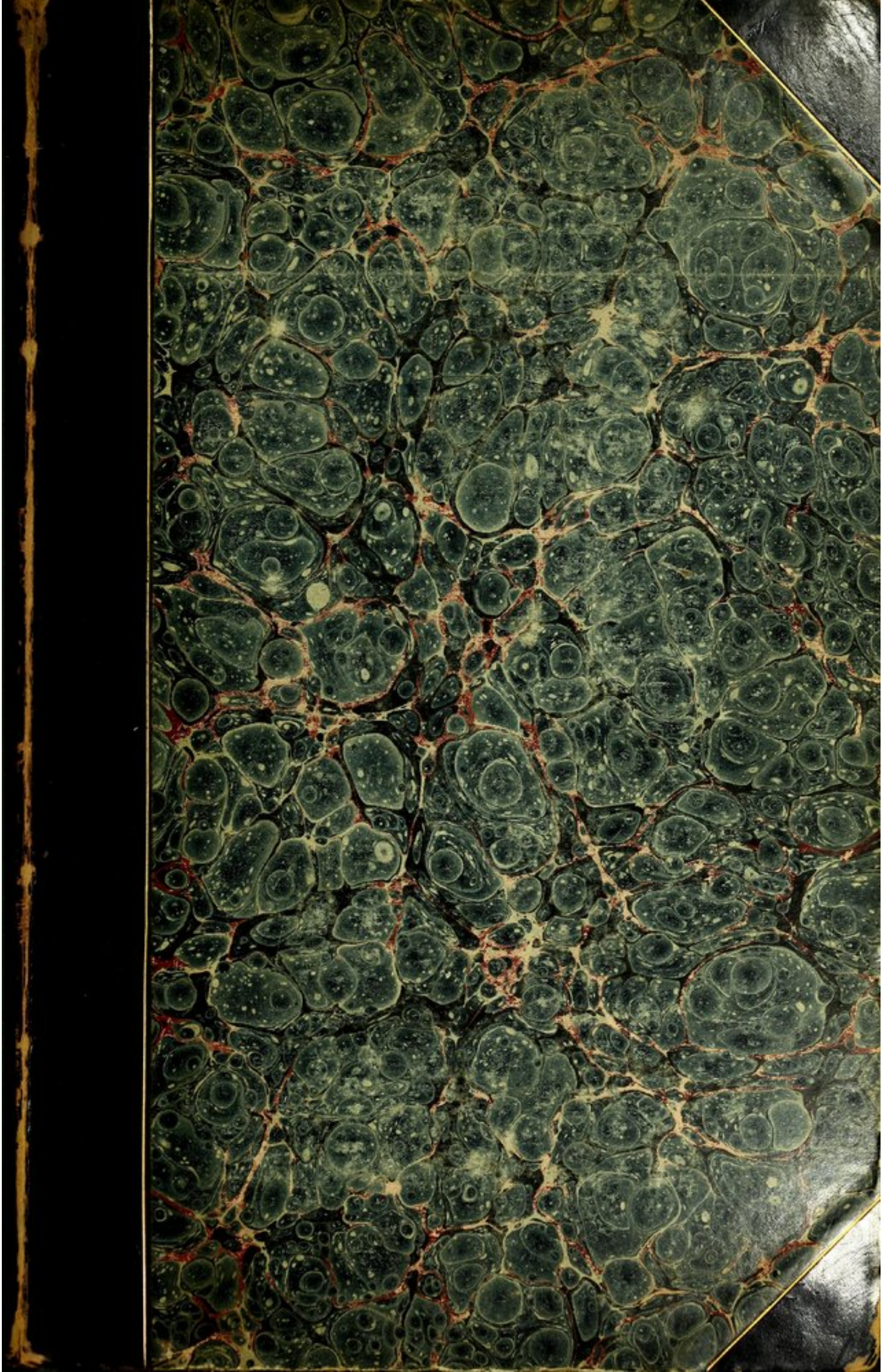
Report on leprosy by the Royal College of Physicians, prepared for Her Majesty's Secretary of State for the Colonies; with an appendix.



REPORT

ON

LEPROSY

BY THE

ROYAL COLLEGE OF PHYSICIANS,

PREPARED FOR

HER MAJESTY'S SECRETARY OF STATE FOR THE COLONIES;

WITH AN

APPENDIX.

LONDON:
PRINTED BY GEORGE EDWARD EYRE AND WILLIAM SPOTTISWOODE,
PRINTERS TO THE QUEEN'S MOST EXCELLENT MAJESTY.
FOR HER MAJESTY'S STATIONERY OFFICE.

1867.

16157.

CONTENTS.

		Page
REPORT		iii—lxxvi
ABSTRACTS of Documentary Evidence		1—202
APPENDIX.		
New Brunswick —	Despatch from Lieut.-Governor Gordon to the Duke of Newcastle	203
	Letter from Mr Fortescue to Dr. Pitman in reference thereto	204
Jamaica	Despatch from the Duke of Newcastle to Lieut.-Governor Eyre	205
	Despatch from Lieut.-Governor Eyre to the Duke of Newcastle	205
	Letter from the Mayor of Kingston in reference thereto	205
	Despatch from the Duke of Newcastle to Lieut.-Governor Eyre	205
	An Act to provide for a "Lepers' Home" in the Colony	206
Trinidad	Despatch from the Duke of Newcastle to Governor Keate	207
	Despatch from Governor Keate to the Duke of Newcastle	207
	An Ordinance for establishing an Asylum for indigent Lepers	208
Antigua	Report of Births and Deaths for the Year 1862	209
	Report of Births and Deaths for 1863	211
British Guiana	Despatch from Governor Hincks to Mr. Secretary Cardwell	213
	Report on the existence and progress of Leprosy in the Colony	214
	Queries relating to Leprosy sent by the Secretary of State in 1858	215
	An Ordinance to establish an Asylum for Lepers	215
Mauritius	Despatch from Governor Sir H. Barkly to the Duke of Newcastle	217
	Documents relating to Leprosy in the Island last Century	217
Madagascar	Dr. Davison on tubercular Leprosy in the Island	221
Hong-Kong	Despatch from Acting Governor Mercer to the Duke of Newcastle	221
Macao	Letter from the President to the Acting Governor of Hong Kong	222
New Zealand	Dr. Thomson on "Lepra gangrenosa" among the Natives	223
New South Wales	Registration Returns of Deaths in the Colony for 1857–61	223
Victoria	Registration Returns of Deaths for 1861	224
Tasmania	Dr. S. Hall on the Vital Statistics of the Colony	224
Ceylon	The Leper Hospital at Hendelle	224
	Despatch from Governor Major-General O'Brien to Mr. Secretary Cardwell	225
Bombay	Letter from Dr. H V. Carter to Dr. Pitman	225
Madras	Communication from Mr. Thomas Hogg, with Extract from the Report of Chindadrapellah Dispensary for 1850	226
Calcutta	Letter from Sir J. Ranald Martin, C.B.	226
Sketch of the Geographical Distribution of Leprosy at the present Time. By Dr. Gavin Milroy		227
Notes respecting the Leprosy of Scripture. By Dr. Gavin Milroy		230
Answers to the Interrogatories on Leprosy. By Mr. Nourse, F.R.C.S.		231
Observations on the true Leprosy or Elephantiasis, with Cases. By Mr. Erasmus Wilson, F.R.S.		231

REPORT.

The inquiry of which the result is comprised in the following report was instituted in consequence of the subjoined communication from the Under-Secretary of State for the Colonies :—

Sir, Downing Street, May 16, 1862.

I am directed by the Duke of Newcastle to transmit to you the copy of a Despatch from the Governor-in-Chief of the Windward Islands, suggesting that reports should be obtained from the Colonies, and collated by some professional body in this country, respecting the character and progress of the disease of leprosy, which he states to be on the increase in the Islands of his Government. His Grace is disposed to think that advantage would result from the adoption of Governor Walker's suggestion, and the extension of it to the West Indian Colonies at large; and should the College of Physicians see reason to concur in this view, he will be much obliged for any assistance which they may be enabled to afford him in order to the subject being put in a right train.

His Grace is of opinion that any body which shall consent to deal with the results of the proposed inquiry should frame the interrogatories.

Governor Walker's proposed mode of interrogation would seem to afford a basis to proceed upon.

I have, &c.,
Frederic Rogers.

The Secretary to the
College of Physicians.

My Lord Duke, Windward Islands, Barbados, February 19, 1862.

I have the honour to transmit to your Grace, for the signification of Her Majesty's pleasure, an Act which has been passed by the Legislature of Barbados, entitled "An "Act to increase the Salary of the Superintendent of the Public Lazaretto," with the usual Report thereon from the law officer.

2. The lazaretto is the asylum for persons afflicted with leprosy. I have called for a report upon the condition of this institution and of the unfortunate persons who are confined it, and will transmit it to your Grace as soon as it comes to hand.

3. I regret to state that this fearful malady is on the increase in these Colonies. Its loathsome character deprives it of all the private and much of the professional interest which is seldom wanting in other forms of disease, and may have in some measure reconciled people to the prevalent belief that it is incurable.

4. Hopeless as the case of the unhappy leper may be, I think that if reports could be obtained from all these Colonies of the character and progress of the disease; of the mode of treatment pursued in each, and of the success with which it may have been attended; of the dietaries observed; of the religious and other instruction afforded to the patients in places where any number of them are collected together, either under private or public superintendence; and of the general regulations which are ordered to be observed in all institutions for their reception, something might be gained, if not by having all the information thus obtained collated and submitted to the inspection and discussion of some professional body in England, at least by having it imparted to each of the Colonies for our study and guidance.

I have, &c.,
(Signed) Jas. Walker.

His Grace The Duke of Newcastle,
&c. &c. &c.

These letters having been read at a meeting of the College held 14th June 1862, it was resolved, on the motion of Dr. Alderson, seconded by Dr. Hawkins, "that a letter "be written in reply, stating that the College is willing to undertake to collate, digest, and "report upon whatever information respecting the disease of leprosy in the Islands under

" Governor Walker's government, or elsewhere, may be submitted to their consideration;
" and that a Committee appointed by the College is prepared to frame the interrogatories,
" if his Grace the Duke of Newcastle should so desire."

On the nomination of the President, the following fellows were appointed to form a Committee for the purpose, viz. :—Dr. Budd (Senior Censor), Dr. Owen Rees, Dr. A. Farre, Dr. Gull, Dr. Milroy, and Dr. Greenhow.

The following letter was received by the College from the Colonial Office, acknowledging the receipt of the above resolution :—

Sir, Downing Street, July 1, 1862.

I have laid before the Duke of Newcastle your letter of the 21st ultimo, and I am directed by his Grace to state that he is much gratified to learn the willingness of the College to collate, digest, and report upon any information which may be collected in the Windward Islands, or elsewhere, respecting leprosy, and to frame a series of interrogatories with a view to its collection.

I am to add, that if the College will be good enough to furnish his Grace with those interrogatories, he will lose no time in instructing the Governors of the West Indian Colonies to obtain all the information in their power in reply to them.

His Grace is not aware whether there are any other of Her Majesty's Colonies besides those in the West Indies in which leprosy prevails extensively, and, if the College should possess the information, he would be glad to be apprised to which Colonies, if any, besides the West Indian, the interrogatories should be sent.

I have, &c.,

Henry A. Pitman, Esq., M.D., &c. &c. &c. Frederic Rogers.

In the first place, the Committee prepared the subjoined series of interrogatories which, having been approved by the College at their meeting on the 24th July 1862, were forwarded to the Colonial Office by the Registrar, accompanied with the following memorandum :—" As the disease is known to exist not only in many foreign countries,
" but also in various British Colonies in the East and elsewhere, the Committee are of
" opinion it is very desirable the interrogatories should be sent to all the Colonies
" of the Empire."

1. Is leprosy known in the Colony of ? If so, be pleased briefly to describe it as it occurs there.

a. Are there several different forms or outward manifestations of leprosy? If so, by what names are they respectively known?

b. Are these several forms, in your opinion, only varieties of one common morbid state? or are they specifically distinct diseases, having no affinity with each other?

c. Please to enumerate succinctly the more obvious and distinguishing characters of each form of leprosy which you have seen.

2. At what age does the disease generally manifest itself, and what are usually the earliest symptoms observable?

3. At what period of life, and within what time, does the disease usually attain its full development? and at what period of life, and after what time, does it usually prove fatal?

4. Is the disease more frequent in one sex than in the other? If so, in what proportion?

5. Is it more frequent among certain races? among the white, the coloured, or the black population? and in what relative proportions?

6. In what condition of society is the disease of most frequent occurrence, and what are the circumstances which seem to favour its development in individuals, or in groups of individuals?

Please to enumerate these circumstances under the following heads :—

a. The characters of the place or district where the disease most frequently occurs in respect of its being urban or rural, on the seacoast or inland, low, damp, and malarial, or hilly and dry.

b. The sanitary condition of the dwellings, and of their immediate neighbourhood.

c. The habits of life, as to personal cleanliness or otherwise.

d. The ordinary diet and general way of living.

e. The occupation or employment.

7. What conditions or circumstances of life seem to accelerate or aggravate the disease when it has once manifested itself in an individual?

8. Does the disease appear often to be hereditary?

Have you known instances where one member only of a family has been affected while all the other members remained free from any trace of it?

9. Have you reason to believe that leprosy is in any way dependent on, or connected with syphilis, yaws, or any other disease?

10. Have you met with instances of the disease appearing to be contagious, in the ordinary sense of that term, *i.e.*, communicated to healthy persons by direct contact with, or close proximity to, diseased persons?

a. If so, in what stage was the malady in the diseased person? Were there ulcerations with a discharge?

b. Please to describe briefly the case or cases of contagious communication which you have seen yourself.

c. Does the disease seem to be transmissible by sexual intercourse?

11. Are persons affected with leprosy permitted in the colony of to communicate freely with the rest of the community? or is there any restriction imposed, or segregation enforced, in respect of them?

12. What public provision is made for the reception and treatment of the leprous poor?

Are they admitted into the general hospitals? or are there separate infirmaries or asylums provided for them?

