them, notwithstanding the law which imposes segregation upon all lepers regardless of distinction.

The last Annual Report of the Consul General of the United States of Columbia (1890-1), states that the question of the great increase of Leprosy has become a very grave one for the country. The disease seems to have spread relatively slowly prior to the year 1860, but within the last twenty years the increase in the number of cases has been much more rapid, and has spread to districts in which it was previously unknown, almost the whole of Columbia being now infected, and the number of the afflicted is estimated at 20,000 as a minimum. Children are frequently seen in the lazarettos in a leprous state, and the mortality is exceedingly high.

Leprosy is not unknown in the Australasian Colonies, and in a report ordered to be printed by the Legislative Assembly of New South Wales, dated 7th May, 1890, handed to me by the President of the Board of Health, I find that, at the close of 1889, there were 30 cases of Leprosy under official cognizance.

The London *Globe*, March 16th, 1891, refers to the startling rapidity of the spread of Leprosy of late years in Russia. Scientific authorities it avers are unanimous in their opinion that it is a bacterial disease. At Riga the cases have increased from 37 in 1887 to over 100 now. At Darput and neighbourhood every tenth person is affected. A lazaretto is being constructed, and will be opened at Riga in August next.

There is a want of information as to Leprosy in Egypt, but it appears to be growing. In February last, Dr. Selim Zeidan, the Medical Director of the New General Hospital at Luxor, informed me that five lepers had presented themselves to be taken in during the past few months, but that he was obliged to refuse them admission.

THE CAUSATION OF LEPROSY.

REALIZING the enormous significance of the growth of this fearful disease, I have been led to make particular inquiries as to its causation, not only from directors of hospitals, public officials, and local medical practitioners, but from representatives of the people in colonial and other legislative assemblies, as well as from old and intelligent residents, and the friends of the afflicted, in the countries I have visited. This increase is variously attributed to climatic influences, unwholesome and putrid food, want of salt, a fish diet, malaria, heredity, contagion, syphilis, insanitation, inoculation, and vaccination. With one conspicuous exception, all these factors have been in operation for centuries, and do not account for the serious recrudescence of Leprosy during the last 30 years. Save with reference to contagion by means of inoculation, there appears to be no approach to a consensus of intelligent opinion, every other alleged cause being hotly disputed by rival authorities and dermatologists. To the question, is Leprosy inoculable? Sir William Moore, K.C.I.E. (late Surgeon-General, Bombay Staff), says:—“Professors Damisch and Kobner proved by an experiment that Leprosy may be communicated to animals by inoculation. There is also the well-authenticated case of a boy, Miller, who pricked himself with a needle used by a leper, from which injury Leprosy developed. Then there was a case of a medical student pricking himself when performing a post-mortem examination on a leper. . . All that is required is the transmission of leprous discharge, which contains the microbe or germ of Leprosy, to the healthy body. But in order that the poison may act, it is necessary that it should come into contact with an abrasion or sore on a healthy skin. An infinitesimal portion of leprous discharge is quite sufficient.” The *Lancet* of June 28th, 1890, referring to the theory of contagion in connection with the spread of Leprosy, says:—“But there are conditions and limits to contagion, probably it occurs only through inoculation.”

This opinion is supported, according to the *British Medical Journal*, October 11th, 1890, in the despatch from the Government of India relating to the isolation of lepers. It particularly notes that many of

the highest medical authorities in India consider that the evidence at present available goes to show that Leprosy is contagious only in the sense that it is inoculable.

This view accords with the most eminent medical opinions in all countries where Leprosy prevails. In a report on Leprosy in Cyprus, by Dr. Heidenstam, Chief Medical Officer for the Island, transmitted by the High Commissioner, Sir Henry Bulwer, to Lord Knutsford, and presented to both Houses of Parliament, March, 1890, the author, after dismissing various theories put forward to explain the spread of Leprosy, such as heredity, the use of putrid food, salt pork, mal-hygiene, malaria, and miasma, says:—"My researches have led me to the conclusion that Leprosy is what should be termed an inoculable disease, inasmuch as the virus is transmitted into the system in like manner as many other maladies, notably syphilis, anthrax, glanders, &c., but it has not the same action in all constitutions, nor in all circumstances of life, and is of a long and slow incubation. My further researches and studies have not in any way altered the opinion I then expressed, and I am more than ever convinced that the direct cause of Leprosy is simply and solely due to the inoculation of the virus of a person affected into another up to that time free."