Please to describe the structural and sanitary condition of such buildings, and the arrangements made for the medical and hygienic treatment of the sick in them.

13. Can you state the number of leprous persons maintained at the public expense in the Colony of ?

14. Have you reason, from personal knowledge, to believe that the disease has been of late years,—say during the last 15 or 20 years,—on the increase in the Colony of or otherwise?

And if so, please to state what in your opinion may have contributed to its increase or its diminution.

15. What results have you observed from the hygienic, the dietetic, or the medicinal treatment of the disease? Does leprosy ever undergo a spontaneous cure? and if so, at what stage of the disease?

Are you aware what proportion of the leprous poor treated at the public expense in the Colony of recover wholly or partially?

16. What is the estimated population of the Colony of ? and when was the last census taken?

Is there a general and uniform registration of births and deaths, including the causes of death? and if so, how long has such a registration existed?

17. Can you state the name of the townships or districts in which leprosy prevails most, and give the number of lepers and the population in each of such townships or districts?

Please to add any other observations which you believe may serve to throw light upon the predisponent or exciting causes of the disease, or which may bear on its prevention, mitigation, or cure.

Any documents, printed or not, descriptive of the disease, as it has been observed at any time in the Colony of with any reports of post-mortem examinations, or any pictorial illustrations, will be acceptable; also copies of the annual Registration Returns, and of other works bearing on the vital statistics of the Colony.

In accordance with the suggestion of the College that the inquiry should be extended to the British possessions in India, and also to various foreign countries, the Duke of Newcastle brought the subject under the notice of Earl Russell, the Secretary of State for Foreign Affairs, and of Sir Charles Wood, the Secretary of State for India, with a request that the interrogatories should be forwarded to Her Majesty's Consuls in the East, and to the authorities in India and its dependencies.

The first packet of replies to the interrogatories was received in April 1863, accompanied with the following letter from Sir Frederic Rogers:

Sir, Downing-street, April 14, 1863.

I am directed by the Duke of Newcastle to request that you will submit to the College of Physicians the enclosed returns respecting leprosy which have been received from Governors of Colonies and British Consuls abroad in reply to the interrogatories founded upon your communication of the 9th August last.

These returns are in original, and Earl Russell has requested that those of them that have been received from the Consuls may be returned to the Foreign Office when done with.

I am to annex a schedule of the whole of the documents which accompany this letter.

In your communication received the 21st of June 1862, the College of Physicians were good enough to intimate their willingness to collate, digest, and report upon any information which might result from the interrogatories.

The Duke of Newcastle observes that, in respect to the treatment of lepers, there arise questions other than medical, and yet depending much on medical and physiological data,—questions, namely, respecting laws and regulations for the restraint or seclusion of lepers founded on the popular notion of the disease being contagious, and partly it would appear, in some cases, on the notion that, being transmissible from parent to child, and in these times rarely otherwise generated, the propagation of it should be, as much as possible, prevented by separation of the sexes.

His Grace would be greatly obliged to the College of Physicians for any guidance which they may be enabled to give him on these and other points relating to the treatment of lepers.

With reference to the return from Jamaica, I am to annex a copy of a Despatch* which his Grace has addressed to the Lieutenant-Governor of that Colony, calling his attention to the representation made by Dr. Fiddes of the state of the asylum for leprous paupers provided by the Corporation of Kingston.

I am, &c.,

Dr. Pitman. FREDERIC ROGERS.

In reply to the above letter, and also to the letter from Mr. Fortescue, Under Secretary of State, of May 21, 1863†, forwarding a copy of a Despatch from the Lieut.-Governor of New Brunswick‡, the following memorandum prepared by the Committee, and approved by the College, was sent:—

"The Committee having had their attention drawn to the concluding paragraph in "Mr. Fortescue's letter of May 21, 1863, to Dr. Pitman, relative to the question of the "contagiousness, or otherwise, of leprosy, and also to the Despatch of the Governor of "New Brunswick of April 13, 1863, to the Duke of Newcastle, find, on examination of "the replies which they have up to this date received, and which amount to fifty in "number, that a very large majority of the reporters consider the disease to be not "contagious or communicable to healthy persons by proximity or contact with the "diseased. The replies already received contain no evidence that, in the opinion of the "Committee, would justify any measures for the compulsory segregation of lepers."

The question as to the contagiousness of leprosy was again brought under the attention of the Committee by a Despatch from the Duke of Newcastle to the Governor of Trinidad,§ and by the subjoined letter from Mr. Fortescue to the College:—

SIR, Downing Street, 9th July 1863.

I AM directed by the Duke of Newcastle to acknowledge the receipt of your letter of the 19th ultimo, sending a copy of a report of the Committee appointed by the Royal College of Physicians to frame interrogatories with a view to obtain information on the subject of leprosy.

His Grace desires me to inform you that he contemplates sending out a circular to the Governors of all Her Majesty's Colonies, expressing an opinion that any laws affecting the personal liberty of lepers ought to be repealed; and that in the meantime, or, if they shall not be repealed, any action of the Executive Authority in enforcement of them, which is merely authorized and not enjoined by the law, ought to cease. The effect of that circular would, his Grace thinks, be much enhanced if it were accompanied by an authoritative statement from the Committee, exhibiting, as forcibly as possible, the full weight of the evidence which has been obtained, down to this time, as to the contagiousness of leprosy, and the conclusions which the Committee have drawn therefrom.

Having reference to the importance of this matter, his Grace feels that he may request the Committee to be so good as to furnish him with such a statement, when this part of the case is complete, in anticipation of their general report.

I am, &c.,

Dr. Pitman. C. FORTESCUE.

P.S. I am desired to annex copy of a further Despatch which has reached this department on the subject.

---

* Vide Appendix, p. 205. † Vide Appendix, p. 204. ‡ Vide Appendix, p. 203.
§ Vide Appendix, p. 207.

The following reply was prepared by the Committee, and, after being submitted to the College at their meeting on the 20th July, was sent to the Colonial Office:—

"The Committee having had referred to them the letter of Mr. Fortescue of July 9th " to Dr. Pitman, the Registrar, conveying the wish of the Duke of Newcastle to be " furnished with a statement from the Committee, exhibiting, as forcibly as possible, the " full weight of the evidence which has been obtained down to this time as to the " contagiousness of leprosy, and the conclusions which the Committee have drawn " therefrom, beg leave to report that,—

"1. The number of replies hitherto received through the Colonial and Foreign Offices " amounts to 62. These returns have come from many of the West India Colonies, and " also from New Brunswick, from the Ionian Islands, and several places in the Turkish " Empire; from Sierra Leone, Tunis, and Cairo; and from Tabreez, Ceylon, Hong " Kong, China, and Kanawaha. Besides these official returns, four replies have been " received from medical gentlemen now residing in this country, but who have seen the " disease in different countries abroad.

"2. In 45 of the replies a decided opinion is expressed that leprosy is not contagious. " Only a few of the reporters, however, give any facts in support of this opinion.

"3. In nine of the replies an opinion is expressed that the disease is contagious, but " no satisfactory evidence is adduced in favour of this view.

"4. In the remaining 12 replies, either no opinion is expressed on the subject of " contagion, or the statements made are quite indefinite.

"5. The Committee having carefully considered the replies already received, are of " opinion that the weight and value of the evidence they furnish is very greatly in " favour of the non-contagiousness of leprosy.

"6. The Committee, therefore, can only repeat the statement made in their former " report to the College, that the replies already received contain no evidence which in " their opinion justifies any measures for the compulsory segregation of lepers."

As the replies to the interrogatories were received from the Colonial Office, full abstracts of them were prepared, it being considered that to print all the answers without exception *in extenso* would have been unprofitable, and have swelled the documentary evidence to a needless and inconvenient bulk. The last returns which came to hand were those from the Bengal Presidency in the spring of 1865.

Upwards of 250 replies to the interrogatories have been received from medical men in different parts of the world, (more than one-half have come from India), exclusive of those from Her Majesty's Consuls and of communications from the Governors of British Colonies.

After much consideration, the Committee deemed it best to frame their report upon the voluminous evidence submitted to them in sections corresponding with the interrogatories, —presenting, in the first place, an arranged selection of the replies under the successive interrogatories, and then giving in like succession the Conclusions they have formed on the subject-matter of each interrogatory from a review of the whole evidence before them.

In foot notes appended to most of the conclusions, the leading results of the observations of MM. Danielssen and Boeck on the several questions discussed are given, from the Norwegian Official Report on Leprosy in 1847. This valuable report was translated by order of the Norwegian Government, and published under the title of *Traité de la Spédalskhed ou Eléphantiasis des Grecs.* Paris, 1848.

In the closing observations of the Report, several topics relating to the inquiry which could not be conveniently dealt with before are submitted for consideration.

1.

1. Is leprosy known in the colony of ? If so, be pleased briefly to describe it as it occurs there.

a. Are there several different forms or outward manifestations of leprosy? If so, by what names are they respectively known?

b. Are these several forms, in your opinion, only varieties of one common morbid state? or are they specifically distinct diseases, having no affinity with each other?

c. Please to enumerate succinctly the more obvious and distinguishing characters of each form of leprosy which you have seen.

The only province or division of *British North America* where the disease has been reported to us as being known is that of *New Brunswick*, and there it appears to be limited to a small part of the province, and to be of comparatively recent origin.

The disease was first observed among the French settlers in Tracadie, a district in the county of Gloucester, bordering the bay of Chaleurs in the gulf of the St. Lawrence, and it is still almost exclusively limited to this and to one or two adjacent districts on the north side of the Miramichi river. It is believed to have been introduced into the province by an emigrant family from St. Malo in Normandy.*

The following is the account given by Dr. Nicholson, the resident medical officer of the lazaretto at Tracadie:—

"Leprosy has been known in New Brunswick since 1815. How or by what means it was introduced into the country is unknown. There are two forms of this disease here; the *tubercular*, and the *anæsthetic* or non-tubercular. I hold them to be varieties of one common state. The *tubercular* form is characterised by the appearance of yellowish or dark red spots or patches on the skin, usually at first on the head, chest, arms, and legs, and from half an inch to four inches in diameter. Tubercles of different sizes form on various parts of the body, chiefly on the face, eyebrows, nose, or ears. Some of them subside, leaving a whitish cicatrix, much thinner than the surrounding yellowish or dark red skin; others ulcerate, and give rise to ill-conditioned sores. The ears become much thickened with elongation of the helix. The hair falls off from the eyebrows, and afterwards from other parts of the body. The mucous membrane of the mouth, fauces, &c. becomes ulcerated and tuberculous, causing great difficulty of breathing, with excessive fœtor of the breath. There is more or less insensibility of the skin of the affected parts; but this symptom is not so marked as in the next form of the disease, the *anæsthetic*, in which discoloured spots appear as in the first form, but, in place of tubercles, bullæ or vesicles form, which burst, ulcerate, and heal up, to be followed by fresh crops, which then follow a similar course, perhaps for years. The phalanges of the fingers and toes drop off, followed by great distortion. The anæsthesia is sometimes so great that I have known one of the patients in the hospital burn her hand and arm severely at the stove without being aware of the injury till told of it by one of the inmates. The insensibility affects the mucous surface of the mouth, fauces, &c. The sense of smell is lost."

Bermuda.—Under the term of leprosy, Dr. Hinson describes, besides the tubercular form of the disease, the elephantine enlargement of the lower extremities, known as "Barbadoes leg." He regards them, however, as specifically distinct diseases. The latter malady, popularly called in the colony the "rose," is described as being "sometimes the result of an "acute attack of erysipelas, but usually it is more insidious in its approaches, commencing "with an œdematous swelling of the ankle, which spreads up the leg. After it has existed "for a time, it is only inconvenient from the deformity it occasions."

Leprosy prevails to a greater or less extent in all the British West Indian colonies. The two forms of the disease, known as the *tubercular* and the *anæsthetic*, are very generally

---

* Dr. Chipman of Nassau, Bahamas, conjectures that the disease may have been imported by immigrants from the French West India Colonies. "There are," he says, "in New Brunswick and Canada, many persons "who are the offspring of inhabitants of Guadaloupe and Martinique, who, in times gone by, emigrated to "Canada, and spread thence to the adjacent provinces."

recognised; they are usually regarded as only varieties of one morbid condition. They occasionally coexist or are blended together in the same individual. The names by which they are popularly known are "leprosy" and "joint-evil" or "coco-bay," a term, it is supposed, of African origin. In the *Bahamas* the term "black scurvy" is sometimes applied to the (tubercular?) disease. Dr. Checkley, of *St. Vincent*, applies the epithets of "humid" and "dry" to the "tubercular" and the "anæsthetic" forms. In *Barbadoes*, persons affected with any form of leprosy are said to be "afflicted."

Jamaica.—In this island, where the disease has been long known, and where it prevails extensively, a good deal of attention has, of recent years, been paid to it by several of the resident medical men, and especially by Dr. Fiddes, of Kingston, who published a valuable paper on the subject a few years ago,* and by Dr. Bowerbank, of the same city, who thus describes the malady as seen there, beginning with the *tubercular* form:—

"The spots, at first mere stains, become raised, often presenting a smooth, swollen, and polished aspect, and acquire a darker hue. Afterwards they lose the polished look, and become rough and tuberculated. The patches and tubercles ultimately ulcerate, forming oval sores of a whitish sluggish look, exuding a glairy discharge. I have seen the whole surface of the body covered with these ulcers, so that there was scarcely an inch of healthy skin. When any of the ulcers heal, they leave white shrivelled cicatrices. There is no particular part of the body on which the disease first appears. As it advances, the eyebrows, nose, cheeks, lips, chin, ears, the hands and fingers, toes, the fauces and trachæa are chiefly affected, causing frightful disfigurement, &c., with the hoarse nasal voice so characteristic of tubercular leprosy. Necrosis of the nasal and palate bones occurs at a late stage.

"From the very first appearance of the spots on the skin, the sensibility of the affected parts is found to be diminished, and this symptom becomes more marked with the advance of the disease. I have often excised large tubercles from the face and hands, which, though they bled freely, did not cause the least pain to the patient. Lepers often inflict upon themselves severe burns in cooking their food, &c., without being aware of it.

"In *anæsthetic* leprosy there is also a premonitory stage, indicated by pains shooting along the limbs in the course of the larger nerves, and affecting the use of certain fingers and toes, or of a hand and a foot; not mere numbness, but positive loss of power, along with loss of sensation. The muscles of the affected limb become atrophied, and the whole limb diminishes in size. The fingers and toes become contracted, and flexed on the palms and soles, and gradually become permanently fixed in this position. When stains or discoloured spots appear on the surface, they are usually much larger than in the tubercular form, and are often of a gyrate shape, extending over a whole limb, or a great portion of the trunk. Often the ulnar or the musculo-spiral nerve may be felt in its superficial course to be much larger than natural. The ulceration and subsequent destruction of the fingers and toes are usually preceded by the formation of large vesicles or bullæ which burst, discharge a glairy fluid, and become covered with a crust or scab on the affected part. At this stage the disease may be arrested for years, the patient enjoying very good health, and merely crippled by the loss of his fingers and toes; or a general wasting of the whole body may occur, with paralysis, more or less complete, of the nerves of the face and the upper portion of the cerebro-spinal system. In these cases there is no deformity or destruction of tissues, as in the tubercular disease; no ulceration about the nose, palate, or throat, &c.; but the sufferer is dejected in mind and apathetic."

The patches of discolouration in the anæsthetic form of the disease resemble, Dr. Nicholson, of *Antigua*, remarks, those of "*pityriasis versicolor* on various parts of the body, in which "sensibility is nearly lost." The same gentleman also mentions that in the tubercular form, "the skin of the buttock shews large discoloured patches resembling *psoriasis*."

Tumefaction of the extremities is enumerated by Dr. Augustin, of *Nevis*, as one of the symptoms in the advanced stages of tubercular leprosy:—"The cellular tissue of the upper "and lower extremities becomes engorged, the skin is shining and wrinkled, especially on "the back of the hands and feet, while the soles of the feet swell considerably and develop "flat tubercles. The tubercles on the fingers and toes frequently suppurate and ulcerate."

Barbadoes.—From none of our West India colonies has more ample and exact information been obtained than from this island. Eight of the resident medical men have communicated the results of their observation. The two forms of leprosy, the tuberculous and the anæsthetic, as well as the disease known as the "Barbadoes leg" or "glandular disease of Barbadoes," [sometimes popularly called "fever and ague"], have long been known and are common in the island. Dr. Browne, physician to the lazaretto, in his description of anæsthetic leprosy, observes:—"It commences with white spots on the skin of the body, hips, and arms, subsequently

* *Edinburgh Medical Journal*, June 1857.

numbness and loss of feeling in the extremities, followed by gradual contraction of the flexor tendons, and afterwards by loss of the phalanges of the fingers and toes, and occasionally of the entire hands, and of the greater portion of the feet, by absorption, without ulceration, the nails and toes being often found on the knuckles or remaining stumps. The gait of the patient is often peculiar; he lifts his knee high, and drops the foot flatly in progression.

"Cases occur partaking of the characters of both forms of the disease, such as contraction of a finger or two, with numbness in the tuberculous form, and slight tumefaction of the lips, &c., in the anæsthetic form. Of 45 patients in the lazaretto, 26 present the tubercular form, and 19 the anæsthetic."

The tuberculous form of the disease is thus described by Dr. Young:—"It is characterised by a dusky black or dirty yellow complexion in the negro and mulatto, as if the skin was covered with a thin film of dirt, and by a livid or dirty brown or red colour in the white. The skin of the forehead, particularly of the eyebrows, and of the cheek bones, alæ nasi, lips, chin, and ears, are tuberculated and shining, as if covered with varnish, and the lobes are pendulous. The lips are swollen and everted, partially showing the teeth, and frequently fissured and sore. The hair of the scalp is thin and lank, and the beard is scanty or wanting; the hair on the axillæ, on the pubes, &c., is also deficient. The mucous membranes of the mouth, fauces, pharynx, larynx, and nasal passages, and covering the tongue and uvula, are studded with tubercles; the pituitary membrane discharges a fœtid secretion, and the sense of smell is impaired; the whole causing a frightful deformity of countenance. There is a general wasting of the muscular system, and nowhere any visible fatness. The skin of the body, arms, and thighs is meagre and loose, of a dusky, dirty, or livid yellow or red colour, and spotted about with patches of *vitiligo*, particularly on the nates, arms, and legs (that on the nates being tuberculated). These blotches are mostly insensible to the touch, or have an indistinct feeling of soreness accompanied with numbness, when pinched between the finger and thumb. From about midway of the legs to the phalanges of the toes, there is serous infiltration of the cellular tissue of the parts, and the ends of the toes are livid and rather atrophied, the skin of the feet and legs is chapped, and discharges an offensive ichor. The backs of the hands and fingers are swollen, and the fingers stiff and painful on being bent. The inguinal glands are enlarged, and the skin covering them pendulous. The genital organs are either not properly developed, or become atrophied, according as the disease began before or after puberty, and the sexual desire either never existed, or is lost when the disease is fully developed, nor do I know of procreation having taken place in any such state of the body and constitution."

Dr. Clarke remarks that, in his experience, the tuberculous and the anæsthetic forms of the disease have been almost always combined, "the anæsthesia or loss of sensation being "very often the early and prominent symptom."

Dr. Goding describes a rare variety of the tuberculous form, "distinguished by the "(cutaneous) tumefactions not being so much raised as usual, and by the formation of a "thin scaly desquamation on the surface of tubercles." In another variety, "the tubercles "on the face are covered with thick incrustations or scales, produced by the ulcerated "surfaces of the tubercles beneath."

Guiana.—Leprosy prevails in many regions of *South America*. For several years past it has excited much attention in British *Guiana*, where it is very common. Dr. Reed, the medical officer of the General Leper Asylum, thus describes the "joint evil," and the tuberculous leprosy, as they are seen in that colony:—

"The *first* form begins with exacerbations of fever, and pains about the body for some weeks, and then the appearance of white or copper-coloured spots, sometimes on the face, but always on the limbs and body. They are slightly anæsthetic, and sometimes, after various intervals of time, fade, and become scarcely perceptible. In other cases, a dark red spot, in white and fair persons, often appears on either cheek; numbness of the fingers and toes then ensues, and the little and ring fingers begin to flex or contort. The first joint of the fingers and toes ulcerates underneath the nail, which either separates with the phalanx, or remains and assumes the shape of an imperfect claw. Gradually ulceration and mortification attack the different phalanges, which drop off joint after joint, while ulcers form on the legs, soles, and palms. In this form of leprosy the face and features remain natural, nor does the hair drop off or change its colour.

"In the *second* form, the discoloured spots or patches appear always on the face, and on various parts of the body; they are usually copper-coloured in the white, and yellowish brown in the black. These spots become tuberculous, and have a firm, dense, and glossy appearance. The skin over all the body becomes insensitive, dry, shrivelled, and thickened. The skin of the forehead is in large folds; the eyebrows and eyelids, deprived of hair and thickened, overhang the eyes, which are waterish, and often inflamed. The alæ nasi and the ears are swollen and scabrous, and the features altogether horribly disfigured. The tongue, uvula,

and palate may become the seat of tubercles, and the voice rough, discordant, and very indistinct, doubtless from disease of the larynx. The fingers and toes tumefy about their joints, become numb, so that they are often burnt in cooking. In some cases, however, the fingers and toes ulcerate and drop off, joint after joint. The chief distinction between the two forms of the disease is that, while the face may remain unaffected throughout the course of the former, it is invariably swollen, tuberculous, and deformed in the latter."

Dr. Van Holst states that leprosy is frequent in *Dutch Guiana* also. "Seven degrees of "disease are there recognised; but they are all considered varieties of one common morbid "state"

The replies received from *Honduras* and from the *Turk's Islands* (annexed to the Government of *Jamaica*) state that leprosy is unknown in these dependencies.

Passing from the New World to the Old, and beginning with the southern extremity of the African continent, we find that leprosy appears to have been long known as common among the natives at the *Cape of Good Hope, &c.*

As described by Dr. Abercrombie, who has practised for more than 40 years in that colony, the symptoms exactly correspond with those already given by the physicians in the West Indies:—"There are two forms, the tubercular and the anæsthetic. In the former the "disease commences with tubercles, accompanied with discolouration of the skin, and more "or less insensibility to the touch, usually on the cheeks, forehead, alæ nasi, and lobes of "the ears, causing as they increase great deformity; also hoarseness, ozæna, and symptoms "indicative of disease in the air tubes and lungs. In the second form, the fore-arms and "hands and legs and feet are first affected with swelling and insensibility. Vesications "appear over or immediately under the metacarpal or metatarsal bones, or the phalanges of "the fingers and toes. These burst, ulcers form, and extend deeper and deeper until the "joint drops off. This process is repeated again and again with the same result. The "strength of the patient becomes undermined, and he dies usually from bowel disease.

"These two forms I consider as quite distinct, although they occasionally occur in the "same patient, the one form supervening upon the other, and the hereditarily predisposed "may be attacked with either."

Leprosy is stated not to have been seen in *Natal*.

At *Sierra Leone*, the tubercular form of the disease appears to be that which has been hitherto most commonly recognised.

The information received from *Tangiers*, *Tunis*, and other places on the northern coast of *Africa*, is too vague and meagre to warrant any conclusions therefrom. True leprosy is stated not to be known in and around the districts of *Tripoli* and *Bengazi*; but further and more exact inquiries on this head are doubtless necessary. In the consular district of *Cairo*, both forms of the disease, the tubercular and the anæsthetic, are said by Consul Drummond Hay to exist. He mentions "white shining patches with hard base, in various degrees of "ulceration," among the marks on the surface.

Palestine and Syria.—A full and accurate account of the disease as it still occurs in these countries, with which its past history is so intimately associated, is much needed.

It will be seen from the following remarks by Mr. Rogers, consul at *Damascus*, that the two forms of the disease recognised in that district are—"1. Baras el Israily, or Israelitish leprosy, which consists of whitish scales on the skin; and 2. Jezâm, or, Da el Ased, or the lion-like disease, so called from the fierce appearance of people suffering from it; the lips, nose, lower jaw, and eye-lids swollen, and rounded eyes.

"The first of these two kinds is very rare. I have never seen a case of it, but have heard of two.

"The other kind is quite distinct from it, and may, on more careful and scientific investigation, be found to consist of varieties which have not been particularized hitherto.

"The usual characteristics of the first kind are, the formation of scales over the skin, which peel off like bran or small fish scales, with pains in the limbs, but no ulcerations.

"In the other kind, the nose and upper lip become swollen and shiny; ulcerations form on the face; the hair of the face and head falls off; the voice becomes hoarse; the skin of the face becomes hard, lumpy, and wrinkled; and great pain is felt in the limbs. The nose is gradually eaten away, and sometimes the lips also; the hands and feet next swell; the nails of the fingers and toes ulcerate and fall off; and in some cases not only the fingers and toes, but even the hands and feet, as far as to the wrists and ankles, are eaten away; and sometimes, though rarely, ulcers are formed on other parts of the body."

Mr. Rogers describes shortly two cases which he had recently seen, and in which the chief symptoms were lupoid ulceration of the nose, with hoarseness of the voice. In one case, "the hands and wrists are swollen, and there is a constant suppuration from the nails, some

" of which have fallen off." In the other case, " nearly all his fingers are gone; his toes " are going by degrees; suppuration continues in both hands and feet."

That both the " tubercular " and the " vesicular " or " anæsthetic " forms of the leprosy are known in the district of *Aleppo* is manifest from the account of Mr. Wortabet, transmitted by Consul Skene.

It is stated that the disease is not met with at *Alexandretta* or at *Latakia*.

In most of the islands in the Archipelago, leprosy is more or less extensively prevalent. In the large island of *Cyprus* (which is included in the consular district of *Beyrout*), it is much more common, according to the statement of Consul-General Moore, than in the opposite mainland of Syria.

At *Rhodes*, and probably elsewhere, many simple cutaneous diseases occurring in unhealthy constitutions are confounded with the true leprosy, so that persons affected with inveterate psoriasis, syphilitic eruptions, &c., " are often condemned as lepers."

At *Scio*, where the disease has existed from time immemorial, the tubercular and anæsthetic forms are described under the epithets of " humid " and " dry." It would seem that the malady has of recent years been less frequent on the adjacent mainland of Asia Minor, around Smyrna, than formerly.

At *Mytilene*, to the north, and at *Samos*, to the south of *Scio*, it is endemic and well known. The attention of the Imperial Medical Society of Constantinople having recently been drawn to the prevalence of leprosy in the Ottoman dominions, several valuable communications on the subject have been read at their meetings, and afterwards appeared in the Gazette Medicale d'Orient. Among these is one from Dr. Mengozzi, detailing the results of his observations in *Samos*, where the disease is extensively prevalent. He there states :—

Samos.—" I have seen 80 cases of the disease. In one-fourth, or more, of these cases there was no development of tubercles in the skin or elsewhere, but only, or chiefly, the mutilation of the extremities, associated with more or less extensive and complete anæsthesia. The loss of sensation is not, however, limited to this form of leprosy, as it is present in the tubercular form also; this symptom may indeed be considered as characteristic of leprosy in general. I would call it, after the example of Dr. Hjorth of Crete, the " articular " form of the disease, if I was satisfied that the flexion of the phalanges was the effect of an articular lesion, and not rather, as I believe, of the shrinking and hardening of the flexor muscles and tendons. The appellation of " diérétic " leprosy might best express its most notable feature, viz., the separation or falling off of the members. In all the cases of leprosy, whether tubercular or not, which I have seen, there were two symptoms invariably present, viz., anæsthesia and a sense of inward heat or burning. The insensibility of parts is sometimes such that they may be burnt or cut without the patient being aware of it. From the distressing feeling of inward heat, there is generally a great craving for cool drinks, &c. I regard the different forms as having a common origin."