In reply to a communication addressed to the Superintendent of the Leper Asylum, Bergen, (which institution I visited in 1889), Dr. G. Armauer Hansen, the discoverer of the *lepra bacillus*, says:—"I think Leprosy to be inoculable; I moreover think that Leprosy *in most cases is transferred by inoculation.*"

Dr. J. H. Beamis, in an article on Leprosy in the *New Orleans Medical and Surgical Journal*, attributes the great increase in the spread of Syphilis and Leprosy which has taken place of late years in the Sandwich Islands to heterogeneous vaccination. He further observes:—"This involves the question of inoculability, which is in my opinion the main, if not the only, means of propagation, other than inheritance."

From inquiries made of those who were intimately acquainted with the late Father Damien, I have no doubt that in his case the disease was induced by means of inoculation of leprous virus from other patients, when he resided in Molokai, through sores on the skin. While possessed of many noble traits, this worthy and self-sacrificing missionary was conspicuous for neglect of ordinary hygienic precautions, and Mr. Robert Louis Stevenson, who visited him two years ago, speaks of

his "slovenly ways and false ideas of hygiene, adhering to his errors with perfect obstinacy."

But whatever doubts have heretofore existed as to the inoculability of Leprosy, there can hardly be any after a dispassionate consideration of the facts connected with the experiment on the condemned convict at Honolulu. The prisoner Keanu was inoculated with Leprosy by Dr. Edward Arning on the 30th September, 1884, and again in November, 1885, *after previously making a most searching inquiry as to any leprous taint in his family, and a close examination of his own body.* This examination satisfied Dr. Arning that no trace of the disease could be found in him. Every precaution was taken to secure his isolation from contaminating surroundings, and means were adopted to ensure that he was not employed outside the prison walls. On the 2nd September, 1888, Dr. N. B. Emerson, then President of the Board of Health, and Dr. T. H. Kimball, Government Physician, examined the prisoner and signed the following certificate:—

"This is to certify that we have this day carefully examined Keanu, who was inoculated on November, 1885, and we find his condition as follows:—

"Ears tubercular and considerably hypertrophied; forehead the same; face, nose, and chin, show flattened tubercular infiltration; mouth clean, no tubercles; face generally presents a leonine aspect.

"Hands puffed, fingers swollen at proximal phalanges, tapering to distal phalanges; tips of forefinger and thumb of left hand are ulcerated from handling hot tin cups of tea or coffee, indicating anæsthesia.

"Body.—Back thickly mottled with flattened tubercles and the surface uneven to feel, colour of the same a yellowish brown; front of the body, chest, and abdomen, presents plaques of tubercular infiltration of larger size than back, separated from each other by wider intervals and of a brighter colour, in some cases a ruddy pink, especially over upper part of sternum.

"Legs.—The infiltration thins out as far down as the knees, there being one large bright patch on the inside of the left thigh; legs below knees quite clean and skin smooth and even to touch.

"Feet.—(Edematous, have poor circulation; bluish colour; soles of feet clean.

"Seat of inoculation, outer aspect of left fore-arm, upper third, shows a dark purplish scar, about $1\frac{1}{2}$ in. long by $\frac{5}{8}$ in. wide, irregular in shape, keloid in aspect, dense and inelastic.

“The tests for anæsthesia were not made. Eyes with sclerotitis, muddy and infected.

“No signs of palsy about muscles of face, orbiculares palpebrarum, hands or fore-arms.

“It is our decided opinion that this man is a tubercular leper.

“N. B. EMERSON, M.D., President of the Board of Health.

“J. H. KIMBALL, Government Physician, Honolulu.”

In the spring of 1890, Dr. D. W. Montgomery, Professor of Pathology, California University, microscopically examined a piece of Keanu's skin, and discovered the *lepræ bacilli* both singly and in groups. This bacillus has been found, according to The *Lancet*, by competent observers in the tuberculated form of Leprosy in all parts of the world, and has never been found in any other disease, or condition. Keanu has since been sent to the lazaretto, Molokai, a confirmed and incurable leper—a punishment ten times more severe than the death penalty, and in my judgment utterly unjustifiable.