In *Crete* also, where leprosy has been endemic for centuries, it has recently been engaging the attention of several medical inquirers. Dr. Brunelli is at present investigating the disease upon the spot, and Drs. Hjorth and Mongeri, both former sanitary physicians of the island, have written upon it. In the following extract from the description by the last-named gentleman, notwithstanding the undetermined meaning of certain technical terms applied to diseases, allusion is also made, as in Mr. Rogers' communication from Damascus, to the leprosy of the Jews, and it is regarded as one of the forms of true tubercular leprosy : —

Crete.—" Leprosy is called in the Turkish language djudam or meskin; by the Cretans khalassi or komagra, and lepers khalasmeni, komeni (gatés, coupés). The principal forms seen in Crete may be classed in three groups. 1. The knotty, tuberculous or elephantine, the leprosy of the Arabians; 2. The squamous, or leprosy of the Greeks; and 3. The white, tzarath or leprosy of the Jews. These forms are, however, often blended and combined in one patient, so that it is difficult to dissociate them. The earliest symptom is generally some alteration in the integuments of the face, accompanied at first in some cases with an excessive sensibility or hyperæsthesia, to be afterwards followed by a more or less complete anæsthesia. Swelling and ulceration of the nasal passages and of the lips, with tuberculous enlargement of the selerotic and cornea, as well as of the eyelids, ensue, causing much disfigurement and distress. At the same time, or previously, the extremities are usually the seat of divers morbid changes of structure, with disordered or impaired sensibility, and ultimately of ulceration and loss of the phalanges of the fingers and toes, &c. In some patients, the disease appears chiefly in the form of excessive tumefaction of the extremities, or of scattered nodosities or hypertrophic hardenings of the integuments of the body. The 'bouton de Crete,' analogous to the 'bouton d'Alep,' is one of the manifestations of leprous disease. The cerebral and organic functions are usually unaffected."

But it is not to the Turkish and Greek islands of the Mediterranean that leprosy is confined, as appears from the following communication from *Corfu*, where, although for so many years under British government, its existence has hitherto scarcely been known:—

"Tubercular leprosy has long existed in the Ionian islands. Dr. Dellaporta described it at the end of last century as he saw it in Cephalonia. I have seen it," says Dr. Tygaldos, "at Faraclata and Erisso, in Cephalonia; at Karussades, St. Duli, and Leptimo, in Corfu; and also in Zante. It is known under the name of Λέπρα. During the 15 years I have practised in the Ionian islands, I have at all times met with cases of the disease.

"At first the patients exhibit, especially on the face and the extremities, smooth, shining, and oily-looking spots, of a yellowish colour, verging to a brown or livid hue. The affected parts, sometimes sensible, at other times insensible, or with an exaggerated sensibility, are swollen as if œdematous, and there is loss of the hair.

"These spots are succeeded by tubercles of various sizes, at first solid, and afterwards of a pasty or soft consistence, with a reddish livid aspect. As the disease advances, the tubercles attack other parts of the body, as the pharynx, larynx, nasal fossæ, &c.

"As a variety of the disease, I have noted in a patient in the village of St. Duli in Corfu the oily, yellowish, insensible spots, on which bullæ, containing a fœtid sanies, had formed. Destructive spreading ulcerations had followed upon the bullæ, but without the formation of any tubercles on the skin."

This latter form was clearly the anæsthetic form of the disease.

The elephantine enlargement of the lower extremities, known in the West Indies as the "Barbadoes leg," is also met with in Corfu.

The only locality on the mainland of Turkey in Europe, from which we have received any account of the existence of leprosy, is the district of *Salonica*, on the sea coast of which, and of the adjacent provinces of Thessaly and Macedonia, it is said to be endemic.

It is stated to be unknown in *Monastir* and *Jannina*, also in *Servia*, and in *Wallachia*.

In and around *Constantinople*, the disease is seldom met with. Dr. De Castro regards, it will be observed, the Mosaic leprosy as identical with the tubercular form of the disease:—

"With the exception of the cases in the leper asylum at Scutari, the 'tzaraath,'* or leprosy of the Old Testament, (which Dr. De Castro considers to have been the disease now described as Greek elephantiasis,) is very rarely seen in this city. It is called by the Turks 'miskine,' by the Arabians 'djouzam.' It always commences by general or partial anæsthesia of the skin, and by copper-coloured spots on various parts of the surface, especially the face. These spots subsequently become discoloured tubercles. There is generally hoarseness of the voice and falling off of the hair. The tubercles afterwards ulcerate, destroy the tissues, and cause mutilations of the extremities. In some cases the anæsthesia is the only symptom present. The tubercular and anæsthetic forms are only varieties of one disease. The first is the most common."

Most of the lepers in the asylum at *Scutari* come from the Asiatic coasts of the Black Sea, and the few cases of the disease that are ever seen in Constantinople are said to be chiefly among persons from the islands of the Archipelago. Dr. De Castro has met with several instances of tubercular leprosy among the Jews resident in the Turkish metropolis.

In the adjacent province of *Brussa*, in Asia Minor, leprosy appears to have of recent years disappeared; and Consul Barker states that only isolated cases are met with in the district of *Samsoun*, near *Sinope*, on the southern shores of the Black Sea, or in the towns of Asia Minor generally. It is stated to be unknown in *Trebizond*.

Passing on from the Turkish dominions eastwards, the communication from Dr. Cormick, long resident in Persia, to Mr. Abbott, our Consul at *Tabreez*, shows that the tubercular leprosy† prevails in the north-western province of the kingdom‡. "The disease," he remarks, "sets in with great languor and depression, followed by numbness and formication in the "extremities. The spots and tubercles then make their appearance on every part of the face, "but especially the nose and ears; they are soft, round, reddish or livid. Subsequently they "appear on other parts of the body. The face is puffed, the eye-brows and lashes fall off, "the forehead is beset with tubercles, the lips become thick and shining, and the lobe and "alæ of the nose much altered. After some years these tubercles inflame and suppurate, and "discharge a sanious pus, that dries up and forms adhering black or brownish scales. The "mouth, uvula, pharynx, and nasal fossæ are also attacked with tubercles; the pituitary mem-"brane becomes inflamed, and secretes a purulent fluid, and ultimately the cartilage and

* Λέπρα of the Septuagint.

† "Jezam" in Persian.

‡ It is more than probable that the disease is common in many other districts of Persia besides the province of Azerbaijan.

" bones of the nose exfoliate. The voice becomes hoarse, nasal, and is finally lost. The " sense of smell becomes impaired and ultimately lost.

" The disease after long continuance very frequently causes the loss of toes and fingers, and " even of the hands."

China.—Tubercular leprosy prevails extensively throughout the Chinese empire, and especially in the southern provinces. It is known by the names of " fat-fung," " ta-ma-fung," " mo-fung," or the " great leprosy," to distinguish it from other chronic cutaneous diseases, which are, however, often confounded with it, so that the general term of " leprosy " is often very vaguely applied throughout the country. In and around *Canton*, and in the adjacent districts, it is very common. At *Shanghae* also, and in the vicinity, it is of frequent occurence. Very few cases are seen at *Hong-Kong*, but large numbers at *Macao*, to which island the lepers from the mainland flock in consequence of the kind treatment they receive from the Portuguese authorities there.

Among the symptoms mentioned by a native leper physician to Consul Robertson of Canton, is enumerated a " scaly brightness of the skin." The description given by Dr. Henderson of the disease as it is seen at *Shanghae* will apply to it in other parts of the empire:—

" It commences with one or more dusky-reddish shining patches on the forehead, nose, or legs; the skin seems tense, and has the look of being varnished; patients sometimes complain of weakness and languor; the appetite seems impaired; the tongue slightly furred; sensibility of affected part at first increased, but after from one to three months diminished. In the course of a short time, soft, livid, slightly prominent, indolent tubercles appear and spread over different parts of the body. Indolent, slowly corroding ulcers appear on the lower extremities; the skin becomes thickened and hard. After some months the whole skin presents a full and puffy appearance; the lips seem much thickened; the nose flattened; the nostrils dilated; the teeth become loose; the gums tender and ulcerated. The expression is peculiar, and the senses appear more or less blunted. The general health suffers little, and patients ordinarily continue their employments, unless very laborious, throughout the progress of the disease.

" In the third stage of disease, parts of the face, neck, and arms are ulcerated; the lower eye-lids are everted; the bridge of the nose is broken down; the palate is destroyed; the fingers and toes drop off, and the whole body appears a mass of corruption."

Japan.—Respecting Japan, all that can be said is that leprosy is believed to exist among the inhabitants; but no exact information on the subject has yet been obtained. The same may be said of the large Chinese island of *Formosa*.

Australia.—The Chinese have carried the loathsome disease with them into one, if not more, of our Australian colonies. Dr. M'Crea, the chief medical officer of the Government at *Melbourne*, states that it is chiefly in the gold districts in and around *Ballarat*, *Castlemaine*, and *Beechworth* that cases of tubercular leprosy have been met with among the immigrants. That the malady once developed in the constitution has continued its destructive progress in the climate of Australia is shown by the following account of the patients treated by Mr. Hutchinson at *Castlemaine*:—

" In all the cases seen the disease was matured, and though the symptoms varied in different cases, they were so unmistakeable as to be easily recognised. In all, the sensibility of the skin was more or less impaired. In some, the nose, larynx, and air passages became seriously involved as the disease advanced, and death seemed to take place by suffocation and exhaustion, while one or more attacks of pneumonia not unfrequently took place before the fatal result. In another class of cases, the disease seemed to develop itself more especially in the bones and joints of the phalanges of the fingers and toes; there were fistulous openings leading down to the diseased parts, and the bones became absorbed, so that one or even two phalanges sometimes were wanting; the soft parts contracted, leaving the fingers stumpy-like and short, but having the nail, and otherwise looking entire. In one case, where the disease had existed seven or eight years at least, one of the ankle joints was completely dislocated, the foot being turned inwards and the sole upwards, so that the individual walked on the ends of the leg bones.

" In two cases now under my observation there is paralysis of one side of face, and the fingers are contracted on the palms. In one case the sight of the eye on the affected side was destroyed."

The only allusion to what can be regarded as possibly the disease of leprosy, in its early stage, among the Chinese labourers in the colony of *New South Wales* is that by Mr. Mason, of Tenterfield, who describes " a form of cutaneous eruption consisting of small shining " spots or tubercles of a livid colour, which often discharge a very offensive fluid, and are " followed by silver-looking scales."

No traces of the disease have been discovered among any other portion of the population in our Australian colonies than among the Chinese immigrants. It has not been seen in *South* or in *West Australia*, in *Queensland*, or in *Tasmania*.

New Zealand.—That the disease described by the late Dr. Thomson, of the 58th Regiment (*vide* Appendix, p. 223), as occurring among the natives, was of a truly leprous character admits, we think, of no doubt. It would be highly interesting to obtain further information respecting this endemic malady among the New Zealanders, especially as it appears to have been of recent years becoming less frequently seen, and may possibly, as Dr. Thomson predicted, cease ere long to be met with.

In the chain of islands lying between the Cape of Good Hope and Ceylon, including *Madagascar* and adjacent islands of St. Marie, the French colony of *Bourbon* or *Reunion*, and our colony of *Mauritius*, with its dependency of the *Seychelles* group, leprosy is very prevalent. In the description of the disease as it occurs in *Madagascar* (*vide* Appendix, p. 220), Dr. Davison draws attention to a peculiar appearance of the discoloured spots on the skin, in the early stage of the malady, arising from the falling out of the hair :—

" The hairs upon the part become yellow and stunted, and after a time fall off, leaving the " hair bulbs (follicles ?) empty, patent, and enlarged, especially on the face, so as to present " one of the most diagnostic signs of the malady. So characteristic is this of leprosy, either " as a latent diathesis or a developed disease, that I have never known a leper who did not " present it." Moreover, there was always more or less anæsthesia in the affected parts.

Mauritius.—Dr. Finnimore, in the following account of the disease, alludes to the kindly healing of wounds in lepers, notwithstanding their constitutional cachexy :—

" Leprosy here is characterised by tubercular swellings on the face, nose, forehead, and ears, the cartilages of the nose and ears being sometimes thickened by tawney discolourations of the skin, pervading the entire body, generally in patches. The discolourations are deepest over the tubercles. The hands and feet are peculiarly affected ; the fingers, toes, and soles of the feet are the parts first attacked. The epidermis first becomes harsh and scaly, and then horny ; it cracks, and fissures are formed, from which a thin ichor is discharged. The ulceration extends deeper and deeper through all the tissues, bone and cartilage included. In this way the extremities of the toes and fingers literally rot off. As soon as a phalangeal joint is destroyed, the diseased action seems to arrest itself at this particular spot, and the extremity of the phalanx will remain attached to the member simply by a string of soft tissue, for an indefinite period ; a source of great annoyance to the patient, until it is removed by the knife. And here I may remark, that amputations of all kinds (and I have performed many on lepers) heal with a rapidity rarely met with in healthy persons. Perversion and loss of cutaneous sensibility are frequent in the course of the disease. Cutaneous secretion is always much diminished ; frequently almost entirely arrested. There is always more or less emaciation."

The elephantine enlargement of the inferior extremities, or " Barbadoes leg," is also very common in the Mauritius. Mr. Ford remarks :—

" They are, in my opinion, only varieties of one morbid state ; one form may run into or be accompanied by another, and sometimes the various forms become blended in the same patient ; they occur, too, in the same countries and localities, and under similar circumstances."

India continues to be, as it has been for ages, one of the principal seats of leprosy in the world. No province of the empire, from Point de Galle to Peshawur, or from the Indus to the Straits of Malacca, seems to be exempt from the evil ; and nowhere certainly might it be more advantageously investigated. Hitherto the subject has excited but little attention either in a scientific or social point of view. It is to be hoped that the present inquiry may lead to a more thorough and systematic examination of a malady which affects so deeply the material well-being and interests of millions of our fellow-creatures, subjects of the British crown.

Ceylon.—" Leprosy is not an uncommon affection among the lower orders of the natives. I have seen it occasionally in Europeans and the burgher classes. The disease is commonly but erroneously put down as 'lepra,' and, I believe, it has been for years included under that head in the medical returns.

" Leprosy is seen in two forms, the tubercular and anæsthetic varieties. Occasionally these two forms are found combined in the same patient. I believe they are only varieties of the same disease, depending upon one morbid action.

" The tubercular form sets in with a shining and discoloured appearance of some portion of the skin, attended sometimes with loss of sensibility ; the discoloured patches are afterwards found raised ; they then become thickened and tuberculated, the tubercles generally appear

on the ears, nose, fingers, and toes. Suppuration ensues, leading to contraction of the small joints, or these become destroyed by sloughing ulceration. A fatal diarrhœa generally terminates a miserable existence.

"The anæsthetic variety is, I think, comparatively rare in Ceylon. It commences with impairment of general health. Vesicles form in different parts of the body, which lead to destructive ulceration, attended with falling off of the hair and general emaciation. The articulating processes of joints sometimes become absorbed, leading to anchylosis. Diarrhœa is generally the fatal termination of this variety also."—(*H. D.*)*

One of the respondents, in his description of the disease, says:—

"The symptoms of this disease are such that, in various parts of the body the skin exhibits circular scaly patches, is thickened and elevated; and that, in process of time, the patient suffers from blisters in the fingers and toes, followed by ulceration. In a subsequent stage, excavated ulcerations appear in the soles of the feet, after which, exfoliation of the smaller bones in the diseased parts takes place."—(*J. G.*)

Besides the tubercular and anæsthetic forms of the disease, mention is made of a third kind, of which the only symptom is the whitening of the skin, in small spots or patches at first, subsequently extending over a great part or the whole of the surface, and which is seldom attended with ulcers or other physical suffering. It is regarded as the white Jewish leprosy, and is very common in Ceylon, particularly in the N.W. province. The hair on the affected parts becomes quite white from the very beginning of the disease.

Bombay Presidency.—Leprosy is well known in this presidency, including Aden; but it is said to be rather uncommon in Scinde.

a. Those observers who write from sufficient experience of the disease distinguish two forms of leprosy, and Dr. H. V. Carter (whose replies are much fuller than any others) speaks of three varieties, viz., *first*, white leprosy, or shvet kusta, probably a variety of the leuke of the Greeks, the baras or beres of the Arabs; it is also called khoor by the Sindees: *second*, guleet khusta, sunbahiree, of the Hindoos; it corresponds with anæsthetic leprosy, articular leprosy, &c.: *third*, tubercular leprosy, elephantiasis, leontiasis, &c., of the Greeks, the lepra of the translators of the Arabian writers, the da-al-asad (lion disease) of the Arabs, and the ructa kusta, ructa pitia, maha viadhi, of Hindoos. The first and second forms are commonly confounded under the name of white leprosy; the third all agree in naming black leprosy.

b. The unanimous opinion is that the varying forms of leprosy are merely different phases of one common morbid state. It seems to be not uncommon for a leper to be affected with two forms at once. Dr. Bell, writing from the southern Muratha district, while confessing that his experience of leprosy has been extremely limited, says, "I had always been of "opinion that there were two forms of the disease, viz., white and black leprosy, but from "careful investigation I now find that there is no affinity between them; that which I "regarded as white leprosy is a distinct disease, never passing into the jujam, or leprosy "proper of the natives. The Mussulman name for it is buras (baras), the Murathee "kode. In character and appearance it strongly resembles the lepra vulgaris of many "authors."—(*Dr. Stovell.*)

c. In reply to this query, Dr. Carter refers to his pamphlet on leprosy, already forwarded to the Royal College of Physicians. The following is a summary of the symptoms he enumerates, with a few additions from Surgeon Steinhaeuser's replies:—

Form 1.—An eruption on the skin, accompanied by anæsthesia.

Form 2.—Anæsthesia of the skin of the face, ears, and extremities, followed in the latter case by atrophy, instertitial absorption, and occasionally ulceration of the benumbed parts, notably of the fingers and toes, with little or no constitutional disturbance. Large circular superficial ulcers may form on the lower extremities. The affected finger and toes become contracted, the joints enlarged, the ends of the fingers broad, flat, or clubbed.

Form 3. Tumefaction, or tubercular thickening of the skin, principally of the face, also of the extremities; less marked on the trunk. The affected skin is discoloured, dark-bronzed, shining, its sensibility much diminished or entirely lost. The mucous membrane of the mouth ultimately becomes affected, and the voice altered. Contraction of the fingers and toes is a frequent symptom, and the phalanges may drop off from ulcerated fissures forming over the articulations, or from sphacelation supervening on ulceration; the entire hand or foot may thus be lost. The constitutional disturbance is much greater in this than in the previously described form.

The eruption characterising form 1 is thus described in Dr. Carter's pamphlet:—

"Patches or spots of a circular or annular form, size ¾ in. to 3 in. or more in diameter; edges raised, of a pinkish hue, free from scales, slightly cracked or wrinkled, centre depressed, pale, dry, glistening; a tendency to spread and join so as to cover larger spaces. The centre

* The names of the respondents are not given in full.]

of the patches is insensible, often completely so, and always in the older ones. Their appearance is not preceded or accompanied by any general symptoms, or even local signs of irritation; there is nothing like hyperæsthesia at the commencement. The patches commonly occur about the shoulders (front) and hips (back), behind the elbows, and in front of the knees; on the face the temple and cheeks are frequent positions, sometimes where the branches of the fifth cranial nerve emerge; the trunk and limbs are often affected in a perfectly symmetrical manner, and there is always a strong tendency to such an arrangement. The eruption begins as a small reddish, flattened elevation of the whole skin, giving the impression of a tubercular character to it. Squamæ, discharge, and scabs are absent; even a furfuraceous desquamation of the cuticle is by no means common. The hairs on the patches are few and atrophied, but seldom blanched; the function of the glands of the skin is suspended or diminished; blood readily flows on puncture of the surface. In less marked cases the distinction of margin and centre is apt to be obscure, but anæsthesia is always present in the latter." *

In many cases the appearance "is a light discoloured state of the skin in the form of "large patches, the surface of which may present hardly any other changes beyond those of "colour and sensation; but the often rounded form (particularly when small), defined and "slightly raised, reddish margin, and dry, shrunken, anæsthetic centre—characters sometimes "common from the very first, and imparting an aspect which to an experienced eye at once "reveals the nature of the disease—clearly connect this form of eruption with the preceding."

That there is a connection or affinity between this form of disease (baras) and tubercular leprosy cannot be doubted. At the same time, Dr. Carter admits that the appearances are, in several points, not very dissimilar from what are seen in some ordinary and tractable skin diseases, as in *lepra vulgaris*, &c. He remarks—

"First, there is a rare eruption consisting of rounded, raised, flattened spots of a pale tint, covered with a thin cuticle which readily desquamates, and is very tender and vascular: the colour is like veal's flesh; there is a tendency to form excoriations, but most seem to subside, leaving small level (slightly depressed?) smooth, livid, shining marks, not unlike the cicatrice of small-pox in natives, only less uniform in size and not so puckered."

"Next, a much more frequent skin disease occurs, which much resembles ordinary lepra; large, rounded, scaly patches, accompanied with local irritation and often thin discharge, are seen particularly around the lower part of the waist and groins, also in other parts: this is certainly not connected with leprosy, though mentioned as such by the Hindoo authors, who like their successors in Europe, included many skin diseases under that head. Again, very often in natives we see palish spots on the skin, often clustered, and common about the neck, &c., which are also innocuous: an intelligent patient told me they are known as 'sibbla.' I have once seen this appearance in a leper who, however, himself spoke of it as 'kuchh nahin'—not worthy of notice. Ordinary skin diseases, as herpes, eczema, scabies, &c., are common enough, but except 'gachkaram (lepra?), the scaly eruptions are not so: perhaps the habits of the people and the climate have some influence in this respect. Syphilitic eruptions of various kinds are often seen, papular, scaly, tubercular, but I have not found any difficulty of diagnosis to arise hence."

Madras Presidency.—"Leprosy (the lepra Arabum, elephantiasis Græcorum of dermatologists) is a disease of frequent occurrence throughout the Madras Presidency, more especially in all the large towns on the eastern and western coasts, but more especially in the latter. At stations somewhat inland, though known, it cannot be said to prevail.

"Two distinct forms of the disease are recognised throughout the Madras Presidency by those who have had the most extended opportunities of studying it. Some of the reporters, Furnell, Rean, and Shortt, describe a third form under the name of lepra leucopathica vel albida, (vullay koostum, Tamil); but this appears to be a species of albinoism, commencing insidiously with spots on the extremities, trunk, or face, which enlarge without structural change, and without much functional derangement coalesce, occasionally increasing to such an extent as completely to assimilate the dark skin to that of a fair European. . . . . This affection in none of its essentials resembles leprosy, nor does the black discolouration which is also occasionally met with.

"*Lepra anæsthetica*, poonnah kooshta themir coottarogum (Tamil).

"The anæsthetic form of the disease is the most common in Southern India; we find that in 1864, out of 75 cases at the leper hospital, Madras, 45 were of the anæsthetic form (Dr. Van Someren's pamphlet). In Cochin, Dr. Day does not state the proportion, but he says the anæsthetic form is the most common.

* A coloured drawing is given by Dr. Carter of one of the cases, in which the annular patches on the thigh and leg, having the centre pale and somewhat depressed, and the margin broad, raised, and of a purplish hue, are well represented.

"*Lepra tuberculata*, koostum coostarogum (Tamil), appears insidiously without any or but ill-defined constitutional symptoms; burning and itching are complained of in the face and extremities, and the skin is often dry, bronze, or fawn-coloured; raised patches of various shapes and dimensions soon appear on the face and extremities; sometimes they present a glazed and shining appearance, or the reverse. These elevated patches are often hypersensitive (Day, Van Someren) in the first instance, but gradually become insensible and continue so, &c. &c.

"The anæsthetic and tubercular forms or varieties are often combined in the same individual, constituting a mixed variety. In neither do any definite or well-marked constitutional symptoms precede the local development of the disease, but both are often complicated with other skin diseases, especially scabies, psoriasis, chronic eczema, and venereal eruptions."—(*Mr. Shaw.*)

Bengal Presidency—Bengal Proper.—Dr. Jackson remarks that "Leprosy is known in "the province of Bengal and generally throughout India, though not so extensively in the "upper and midland parts of India as in the lower provinces, and especially in the districts "bordering on the sea."

Pooree or Juggernaut.—Leprosy has been known to prevail in this district for centuries. It is confined mostly, if not chiefly, to the only large town in the district, which is known by the name of Juggernauth or Pooree, and is so called after the great Hindoo pagoda or idol of that name therein situated. For the worship of this idol hundreds of thousands of poor and footsore pilgrims can be seen constantly treading the weary way to it, the victims of an idolatrous and designing religion; thousands dying by the wayside from exhaustion and disease; and the remainder usually returning to their homes with the germs of this and various other diseases taken up as it were on the way and engrafted on them, to be more fully developed into action by-and-by, when the period of temporary excitement has passed over, and the body falls into the succeeding and more unfavourable stages of depression and exhaustion. But, again, there are a class of pilgrims who, contracting the disease (leprosy) entirely at their homes, seek a pilgrimage to this place for the express purpose of being cured, as they hope, by offerings and other propitiatory prayers to another idol called Lokenauth (who has also a shrine set apart for him, and whose peculiar attribute is believed to be the healing of diseases of such a foul nature); but the unfortunate wretches soon finding all their expectations vain, and no good to attend their devotions, and now unable to return to their friends, from being looked upon as outcasts, and as beings visited with the curse of the Almighty, are content to remain about this place as beggars, penniless and homeless, and as associates for none but the indigent and dissolute, ready to join in every degrading crime, and early giving way to and sinking under habits of intoxication and other similar vices.

Furreedpoor.—Dr. Rose describes the most common different kinds of cutaneous eruption occurring in leprosy, as the papular, the tubercular, the bullar, and the squamous:—

The papular form consists of an eruption of small circular, elevated flattened points, or of even larger papulæ, sometimes reddish, distinct or closely clustered together, seated on an erythematous base of various shapes and sizes, generally slightly raised at the borders and depressed in the centre. These patches appear chiefly on the forehead, face, anterior part of the trunk, back, and on the outer aspects of the limbs. Their evolution is at first attended with much tingling, pricking, and a hot burning pain; these, however, soon subside, followed by anæsthesia, while the eruption gradually degenerates into a thick continuous squamous formation, in which the whole body is often more or less encased. Sometimes, as the disease advances, and in particular situations, as the face, forehead, nose, and ears, the papulæ will grow larger, more closely set and irregularly prominent, giving that swelled mammilated appearance to the features so remarkable in certain cases of this variety of leprosy, and which is not unfrequently mistaken for its more formidable congener, viz., the genuine tubercular malady.

Various vesicular and pustular eruptions, as herpes, eczema, strophulus, and porrigo, are frequently present at the same time.

The tubercular eruption consists of various sized and irregular shaped tubercles on the surface, sessile or somewhat pedunculated, scattered or crowded together, generally smooth, shining, soft, and insensible, and are either livid, dark brown, or fawn-coloured; they are usually preceded by reddish insensible patches, and occur most frequently on the face, nose, ears, lips, eyebrows, and chin, causing, with the thickened rugose state of the intervening skin, that frightful distortion of the features so remarkable in this form of leprosy.

The bullar or pemphigoid form is characterised by the eruption of some bullæ resembling pemphigus, generally coming on without any warning or knowledge of the patient, but, if

occurring during the earlier stages, it may be preceded by some tingling and pruritus. They seldom appear more than few at a time, and are chiefly confined to the extremities, especially below the ankle and wrist joints. Their mode of termination is either by drying up and scabbing, or by ulceration and cicatrization. Sometimes the ulcers thus produced become gradually deeper, with a constant thin ichorous discharge, and never heal up until considerable portions of the feet or hands have been destroyed. The accidental erosions and burns to which the deadened limbs of lepers are liable cannot be confounded with this genuine eruption.