A well-known medical practitioner at Honolulu gave me a photograph of Keanu, which distinctly shows the appearances peculiar to inoculated tubercular Leprosy at the point of insertion in the arm. And he considered the experiment an absolute demonstration of the inoculability of the disease. He also unhesitatingly expressed the opinion that the dissemination of Leprosy in Hawaii was largely due to inoculation by the lancet of the public vaccinator, a most serious matter not only for Hawaii, but for all other countries where the repulsive and destructive disease is endemic. Dr. Arthur Mouritz, Medical Superintendent of the Leper Settlement, Molokai, says it is doubtful whether one per cent of the Hawaiians would resist intentional inoculation.

VACCINATION.

SCIENTIFIC evidence shows, therefore, that Leprosy, like all other bacterial diseases, is inoculable. This inoculation can be induced in various ways, but it is doubtful if in any way so easily or with such certainty as at the point of the lancet by Vaccination, and Vaccination is believed to have been a prolific cause of the increase of Leprosy in the Sandwich Islands, the Leeward, Windward, and Virgin Islands of the West Indies, in British Guiana, and in other countries. Dr. R. Hall Bakewell, formerly Vaccinator-General of Trinidad, and Superintendent of the Leper Asylum, Mucurapo, (who gave evidence on this subject before a select Parliamentary Committee in 1871,) Dr. John D. Hillis, of Georgetown, British Guiana, Professor W. T. Gairdner, M.D., of Glasgow, Dr. Chas. Taylor, of St. Thomas, Danish West Indies, have not only expressed their conviction on this point, but have also furnished particulars of cases of Leprosy due to Vaccination. No one has spoken more emphatically on this subject than Dr. G. F. Castor, the Medical Superintendent of the Leper Asylum in British Guiana. In his report to the Surgeon-General for 1887 he affirms as a "palpable fact, which should be made known far and wide in countries where Leprosy is endemic and wide-spread as with us, that there is every certainty of inoculation through Vaccination." In the *Journal of the Leprosy Fund*, Surgeon-General C. R. Francis, formerly Professor of Medicine, Medical College, Calcutta, declares his belief in the propagation of Leprosy by Vaccination, and advocates the investigation of this point. Dr. George Hoggan, a scientific investigator, who, together with Dr. Francis Hoggan, has carried out important researches on Leprosy, and published them in some of the leading scientific journals both at home and abroad, is strongly of opinion that the vaccine virus is a flux by means of which the *lepræ bacilli* are easily conveyed to the blood, more easily than by any other mode of transmission, and he considers that a large portion of the recent increase of Leprosy is mainly due to Vaccination.

In the report of Dr. H. W. Blanc, Professor of Dermatology and the Chief Sanitary Inspector for the City of New Orleans, addressed to the President of the Board of Health for the State of Louisiana, where

Leprosy has become increasingly prevalent, it is stated that Leprosy, syphilis, and tuberculosis, are transferred by Vaccination. In the Transactions of the Medical Society of the State of California for 1890, vol. xx., Dr. H. S. Orme, referring to the general Vaccination of the people of the Sandwich Islands in 1868 with human lymph, consequent upon an outbreak of small-pox, says :—"This reckless practice doubtless contributed greatly to the spread of both syphilis and Leprosy."

Dr. Edward E. Arning, the well-known bacteriologist, who, at the invitation of the Hawaiian Government, visited Hawaii, between 1883 and 1885, for the purpose of studying the cause of the spread of Leprosy, attributes the remarkable increase to general and repeated vaccination of the inhabitants, and he is supported in this view by the evidence of a number of medical practitioners, resident in these islands, as well as by several Presidents of the Board of Health, Honolulu, who have made the subject one of careful personal investigation. Dr. Arning discovered that the vaccine lymph from lepers contains the *bacilli lepræ*, and reports to the authorities that "after the vaccination of lepers he found *bacillus lepræ* in the lymph and crusts."

Dr. Bechtinger, of Vienna, who has devoted 30 years to the study of Leprosy in many countries, says no scientific man will deny that Leprosy, like all bacterial diseases, is inoculable, and he attributes the present increase of Leprosy largely to the vaccinator's lancet.