The squamous form is the most frequent and universal in leprosy in tropical latitudes, and, from our knowledge of the disease in India, we might say that a full three fourths of the cases ordinarily met with in this country are of this description. Three principal varieties of this description may be distinguished; viz., in one, the patches are of a circular shape, the same as in psoriasis circinata; in the second, they are irregular, and cover large surfaces, as in psoriasis diffusa; and lastly, in the third, they occur in bands or lines most curiously twisted, as in psoriasis gyrata.

In the first variety the scaly patches are circular, varying in size from that of a shilling to a dollar, more or less rough, and raised at the circumference, but smoother and depressed in the centre, and appearing at first a few and scattered on the limbs, afterwards more numerous on the back and rest of the trunk. In some cases, the circles after a time may break up, and disappear, followed by the diffuse form, and in others these two varieties may be variously intermingled; sometimes the patches will go on increasing till large surfaces may be affected. The accompanying anæsthesia is either limited to the eruption, or may extend to other parts, even at a considerable distance from it. The eruption is originally papular in character, the papulæ being somewhat flattened and each covered with a scale, which is successively renewed.

Besides the tubercular and the anæsthetic forms of the disease, a third form, to which the term of leucopathic (leuce, lepra albida, &c.,) is generally applied, is frequently mentioned in the reports from the Bengal Presidency.

Burdwan.—In this form (lepra albida), there is merely absence of colouring matter, varying from specks the size of shot to that of large patches, which spots, on being pinched or pricked, are found void of sensation, which generally extends a little way around their margins. The face mostly partakes of the characteristics above mentioned, with partial or entire loss of eyebrows. The patches are mostly confined to the forehead, calves, ankles, feet, hands, and occasionally to the glans penis alone; are dry and mostly devoid of hair; if any exists it is thin, scattered, and ultimately disappears. Previous to loss of colour there is considerable itching experienced in the part, with a dull feeling and dryness. The patches about the hands may or may not ulcerate, and I have seen death from diarrhœa at the age of sixty or sixty-five, when there was no ulceration in any part of the body; the lungs containing tubercle in a hard and softened state, with unusual ashy paleness and knottiness of the liver. —(*Dr. Williams.*)

Mozufferpore.—In this form, although the change in the colour of the affected parts appears to be simply due to an absence of pigment in the skin, (which, together with the hair upon it, becomes perfectly white, but continues to perform its functions as in health,) there is reason to believe that it is allied to leprosy. The following is one among many cases of leucopathia which makes Mr. Macnamara think so:—"A rich zemindar applied to me "about a year ago suffering from this form of the disease, his arms and face being perfectly "white. He was the eldest son of his father, who had died from the second or ulcerative "form of the disease. My patient's only sister was affected like himself, and his brother in a "similar way to his father His only son, a lad of fifteen years of age, is now under my "treatment for the third or tubercular form of the disease. This son was born prior to the "leprosy having manifested itself in the case of the father, since which he has ceased to "cohabit with his wife, and, as far as I can ascertain, she has no symptom of the "disease."

North-west Provinces—Ghazeepore.—Leprosy is a very common disease in this district. The general characters of the anæsthetic form (soonbeharee) are these:—The eruption on the extremities or trunk, or on the head and face, of spots, circular at first, but afterwards irregular in shape, varying in size from that of half a split pea to a patch of from six to eight or more inches in diameter, of a reddish colour in recent cases, but subsequently several shades lighter than that of the surrounding healthy skin; their border raised about one half to three fourths of a line above the surface, granular to the touch, like a circle of grains of sand, and from one to two lines broad; within this outer margin, surface of skin smooth, thinner than normal, seemingly depressed below the surrounding healthy surface; hairs absent or stunted; rarely scales or desquamation; no cracks; occasionally a few isolated tubercles.

Sneenuggur.—In the tubercular form there is development in the skin and in the mucous membrane of the mouth, fauces, and nares of erythematous patches, patches of discolouration or maculæ, and tubercles. The erythematous patches are at first of a red or purplish hue, of various sizes, and generally round or oval, most deeply coloured in the centre, and fading towards the circumference. After the existence of the patches for some time, the redness of the centre subsides, and gives place to a brownish stain, while the circumference spreads for a short distance, and forms a ring with a well-defined border; later still, the redness disappears entirely, and leaves behind it a brownish stain, which is more or less permanent. Sometimes the central portion of the patch becomes bleached and quite white and smooth. The centre of the erythematous patches is harder to the touch than the surrounding skin; the epidermis frequently desquamates over it; the tissues of the skin become thickened and more and more condensed and elevated above the surrounding skin, sometimes remaining flat, sometimes attaining by continued thickening the form of a tubercle. The tubercles present the dull red and purplish hue of the erythematous patches for some time, but sooner or later assume the brownish tint of the discoloured skin, or become whitish; the tubercles remain unchanged for a considerable time, or become inflamed, soften, and ulcerate, giving out an ichorous discharge; those in the fingers, toes, and tip of the nose ulcerate early.

Furruckabad.—Leprosy exists and has existed in the district of Furruckabad from time immemorial.

a. It consists of two varieties, named respectively elephantiasis anæsthetica, and elephantiasis tuberculosa; both are known in Hindostan by the common designation of korh. There is besides a peculiar affection of the skin, characterised by irregular shaped patches of a white colour, which is frequently confounded with leprosy, though it has no connection with it, being merely an unsightly blemish not attended with any danger to health. I allude to that condition of the integument closely allied to albinismus, and known by the names of chloasma album, vitiligo, leucopathia, &c. In the East it is called besas.—(*Dr. Grant.*)

Punjaub—Lahore.—Besides the tubercular and the anæsthetic forms of the disease, there is the white or the Jewish leprosy, the berat of Moses. Of this I have seen instances of both the berat lebena and the berat cecha, or the bright white and the dusky lepra. The berat lebena occurs in the form of one or more pearly spots; the white patches are the same as the healthy skin except in colour, and that they are either free from hairs, or that the hairs turn white and silky; sensibility is not affected in pure cases. I have seen the disease co-existing with the lepra anæsthesiaca as well as with true (tubercular) leprosy.

The natives consider albinos to be lepers, the disease being supposed to be berat lebena; and indeed the white leprosy appears to me to be physiologically undistinguishable from albinism, except in the fact of the latter being congenital and affecting the whole body, and the former not congenital and affecting only parts of the body; both consist of an absence of pigment, and do not of themselves affect the general health.—(*Mr. Bose.*)

Central India—Augur.—Leprosy is of frequent occurrence in Malwa, Central India.

The forms of cutaneous eruption peculiar to leprosy which I have met with are three:—

1st. Consists of tumefaction or thickening of the skin in large patches, one on each cheek, eyebrow, lobe of the ear, on the nose, lips, and chin, also over the upper part of each sterno-mastoid muscle, just below and behind the ear. The skin in the affected parts is of a darker colour; looks coarse and slightly uneven; feels thickened, firm, and somewhat tuberculated. The margin of the patches is undefined, and shades off into the healthy skin. The sensibility of part is unaltered.

In cases in which this eruption occurs it is almost always the first symptom of the disease, and is followed by the anæsthesia, sooner or later; it may be in a month or two, or not for one or two years. In a very few cases the two symptoms are cutaneous, and in fewer the anæsthesia is first developed.

2nd. This eruption consists of spots or patches of a circular shape, varying in size from a small papulæ to two or three inches in diameter. In the large spots the centre is depressed, smooth and whitish, the margin defined and raised, of a pale red colour, and when not exposed to friction, covered with a minute white powdery desquamation. There a loss of sensibility in these patches from their earliest appearance, which increases till there is perfect anæsthesia in their centre, shading off into slight numbness at the edges. The eruption begins by a few spots, others follow, new ones continuing to be developed during the entire course of the disease. The spots first appear as small papulæ, very much resembling those of urticaria. These slowly increase in size, preserving their circular form till they are two or three inches in diameter, or often coalescing from large irregular shaped patches.—(*Dr. Beaumont.*)

Mysore—Bangalore.—Lesion of sensation, associated with some affection of the skin, is, in my opinion, the most constant symptom of leprosy, and may, indeed be considered pathogno-

monic; for though in some cases there may be tenderness or pain, yet in every case there is also some degree of numbness and insensibility to ordinary impressions on the skin.

The tubercular form of the disease is very generally accompanied by a squamous, scabby state of the skin, but particularly of the extremities. In some cases of this form of leprosy the disease commences and is characterised principally by a severe chronic eczematous mange-like condition of the skin generally, but more especially affecting the usual sites of scabies, or about the flexures of the joints between the fingers, &c.; and indeed cases of this kind seem almost either induced by or are much aggravated by scabies in a virulent form, and may be relieved to a considerable extent by a treatment appropriate for scabies. The diagnosis of leprosy from obstinate chronic eczema merely is, in some such cases only, determinable by the co-existence in the leprous cases of lesion of sensation.

White leprosy, or leuce, is certainly an entirely distinct disease from leprosy proper, though I have met with a few instances which induce me to think the two diseases occasionally co-exist in the same person.

White lepers suffer like albinos much from sun burning, their skin getting readily scorched and blistered by exposure to the sun's rays. Sensation remains unimpaired in the parts of the skin which are decolourised. I have seen no sufficient instances to induce me to think that any one of these forms of leuce progresses into the other.—(*Dr. Kirkpatrick.*)

Nipal—Khatmandoo.—Leprosy is common throughout Nipal, and is met with in three different forms, all of which are known under the same name of "core," or sometimes of "maharogue." These three forms are, 1st, lepra vulgaris; in its early stages it has the same general appearance as it exhibits in Europe, but the patches on the skin are more livid, and, as the disease advances, it is marked by a great tendency to swelling of the integuments and ulceration and sloughing of the nose and lips, as well as of the smaller joints of the hands and feet. 2nd, lepra alphoides, marked by the whiteness and scaliness of the cutaneous eruption, and by its slow chronic character, and its tendency to terminate in drying up, rather than in swelling and sloughing of the extremities. In its later stages it is often accompanied by loss of sensation in the skin, and by partial paralysis of the affected limbs. 3rd, lepra syphilitica, which is met with when either of the above forms is modified by the presence of syphilis.

2.

(*a.*) At what age does the disease generally manifest itself? (*b.*) and what are usually the earliest symptoms observable?

(*a.*) *New Brunswick.*—"Most frequently about puberty; but it may occur at any age from childhood to 50."—(*Dr. Gordon.*)

"The youngest patient when admitted into the hospital was nine years; the oldest was 63."—(*Dr. Nicholson.*)

Jamaica.—"I have not seen any case, in either of its forms prior to four years of age. At and soon after this age, I have met with many examples of the tubercular leprosy; but not any case of the anæsthetic earlier than the eighth or tenth year, and not later than the meridian of life; while the tubercular occurs not unfrequently at a very advanced age."—(*Dr. Fiddes.*)

St. Lucia.—"Generally, shortly before or after puberty. In the offspring of lepers it may appear at birth, and often does in various forms of malformation."

Antigua.—"When it attacks in infancy, there is sometimes a complete arrest of development."

Barbadoes.—"Of 42 inmates of the lazaretto, it commenced in 29 before 16 years of age; in seven between that age and 26; and in six between 31 and 54."—(*Dr. Browne.*)

Guiana.—"It seldom displays itself before puberty, but I have seen well-developed leprosy at eight years of age."—(*Dr. Pollard.*)

"I have seen the disease manifest itself at different ages, from three to 12 years."—(*Dr. Manget.*)

Cape of Good Hope.—"In the hereditarily disposed it seldom occurs before puberty. I have seen it however, as early as two years of age. The usual period seems to be from 20 to 35 years."—(*Dr. Abercrombie.*)

Jerusalem.—"Generally at the time of puberty."

Damascus.—"Generally in adults; but many cases are also known of children of tender years being attacked."

Scio.—"Generally about 18 or 20 years of age; but when hereditary predisposition exists, as early as five or seven."

Crete.—"It is only among the Jews in Crete that I have ever observed the symptoms in infancy or early youth. It seldom appears before puberty."—(*Dr. Mongeri.*)

Constantinople.—"It is very rarely seen before the 10th year. Once only has a child been seen at birth covered with tubercles, the offspring of leprous parents."

Tabreez.—"At all ages; but the youngest I have seen was about eight years. It does not generally appear till much later."—(*Dr. Cormick.*)

Shanghae.—"The most common age is from 22 to 38."

Mauritius.—"At any age from infancy to late in life. Medical men seldom see cases at their commencement, they are too often kept secluded."—(*Mr. Ford.*)

Bombay Presidency.—The general opinion seems to be that the disease most generally manifests itself between the ages of 15 or 20 and 30 years.

Madras Presidency.—Dr. Day has seen leprosy in an infant in arms whose mother was a leper, and Dr. Porteous has treated a child of four years old; but out of 58 patients in the leper hospital, Madras, in February 1863, in two only had the disease appeared before the 10th year of life. Dr. Van Someren gives a table showing that in 58 patients, 15 cases of the anæsthetic and 16 of the tubercular form, or in 31 out of 58 cases (53 per cent.), the disease appeared between the 20th and 30th year of life.

Bengal Presidency.—"It rarely appears before puberty; it generally manifests itself later in life. I have never seen it in its worst form under 18 years of age."—(*Dr. Jackson.*)

Calcutta.—From the age of 20 to 30.

Cuttack.—It occasionally manifests itself in children as early as the fifth year, but the more common time appears to be between 20 and 30.

Midnapore.—It prevails at all ages, from infancy to old age; but it appears to be much more common after than before puberty.

Loodiana.—According to the patients statements of 19 cases examined by me, says Mr. Butt, none were affected under seven years.

From 7 to 10 years of age - - 4		From 30 to 40 years of age - - 2	
„ 10 to 20 „ - - - 6		„ 40 to 50 „ - - - 3	
„ 20 to 30 „ - - - 2		„ 50 to 60 „ - - - 2	

So that 10 out of 19 appear to have become affected between the ages of 7 and 20 years.

Nagpore.—In the anæsthetic and tubercular forms, one, a male, was born so, and denied an hereditary taint; in the youngest, a male, it began at five, in a brother at seven, and the father, who was dead, had suffered from the disease; the eldest, a male, was 68; no hereditary taint being confessed.

Bangalore.—It most commonly manifests itself in adults of middle age, but sometimes it shows itself in very young children. Thus I have seen, says Dr. Kirkpatrick, children of 5, 7, and 12 years of age affected with it, and sometimes the first symptoms are only shown at an advanced age.

(*b.*) *Bermuda.*—The first appearances, in a case which Dr. Hinson watched from its commencement to its fatal termination, were these:—Erythematous patches of a bright red colour on the forehead, nose, and ears, giving the person the appearance of being overheated by exercise, and subsequently on the hands, feet, and scrotum. These patches continued thickening until they became distinctly tuberculous, while at the same time the sensibility in them, and more especially in the hands and feet, became so acute that the least touch occasioned intense pain. The tubercles went on increasing in numbers and thickness until they became general over the whole of the body.

Jamaica.—"For several months—from 2 to 12 or 18—before the appearance of any spots "or patches on the surface in the tubercular form, there is very generally more or less "distinctly marked malaise experienced,"—"an indefinite feeling of something wrong,"—"chills like ague,"—"rheumatic pains about the extremities,"—"creeping pricking sensations "of the limbs,"—"stiffness and numbness of parts,"—"a falling asleep of a limb, a hand or "a foot, finger or toe." This state, or these sensations, are generally referred back to some sudden exposure to alternations of temperature, to sudden chills when heated, to coming out of doors after a vapour bath, to exposure during a chilly night in the streets while assisting to put out a fire, &c., &c.—(*Dr. Bowerbank.*)

Dominica.—" Among the early symptoms, the patient experiences an unusual numbness in his fingers, he cannot feel or grasp any object as formerly; the alæ nasi swell, and there is puffiness of the upper lip."

Barbadoes.—" The skin of the face has a shining appearance, with usually a yellowish spot in the centre of the forehead, extending down on each side of the nose. These appearances are soon followed by similar spots about the body."—(*Mr. Moore.*)

" The earliest symptoms are the appearances of ' yellow spots,' and insensibility of the skin to external stimuli. Thus melted loaf sugar accidentally dropped on the fingers without producing any sensation gave rise, in a young white female, to suspicion, which was shortly afterwards confirmed by leprosy manifesting itself more decidedly. The ' yellow spots ' alone do not necessarily constitute leprosy, or are followed by it. They must co-exist with a rough elevated or swollen condition of the parts; and if anæsthesia be also present, the diagnosis is the more certain. Generally the earliest indications are found in the elbows and knees; and I have always made it a point, when the facial signs admitted of a doubt, to examine those parts, and if the symptoms were present there at once to declare the nature of the disease."—(*Dr. Goding.*)

Cyprus.—" Before the appearance of any spots on the skin, there is in many cases a general malaise of the system, frequently supervening upon a sudden check of the perspiration, with great physical and mental depression."

Samos.—" There is very generally a precursory stage of ill-defined constitutional disturbance, with or without febrile symptoms, before the characteristic symptoms appear."

Scio.—" In the humid (tubercular) leprosy, the earliest symptoms are the falling off of the hair, and patches as of frost-bites on the hands and feet, with more or less insensibility of the skin. In the dry (anæsthetic) leprosy, a slight impetiginous eruption on the arms and legs, or of small somewhat raised papulæ covered with a dry whitish crust."

Corfu.—" The earliest visible symptoms are the swelling of the face, and the appearance of spots on the skin. Occasionally, these symptoms are preceded by great general weakness, despondency, and inability to work. One patient, whose parents were quite healthy, told me that the disease began after an inflammatory fever caused by taking a cold bath."—*Dr. Tygaldos.*

Mauritius.—" The earliest symptoms are patches of discolouration, such as in England would be called ' liver spots,' which show a great want of sensibility."—*Dr. Powell.*

" In one set of cases, the earliest symptoms are the tubercular swellings and cutaneous discolouration, followed by the other symptoms above described, in varying order and severity. This is the course I have invariably observed in patients of European birth or origin, as well as in those of African origin and mulattoes. In another set of cases, confined almost entirely to the Indian population, the true leprous symptoms are preceded by a peculiar affection of the nerves of the foot, indicated by an intense burning sensation; the general health frequently breaking down under it, and the patient dying of marasmus. I by no means consider this a symptom of leprosy, and still less that every patient suffering from it must necessarily become a leper; but I have so frequently observed that it is a precursor of the disease, that I cannot but think that it has an intimate relation to it, or, at any rate, that the causes which produce the two affections must be mutually related. Whether this symptom occur or not in this form of the disease, one of the first things observed is the induration of the skin on the soles of the feet; the skin cracks, and the same morbid changes ensue as described in the other variety. The disease gradually extends to the legs and hands, and the skin of the whole body becomes dry, scaly, and discoloured; but rarely do tubercles occur in this variety. Perversion or loss of cutaneous sensibility invariably occurs."—(*Dr. Finnimore.*)

Bombay Presidency.—The following are symptoms first seen and felt in this disease :—

Anæsthetic leprosy.—Pricking, shooting, burning pain in the fingers, toes, susceptibility to cold, and a feeling of heaviness and weakness, with tremor, in the parts. Fever is not a special attendant on leprosy. These local sensations are frequently so slight as to pass unnoticed by the patient, the numbness being then the first symptom observed, and so the disease goes on to more advanced stages.

Tubercular leprosy.—An eruption in the mixed form is the first symptom, then the face becomes tumefied, afterwards the trunk and extremities.

Bengal Presidency.—The earliest symptoms depend upon the variety. In the first form of the disease, Aswa, there is a small discolouration of the skin, which loses its deep colour, or if upon the lips in a fair person the pink colour becomes changed to white.

In the second form there is generally a dark greasy stain in two corresponding parts of the body, slightly irritable in the first instance, and by slow degrees becoming insensible; at

the same time there is a want of sensibility in other parts of the body, such as the legs and thighs. The countenance also assumes a livid or orange appearance, and there is a peculiar watery relaxed expression of the eye; a state of general indisposition, with depressed spirits, supervene, followed for the most part by a languid and miserable existence.

In the third or worst form it shows itself in the dulness of the conjunctiva, and the eye and lids put on the character of chronic conjunctivitis. The lids afterwards become thickened and the eye irritable, the alæ nasi become swollen, the Schneiderian membrane irritable and red, and a slight discharge takes place. The pinna of the ear is thickened, and there are small elevated unctuous patches on the forehead. With these symptoms, there is a want of sensibility in the upper and lower extremities, slight bruises will often produce a sore and ulcers, which do not heal readily.

Dr. Jackson adds, "There is a peculiar affection of the "hands considered as leprous, in "which there is a constant exsudation of sensible perspiration, so that when the hand is "raised, the fingers being dependent, there is a continual distillation from the tips of the "fingers, like water passing through a filterer. I have several times seen men lose their "situations as writers from this affection, the paper being so greatly moistened as to be spoilt for "writing. There is an opposite condition to this, where the palms of the hands and soles of "the feet are dry and harsh, with deep fissures and ulcerations, and where the nails of the "hands and feet are diseased."

Moorshedabad.—The disease, which is common in the districts of Moorshedabad, generally commences with a sensation of heat or burning of the skin, which is shortly followed by the eruption of small, smooth, and prominent spots (papulæ and tubercles) of a dark red colour arranged in a circular manner, and more or less elevated above the surrounding healthy skin; these patches gradually extend, and are sometimes covered with dry white scales. The usual seats of the disease are the fingers and toes, ankle, knee, and elbow joints; the back and shoulders are also frequently affected. Diminished sensibility of the part attacked is an invariable symptom.

Chumparun.—In the anæsthetic form, the first and most constantly noticed symptom is that of tingling running along the nerve from the affected part up the extremity, increased by touching, striking, or pinching any part of the skin over the course of the nerve. I have often observed this myself in a nerve which is just becoming the seat of leprosy; tapping it anywhere along its course makes the whole tingle; but the advanced cases have no such symptom, as soon as anæsthesia is established this hyperæsthesia of the nerve entirely subsides. It is frequently overlooked by the patients themselves, who, not dreaming of becoming subjects of such a disease, take little or no notice of this symptom at the time. At the commencement of the subsequent attacks in other extremities it is frequently present, and it was in them I first noticed it.

The second symptom is the gradual loss of sensation in the patch of skin affected. While this is in progress, if any part of the diseased patch be pricked or pinched it is felt not so much in the spot touched as in the whole patch.—(*Dr. Coates.*)

Jounpore.—The earliest symptoms the patients describe are a tingling and itching of the skin, followed by numbness, increasing to loss of sensation, and inability to feel a pinch or even a prick; a stuffed-up sensation in the nose similar to that experienced from a bad cold, the nose itself after a time becoming depressed and flattened. On examination patches of eruption are manifest, which become more or less developed; and in the black leprosy (Form No. 3), a hard, cracked, and fissured appearance of the skin of the fingers and toes; a shrivelling and falling away of the nails; a flexed position (as of clutching) of the fingers and toes, and inability to extend them, followed by ulceration, sloughing, and total loss of them.

Allahabad.—The tubercular and anæsthetic forms generally appear between puberty and middle age, but the white form is not uncommon in childhood. The earliest symptoms in the tubercular form are slight discolouration and thickening of the skin of the cheeks, nose, and ears, and loss of sensation in some small portion of skin in the anæsthetic form. White leprosy at its commencement has somewhat the appearance of common ringworm, then the epidermis falls off in thin minute scales, leaving the skin beneath of a snowy whiteness.

Loodiana.—In the tubercular form the first symptoms are erythematous eruption on the skin. In most cases the skin of the face is first attacked. In some there is sense of internal heat and fevers; in others there is no constitutional disturbance. The eruption is soon followed by thickening of the skin and development of tubercles along ridge of eyebrows, helix of ears, &c.; hair of eyebrows and often of eyelids falls off.

In seven out of 11 cases of the anæsthetic form the earliest symptom was anæsthesia in a patch of skin near the knee, ankle, or wrist-joints.

Ulwur.—The disease generally commences with tingling and loss of sensation, followed by or accompanied with a whitish hue of the skin. The absence of sensibility rapidly spreads from the general surface to the extremities. This whiteness may appear in the form of spots on the skin, though in most of the cases I have observed it has been uniform in appearance; the hair falls out in patches; after a time the loss of sensation becomes complete, the skin remaining cold, but in other respects unaffected, neither itchy, painful, perspirable, nor patch swollen.—(*Dr. Dickinson.*)

Nimar.—The earliest symptons observable are irregular patches of red discolouration of the skin, especially of that of the face, attended with heat, dryness, titillation, itchiness, and occasionally, formication; headache is frequent; also nausea, anorexia, and general languor; epistaxis is almost always complained of; a peculiar puffiness of the face, entirely altering its usual character, is observed, and gradual swelling of the nose, ears, &c., with incipient tubercular nodes takes place. In some cases after a few months many bullæ appear on the extremities, and are quickly followed by sloughing or interstitial absorption, but they are more frequently absent, and do not appear to be peculiarly noticeable in cases in which anæsthesia afterwards occurs.

The one constant early symptom is redness of the skin of the face. This is the first sign of the coming disease, and from it the natives unerringly predict the approaching affliction.

Bangalore.—In the tubercular form, the symptoms usually commence with heat, itching, and tingling of the face or hands or feet, the skin of which, particularly of the eyebrows, cheeks, about the alæ of the nose and the lobes of the ears, becomes thickened and rough and scabby, or thickened or glistening in patches, which have generally a lighter or more copper-coloured hue than the rest of the skin.

3.

At what period of life, and within what time, does the disease usually attain its full development? and at what period of life, and after what time, does it usually prove fatal?

New Brunswick.—"From the first invasion of the disease to its full development, seems to be from three to seven years; often much longer. The period of life and the time when it proves fatal very much."—(*Dr. Nicholson.*)

Jamaica.—"The full development of the disease and its common duration are much influenced by external circumstances. The anæsthetic form is more protracted in duration, and holds out a better chance of recovery than the tubercular, which in its confirmed stage is all but incurable."—(*Dr. Fiddes.*)

Montserrat.—"I have seen mutilation of the fingers and toes complete at eight or nine years of age; and I know of instances where the disease has remained stationary at the pigmental (so to call it), and the tubercular stages respectively, for from 12 to 20 years. The disease *per se* does not materially affect the duration of life; but the subjects of it succumb readily to other diseases, as remittent and intermittent fevers."—(*Dr. Steventon.*)

Barbadoes.—"When the disease is hereditary, it usually manifests itself at an early age, and runs its course before the adult period; but when it appears at a more advanced period, it usually terminates in death about the age of 50; occasionally, but rarely, it commences at a still later period of life."—(*Dr. Carrington.*)

Trinidad.—"Generally not until adult age, though sometimes in inveterate cases more rapidly. Patients are generally carried off by diarrhœa, or by extension of the disease into the air passages, between the age of 40 and 55."—(*Dr. Murray.*)

Guiana.—At whatever age the disease commences, it usually attains its full development in about 10 years. After the age of from 20 to 25 it begins its depredations, and usually proves fatal between 40 and 50 years of age. The tuberculous form progresses more rapidly than the "joint evil."—(*Dr. Reed.*)

"There is great difference in different cases. Lepers sometimes live to an advanced age. The children of leprous parents, although the disease may not have manifested itself in them, are less amenable to medical treatment for other maladies than the children of healthy parents."—(*Dr. Carney.*)

Cape of Good Hope.—"The disease in either form is slow in its progress. From three to five years usually elapse before the disease is fully developed; and although from 10 to 12

years may be usually the average duration of the life of a leper, I have known it prolonged to 16 or 18 years."—(*Dr. Abercrombie.*)

Damascus.—"It sometimes arrives at its height within a short time, varying from one to four or five years, and then proves fatal. In some cases it reaches a certain stage, and not progressing, the patient may live to old age."