Dr. Robert Francis Black, who at the time of my visit in 1889 to the West Indies had resided sixteen years in Trinidad, and had directed his attention to this subject, said that he had not the smallest doubt as to the extensive invaccination of Leprosy. In a communication to His Excellency Governor Sir W. Robinson, dated 16th July, 1887, referring to the cases of Leprosy induced by Vaccination, reported in the *British Medical Journal*, June 11th, 1887, he writes :—"I beg to say, for the information of His Excellency the Governor, that my experience of Leprosy agrees with the statement of Professor W. T. Gairdner, of Glasgow, contained in your circular, and that I am of opinion that the disease in question is communicable by Vaccination, lymph from healthy vesicles only being used." It should not be forgotten that the late Dr. Warlomont, chief of the Calf Lymph Vaccine Department to the Belgian Government, testified before the London Medical Animal Vaccination Conference in 1879, that a vaccine vesicle highly syphilised may present an appearance perfectly irreproachable ; and we have here the deliberate testimony of a highly respectable

medical practitioner, that *healthy* vaccine vesicles transmit Leprosy. Hence we may form some estimate of the dangers of ordinary Vaccination in countries where Leprosy is prevalent.

I made inquiries of a highly intelligent merchant, who has resided 43 years in the West Indies, and has always been much interested in the public health. He says the belief is general in the islands as to the spread of Leprosy by Vaccination, and he furnished me with particulars of a number of healthy families where Leprosy and other diseases have broken out after Vaccination, and of others who, in spite of a law enforcing Vaccination, have preferred the worry and penalties of prosecution to the terrible risks of this hideous and incurable malady. In some instances the children infected with Leprosy have been sent by their parents to France and England, where, after treatment by some of the most distinguished physicians, they have either succumbed to the disease or returned to die at home; and in one case the mother died of a broken heart at seeing her eldest son come back a complete wreck, loathsome to the sight. All the victims described by my informant were in good circumstances, and none were even sent to the Leper Asylum, where only the poor are interned. He says, had he kept a record, he would have been in a position to have given details of very many cases with all the attending circumstances; and adds:—"I have come to the conclusion that we are indebted to Vaccination for not only this (Leprosy) but many other diseases, especially those of a scrofulous nature, as well as syphilis."

An uneasy feeling is beginning to be exhibited in India on this momentous subject, owing to the accumulation of evidence tending to show the sinister connection between the extension of the State-provided remedy against small-pox and Leprosy. The synchronicity between the spread of Leprosy and the extension of Vaccination has given rise, in some districts, to such a dread of Vaccination, that every device is resorted to by thoughtful parents to prevent their children being vaccinated. Attempts have been made to remove the dread of leprous inoculation by the substitution of cow, calf, sheep, lamb, and donkey lymph; various compounds (one described by the medical purveyor as the Madras paste) have been introduced; and some of the leading journals now energetically demand a safer and better system of Vaccination. Dr. S. N. Boral, Chief of the Vaccine Department in the Jubbulpore district, has come to the rescue of the Jennerian cultus in the columns of the Allahabad *Morning Post*, but he sees clearly the weight of the

incriminating testimony, and admits that to deny the possibility of vaccinal syphilis or vaccinal Leprosy would be tantamount to denying the value of human testimony altogether.

In a pamphlet by Dr. A. M. Brown on *Some Comments on Leprosy in its Contagio-Syphilitic and Vaccinal Aspects*, which merits the attention of the unprejudiced dermatologist, the writer says:—"That the communication of lepra by Vaccination is positively established can no longer be doubted. Henceforth, then, medical practitioners, and those who stand in need of them, will feel themselves obliged, whatever may be their theories on the matter, to recognise, without equivocation, the fact that there is a leprous vaccine, as there is a syphilitic vaccine, or something like it, to divide their attention and imperiously demanding to be dealt with."

The *Bombay Guardian*, of April 6th, 1889, commenting upon the spread of Leprosy by Vaccination, observes:—"If we have to choose between the danger of Leprosy and small-pox, let us by all means have the latter. The ghastly sights, to be seen in every Indian public thoroughfare, of the scabrous, handless arms, and footless legs, of begging lepers, forbid any other alternative. Small-pox is bad, but Leprosy is a hundred-fold worse."

The following gentlemen were appointed members of a Commission to study and report upon the Leprosy question in India:—Dr. Beavan N. Rake, of Trinidad, nominated by the Royal College of Physicians; Dr. G. A. Buckmaster, nominated by the Executive Committee of the National Leprosy Fund; Dr. A. A. Kanthack, nominated by the Royal College of Surgeons; Surgeon-Major A. Barclay, and Surgeon-Major S. J. Thomson, appointed by the Governor-General of India. And, realizing the importance of this part of the subject, and in response to a letter in the *Lancet* inviting "suggestions as to methods of inquiry, and as to points for elucidation," which it was stated would be gladly received and incorporated in the Journal of the Leprosy Investigation Committee, I addressed the following communication to Dr. Phineas S. Abraham, Secretary to the Committee of Inquiry.

Rede Hall, Burstow, near Horley, Surrey.

June 10th, 1890.

SIR,—Observing your note in the *Lancet* of the 31st ult., requesting suggestions as to methods of inquiry, and as to points of elucidation, with regard to the remarkable spread of Leprosy, I beg to point out that amongst the questions which it is proposed by your Committee to

issue to the Superintendents of Leper Hospitals, Dermatologists, and others, that of the connection of the disease with Vaccination should be included. That there is a connection is now admitted by some of the most eminent authorities of the day, including Professor W. T. Gairdner, Dr. Liveing, Sir Morell Mackenzie, Dr. John D. Hillis, Dr. Edward Arning, Dr. Armaur Hausen, and others. Some of these writers admit that not only is Leprosy communicable with the vaccine virus, but that new centres of contagion of this hideous disease have been created by Vaccination, with most disastrous and far-reaching consequences. Trusting that this important feature of the question will not be overlooked by your Committee, and awaiting the favour of a reply,

I am, Sir, yours faithfully,

DR. PHINEAS ABRAHAM,

WILLIAM TEBB.

National Leprosy Fund, Adam Street, W.C.

To this letter the following reply was received:—

2, Henrietta Street, Cavendish Square, W.

July 2nd, 1890.

DEAR SIR,—I must apologise for not answering your letter before this. With regard to the alleged connection of Vaccination with Leprosy, this question will certainly be one of the points to which special attention will be directed on the part of the Committee, and an attempt will be made to sift the evidence in an impartial manner.

I am, dear Sir, yours faithfully,

W. TEBB, ESQ.

PHIN. S. ABRAHAM, M.D.

I observe that this correspondence is not included in the "Journal" containing the report of the proceedings of the Leprosy Fund Committee, and while Vaccination is mentioned among the possible agencies for the dissemination of the disease, it is conspicuous for its absence in the ten questions adopted by the Committee to send to medical practitioners in India. And although the programme and work of the Commission in India is frequently referred to in both English and Indian Journals, all mention of this promise of a searching inquiry into the connection between Vaccination and Leprosy is wholly omitted.

THE TREATMENT AND PREVENTION OF LEPROSY.

NOT being a medical practitioner, it would ill become me to dogmatise regarding the effects of the alleged remedies for this dreadful disease, which have been tried in the various Leper asylums and hospitals, in Norway, Syria, the West Indies, South America, Ceylon, and the Sandwich Islands.

Official reports and other documents before me show that, while extraordinary efforts have been made to promote the cure of these unfortunates, who have been experimented upon with almost every poisonous drug in the pharmacopœia, comparatively little attention has been devoted to the prevention of the disease in any country where the malady is prevalent. The health authorities in Hawaii, as well as the most experienced medical residents elsewhere, consider Leprosy as practically incurable, though they acknowledge that life may be prolonged by good food, pure water, healthy habitations, and other favourable sanitary conditions. On one occasion, referring to the reports of certain medical practitioners as to their alleged cures, I was told by one of the responsible officials that the cures were mythical, the particular cases cited having since exhibited further development of the disease.

It is allowed that the external manifestations of Leprosy, like those of some other maladies, disappear for a time either with or without treatment, and cures are noised abroad, but the disease invariably reappears and shows itself when least expected. Dr. N. B. Emerson, a lepra specialist, says:—"In spite of a number of claims to the contrary, we believe it safe to say that no one has been able to prove, to the satisfaction of the medical profession, that a single case of this disease has been definitely cured." Dr. W. R. Kynsey, Chief of the Medical Department, Colombo, Ceylon, in reply to a communication from His Hawaiian Majesty's authorities as to Leprosy in India, writes:—"No treatment has yet been found of any permanent benefit. The best results have been obtained from hygienic and dietetic treatment alone." "Lepers," he says, "are chiefly found amongst the poorer natives, whose dwellings are small thatched huts, crowded, ill-ventilated, filthy, and

strewn with mouldy and rotten vegetables and excremental deposits." Dr. Hoffman, of Honolulu, alluding to the Leper Hospital at Kilihi, of which he had charge for some years, reports that generally fifty cases were under treatment from time to time, these being equally divided between the tubercular and the anæsthetic. He did not find that the patients derived any permanent benefit from treatment.

Dr. Arthur Mouritz, Resident Physician and Medical Superintendent of the Leper Settlement, Molokai, in his report, dated Molokai, February, 1886, says of the Kalawao Hospital, where the worst cases are supposed to be accommodated:—"Of course there are no cases of cure, and those who enter its portals remain until death releases them;" and under the head of *Treatment*, says:—"This is the briefest question of any to deal with, but the most disheartening to a physician, for so far no remedy has been found beneficial." Dr. E. Cook Webb, Physician to a branch Hospital at Kakaoko, in his report, dated March 1st, 1886, says:—"As regards the treatment of Leprosy, I have but little to say. Notwithstanding any treatment which I have used, or seen used, I cannot see any change in any single case. I am fully convinced, after considerable study and experience, that personal cleanliness, good nourishing food, and regular habits, have done more towards the relief of these unfortunates than all the medicines that have ever been prescribed for them in the past." "In all the cases of Leprosy I have seen the disease has steadily progressed to a fatal termination, notwithstanding all treatment. I am aware that I am taking strong ground against the many so-called 'cures' that have been devised, but in so doing I am not basing my opinion on my own study and experience alone, but on the medical opinions of those who for years have been in daily contact with the disease, and have made it a special study, and they have come to the conclusion that it is a disease *sui generis*, and 'incurable.'"

In the report of the President of the Board of Health, addressed to the Legislative Assembly, Honolulu, in reply to the question, Is Leprosy Curable? Mr. F. W. Hutchinson says:—"To this question we are constrained to answer 'No!' At least not under any known treatment." Dr. G. Trousseau, also, Physician to the Board of Health, says:—"Any medical man, who respects himself, will never say, 'I will cure Leprosy under the tropics.' He will say, 'I may cure it.'" In view of these experiences, which can be multiplied to any extent, and on the ground of humanity, is it not time to put a stop to the torture to which the incurably sick lepers are subjected by drug medication and inoculation,

and let these miserable creatures be made as comfortable as tender nursing, varied occupations and amusements, and hygienic conditions, will allow, and let them die in peace. Not a few of them are the victims of the Jennerian system, and these are the smallest compensations we can make for the irreparable injury done to them.

CONCLUSION.

THE disease being admitted in all countries to be practically incurable, the culpability of inflicting it by Vaccination is greatly aggravated, and cannot be justified on any pretence whatever. Both in the West Indies and in the Sandwich Islands, when cases of invaccinated Leprosy were related to me, I was urged by the sufferers and by those who were cognizant of cases of this terrible infliction, to make known their grievances to English people and to the Imperial Parliament, and, if possible, to bring public opinion to bear upon a mistaken and mischievous system which, without doing the least good, has been the cause of such terrible and far-reaching consequences.

I may mention that every attempt to introduce Compulsory Vaccination in the populous Island of Barbados, British West Indies, has been thwarted, owing to the belief (which appears to be well founded) that Leprosy and syphilis are communicated by the vaccine virus. In St. Thomas, Danish West Indies, and in Georgetown, British Guiana, it has, for similar reasons, been found practically impossible to enforce the Vaccination Law, while, in the Sandwich Islands a Bill for the repeal of the Vaccination Law was introduced last July by J. Kalua Kahookano, representative from North Kohala, Island of Hawaii, supported by a petition from Mr. Kahookano's constituents, showing how Leprosy had been disseminated and new centres of the disease established, by means of the vaccinator's lancet. In England there are about 60 towns and poor law unions where the Vaccination Law is a dead letter. In many of the Swiss cantons Compulsory Vaccination has been tried, and abolished. It has lately

been suspended in the Australasian Colony of Tasmania, by reason of its deleterious effects on the health of the people. In the Colonies of New South Wales and Queensland, Australia, the people have successfully resisted every attempt to impose the hotly-disputed Jennerian dogma upon them.

While I do not insist absolutely that Vaccination is the only cause of the spread of Leprosy in recent years, I am certain, from extensive inquiries prosecuted in many countries, that it is one of the chief sources of the evil. Having regard to the facts herein mentioned (and I propose to deal with the subject more fully in a later publication), I think it is obvious that the most effective method of arresting the serious encroachment of Leprosy, all the world over, is to discourage the practice of Vaccination. Since the discovery of the *bacillus lepræ* by Hansen, no authority, so far as I know, has denied that Leprosy is a bacterial disease. According to Dr. Bechtinger, of Vienna, who has devoted over thirty years to the study of the subject in all parts of the world, all bacterial diseases, and particularly Leprosy, are inoculable; and after the testimonies given in the foregoing pages, few unprejudiced observers will deny the truth of this statement. Vaccination, be it observed, is the only method of inoculation imposed by law, and generally in vogue, and the most distinguished names in the profession have testified to its being the certain vehicle for the dissemination of this repulsive and dreaded malady. These names include the father of dermatologists, Sir Erasmus Wilson; also, Dr. John D. Hillis; Dr. Liveing; Sir Ronald Martin; Professor W. T. Gairdner; Dr. Tilbury Fox; Dr. Gavin Milroy; Dr. R. Hall Bakewell, formerly Physician to the Leper Asylum, Trinidad; Dr. C. F. Castor, Superintendent of the Leper Asylum, British Guiana; Dr. Black, of Trinidad; Dr. Edward Arning; Dr. Walter M. Gibson, President of the Honolulu Board of Health; Professor H. G. Peffard, New York; Dr. A. M. Brown, London; Dr. Francis Hoggan; Dr. Blanc, Professor of Dermatology, University of New Orleans; and many others.

The extent of the mischief already experienced will never be known, but sufficient is already admitted to arrest the attention of all who are seriously concerned for the public health, and for the well-being of the community. Is it not therefore the duty of every medical practitioner to personally inquire into the matter for himself, and no longer to shelter himself behind the orthodox belief in the benign character of Vaccination? Vaccination has been tried for nearly a century

and found wanting, and each of the three reports of the Royal Commission on Vaccination already published establishes the failure, mischievous effects, and injustice of the compulsory infliction of an artificial disease upon healthy people. And not only is this duty obligatory upon the medical profession, but every philanthropist may well be invited to give some attention to so serious and pressing a question. If the facts I have mentioned are true, and the authorities I have cited reliable (and there are none higher), may I not further urge that a concerted effort should be made to abolish the compulsory infliction of a disease, fraught with such disastrous and far-reaching consequences to the human family? This can be done by petitioning Parliaments, Legislative Councils, and other governing bodies, and by the powerful aid of the Press.

From much anxious consideration and personal investigation in every one of the five continents, I am convinced that until Vaccination is discontinued, and sanitary amelioration substituted for the inoculative experiments, drastic drug medication, and nerve stretching, as practised in various Leper Asylums, this dreaded disease will march onward with accelerated destructive force, and its ultimate extirpation will be rendered impossible.

Those who desire further information on this subject are referred to the standard work, *Leprosy in British Guiana*, by Dr. John D. Hillis, F.R.C.S., formerly Medical Superintendent of the General Leper Asylum, British Guiana; *Leprosy in its Contagio-Syphilitic and Vaccinal Aspects*, by Dr. A. M. Brown, London, 1888; *Leprosy an Imperial Danger*, by the Venerable Archdeacon Wright, M.A., Churchill, 1889; the article in the *British Medical Journal*, June 11th, 1887, by Professor Gairdner; and to the evidence laid before the Royal Vaccination Commission, as disclosed in the Third Report; London, Eyre and Spottiswoode, 1890.