Cyprus.—"At the leper house at Nicosia the disease often remains long stationary, the inmates not having the means of committing excesses, and abstaining generally from fat and oily food. When the disease appears about puberty, the patient seldom survives beyond 35 or 40 years of age."—(*Dr. White.*)

Crete.—"Leprosy is essentially a chronic disease; 10 or 12 years often pass before it is fully developed. Sometimes the symptoms cease for a time, more or less lengthened, afterwards to resume its course. Many patients attain an advanced age. I have seen a leper between 70 and 80 years of age, whose general health was not much affected."—(*Dr. Hjorth.*)

Corfu.—"In adults, generally six or eight years after the first symptoms; in rare cases, after three years. Many individuals die from want of the means of subsistence after the third or fourth year; others have lived on to 50."—(*Proto-Medico.*)

Mauritius.—"The period varies very much. I have known lepers live upwards of 30 years. In the anæsthetic form, I have seen the disease limited to the wasting of one arm for from 10 to 15 years without any progress of the malady or much disturbance of the health; others have lost several fingers or toes, the health still remaining good. The tuberculous form is rather more rapid in its course. Lepers die at every age, and after the greatest variety in the duration of the disease."—(*Dr. Regnaud.*)

Ceylon.—The anæsthetic form may last a whole lifetime, or to an old age, and the patient be carried off ultimately by some local affection unconnected with it.

The tuberculous form usually proves fatal within eight or 10 years from its development, though some cases last longer. This form unquestionably proves fatal much sooner than the others here enumerated.—(*T. A. P.*)

Bombay Presidency.—"As the two chief varieties of leprosy appear to be inimical to life in different degrees, the above questions are not susceptible of a precise reply; taking, however, the disease as a whole, its duration may, when not extensive, extend to upwards of 20 years; it is generally much less, 5, 10, or 15 years being perhaps the usual periods; but there is not to my knowledge, either a limited course, or a uniform termination, to the affection; much will depend upon the outward circumstances of the patient.

"I am of opinion that the tubercular form of leprosy soonest induces a fatal issue, evidencing, as I also think, a deeper taint than the more common, in India at least, viz., the anæsthetic form, in which life may continue for the longest of the periods named above. I have seen no case in which the eruption alone appeared to materially shorten life.—(*Dr. Stovell.*)

"In the town of Bombay the mortality seems to reach its maximum about 30 years of age. I have never witnessed what has been described as the acute form of tubercular leprosy."—(*Dr. Carter.*)

Dr. Shepherd, from inquiries among the native practitioners of Surat, writes:—"The "majority labour under leprosy for 30 or 40 years before they die, so that, taking the age at "which it first manifests itself to be from 15 to 20 years, and adding 30 or 40 years to that, "the death-age will be between 45 and 60."

Madras Presidency.—The full development of the disease does not appear connected with any particular period of life, but depends rather on the period of its own commencement, irrespective of the age of the subject; thus, beginning in a child, the maturity of the disease may be reached long before the maturity of the patient (Van Someren). No death is recorded in the Leper Hospital, Madras, since 1855 under 20 years of age; and the following table shows the numbers and ages under each quinquennial period for the total deaths, viz., 183:—

20 to 25	25 to 30	30 to 35	35 to 40	40 to 45	45 to 50	50 to 55	55 to 60	Above 60	Total.
27	22	20	34	30	18	16	4	12	183

In about five or six years the disease attains its height; but in cases associated with scrofula and syphilis much sooner. Occasionally the disease remains stationary for years. After 10 or 12 years it generally proves fatal.

Bengal Presidency—Pooree.—The period at which the disease usually proves fatal is subject to much diversity, and depends much on the form of it, and the habits, constitutional peculiarities, and the means of good or bad living enjoyed by the individual. A great deal, in my opinion, depends on these two last circumstances; poor paupers and half-nourished individuals seeming to die much earlier than persons in little better positions of life, and who are thus able to indulge in more nutritious and wholesome articles of diet, though of course this does not always hold good.—(*Mr. Durant.*)

Furreedpoor.—The disease appears generally to attain its full majority during early manhood or about the age of from 30 to 40, and the time usually required for this purpose would seem to range from five to 15 years. But these things evidently depend very much upon the form of the disease which it assumes in particular cases; for instance, the sthenic varieties, such as the tubercular, mammilated, and rash forms, as a general rule, commence early, and arrive at the height of their development quickly; on the other hand, those of an asthenic character, as the chromatogenous and purely scaly kinds, not only appear late, but maturate at a comparatively more advanced period of life. Death generally takes place between the tenth and twentieth year of the attack, and the thirtieth and fiftieth of the age of the patient. Exceptions of course occur to both the above rules; I have seen a child affected with tubercular leprosy at the early age of eight years.—(*Dr. Bose.*)

Mozuffernuggur.—The result of an extensive inquiry under this head seems to show that dissolution rarely happens until after the disease has existed for some years, and the sufferer has passed the period of middle life. It appears also that the persons affected are, as a rule, carried off, not by the leprosy itself, but by the intervention of some secondary cause, chiefly diarrhœa and dysentry; and this coincides with what was observed in the Mozuffernuggur poor-house during the famine in 1860-61, at which time the lepers throughout the district, with other distressed persons, were collected together and fed by public charity for many months. On this occasion many of the lepers died from diseases of the bowels, and a few from cholera, but none appeared to sink from what might be termed the direct effects of the disease itself.

Nagpore.—Judging from the ages of those examined, I should infer that, in the anæsthetic and tubercular varieties, the period of life at which the disease usually attains its full development is from 20 to 40 years; and that, in the great majority, the time required ranges from one to 15 years.

Of those who die, many fall victims to chest and bowel complaints (to which they are liable), sink from exhaustion (in some the result of large abscesses), or commit suicide, which, considering their miserable condition, is not to be wondered at.—(*Dr. Hende.*)

Akyab.—The time occupied by the full development of the disease varies from a few months to many years, and the age at which it first breaks out is, I think, generally between 20 and 30; its duration, after full development, varies greatly likewise.

Some affected with it drag on a miserable existence, crippled in every limb, until old age; and ultimately fall victims to some other malady. Indeed, I think, such is the rule. I do not regard it as frequently fatal directly; and though it undoubtedly shortens life, it does so generally by making its victims more susceptible to other disease and less capable of withstanding them; it is never, I think, fatal in less than two years.—(*Mr. Nisbet.*)

4.

Is the disease more frequent in one sex than in the other? If so, in what proportion?

New Brunswick.—"I have seen 22 cases, of which 15 were in males and seven in females."—(*Dr. Bayard.*)

"There are at present in the leper hospital 14 males and eight females."—(*Dr. Nicholson.*)

Antigua.—It does not appear to be more frequent in one sex than in the other. In our lazaretto of 22 patients, 11 are of each sex. In a family of six children, two sons and two daughters were affected; one of each sex with the tubercular form, and the others with the anæsthetic.

St. Vincent.—It is most frequently seen among males, but the number of cases under observation is no criterion of the extent or prevalence of the disease. Every precaution is frequently taken to prevent its existence being known, and it may be that seclusion is more often and successfully carried out in the case of females.

Barbadoes.—There is no reason to believe that one sex is more liable than the other. Of the 45 patients in the lazaretto, 24 are males and 21 are females; 15 of the former and 11 of the latter are affected with the tubercular form, and nine of the former and 11 of the latter with the anæsthetic form.

Trinidad.—"During my 16 years' attendance at the leper asylum, there has always been an excess of male patients."—(*Dr. Saturnin.*)

"At the leper asylum there are more males than females; but, in my experience, females have come more frequently under my notice than males."—(*Dr. Murray.*)

Guiana.—"According to the number of lepers in the asylum, the disease is more frequent in males."—(*Dr. Reed.*)

"It prevails in both sexes; I do not think it is more frequent in one than in the other."—(*Dr. Van Holst.*)

Cape of Good Hope.—"As far as my observation goes, it is more frequent in males than in females, and probably in the proportion of two to one."—(*Dr. Abercrombie.*)

"Neither in South Africa nor in any part of India, eastern or western, have I noted that one sex is more liable than the other."—(*Dr. Ebden.*)

Sierra Leone.—About equal.

Scio.—There seems to be very little difference in this respect.

Crete.—More frequent in males.

Corfu.—"According to my experience, the proportion has been one fifth in males and four fifths in females."—(*Proto-Medico.*)

"In my notes, I find 17 cases in men to only two in females."—(*Dr. Tygaldos.*)

Cairo.—It is thought by native medical practitioners to be more common in the male sex; but this may be incorrect, as so little is known of female life among the Turks and Arabs.

Tabreez.—"I believe it is more frequent in men than in women."—(*Dr. Cormick.*)

Shanghae.—Of 75 cases seen by Dr. Henderson, only four were in women; and of these two only were well-marked cases.

Canton.—It is thought to be most prevalent in the male sex, but the difference is in any case slight.

Mauritius.—"It is seemingly more frequent in the male sex. Of 109 patients treated by me, 83 were males and 26 were females."—(*Dr. Regnaud.*)

"I have seen more males affected than females, but probably the latter keep themselves more secluded."—(*Mr. Ford.*)

Ceylon.—More frequent in men than in women. Owing to the absence of statistics on the subject I cannot state the proportion; but judging from the number of patients in the hospital of which I have the charge, I may state that men suffer from this disease in the proportion of 10 to 1.—(*T. G.*)

Bombay Presidency.—Dr. Carter says that males suffer much more frequently than females from the anæsthetic and tubercular forms, but that, judging from limited data, it is not so with the "baras." He gives the average proportion of males to females affected as 4 to 1; Mr. Shepherd as 10 to 1; Dr. Wyllie as 12 to 1.

In 12 years, in Bombay, 543 deaths from leprosy have been recorded; of these, 409 were in males and 134 in females.

Madras Presidency.—The disease is more frequent in males than in females in the lazaretto at Madras; 5·36 males were found for one female, and at Cochin 2·33 for one female.

Bengal Presidency.—"I am unable to speak positively on this point, from the great seclusion of the females of the better class in India;—the proportion of lepers is apparently much greater in males. I have known several native females affected, and also two European females."—(*Dr. Jackson.*)

Calcutta.—Out of 58 lepers examined by Mr. Stewart, 44 were males, 14 females.

Bancoorah.—It is more frequent in the female than the male; about two thirds of the lepers are of the female sex.

Moorshedabad.—Dr. Fleming thinks it is equally common in both sexes.

Raneegunge.—I do not think so, as, although we see more males affected, this I consider owing to the females being kept more at home, and seldom, if ever, coming for treatment.—(*Dr. Best.*)

Benares.—In the six reports sent in by the civil surgeons in the Benares circle, all agree in stating that it is more common in the male sex; and Dr. Garden gives some statistics, but they are not to be relied on, as females can and do conceal the disease, and are themselves

prevented from appearing in public when belonging to any but the lowest castes and poorer classes.—(*Dr. Dunbar.*)

Khatmandoo.—It is as common in one sex as in the other; but as women, when afflicted by this disease, usually keep themselves more secluded than the men do, it is not so common to see leprous women as leprous men in the public streets.

Malacca.—Much more frequent in the male. I have only seen, Mr. Rose says, two cases in the female; one a Chinese woman, the other the girl described in case 5.

Labuan.—Dr. M'Dougall writes, "I have seen only one case in a female who died of it "about the age of 40; she was a Dyak Chinese."

5.

Is it more frequent among certain races? among the white, the coloured, or the black population? and in what relative proportions?"

New Brunswick.—"It has been confined to the French population (in Tracadie), with the exception of four persons."—(*Dr. Nicholson.*)

The Lieutenant Governor states:—"At the present time it may be said to be confined to a "limited number of families of French extraction, living on the borders of the counties of "Gloucester and Northumberland, although, I believe there is authentic evidence of some "few English settlers having also fallen victims to this horrible malady.

"A great variety of conflicting opinions prevail as to the manner in which the disease was "introduced into the province."

Bahamas.—The disease is very common, and almost in equal proportion among the black and coloured classes. It is very rare among the whites of this colony.

Jamaica.—"As the disease occurs in Kingston, the different races composing the population "are not attacked in similar proportion. The population is in round numbers 30,000, com-"prising 16,000 negroes, 10,000 people of colour, 2,500 whites, and 1,500 Jews. The ratio "in which these races suffer from leprosy is nearly 1 per cent. in the Hebrew race, about 2 "per thousand in the dark races, and so much less is the liability among the white European "that I know of five cases only to have occurred among them during 15 years' practice in "the city. Of these five cases, three were in natives (creoles), one was born in St. Domingo, "and the fifth was an Englishman who had resided in Jamaica for 12 years before his "seizure. . . . Nearly all the Jewish residents, as well as the black and coloured in-"habitants, are natives of the island, or have lived long in it; whereas most of the other "class have been either born and reared in Europe, or are descended directly from an "ancestry that were so."—(*Dr. Fiddes.*)

"It is decidedly more frequent among the Jews than among any other races or classes. The well-to-do and the poor Jews suffer equally. Next to them come the coloured descendants of Jews, then the coloured races, then the blacks, next the creoles, *i.e.*, the descendants of Europeans, and, last of all, whites from Europe. As to the last named, I have heard only of one case. I am unable to state in what relative frequency the disease occurs. We have no reliable data."—(*Dr. Bowerbank.*)

St. Lucia.—It is most frequent among the blacks, next among the coloured, and least among the whites. The whites who are attacked are generally old creoles. The proportion of blacks affected to whites is about 12 to 1, and of coloured to whites 6 to 1.

St. Vincent.—"I have seen many cases in coloured and in black persons. I have also heard of cases in families claiming to be of exclusively European descent. In the latter circumstances, every effort is made to seclude the case as much as possible."

"It is well known that the Hebrew race, who can boast of purity of blood, are unusually liable to leprosy."—(*Dr. Sprott.*)

Barbadoes.—"There are more cases among the black population than among the white or coloured, not because the blacks are more predisposed to the disease, but owing to their being about three blacks to one white, and two blacks to one coloured, in the island."—(*Dr. Carrington.*)

"There are no reliable observations to show that the disease is more prevalent in one race than the other. In the lazaret, 27 are black, 18 coloured, and one white. But I am confident that it is far more prevalent among the whites than the above number indicates, the aversion to accept the charities of the institution being much greater in that race than in the others. The number, 18 among the coloured, would seem to point to a greater prevalence

among them than among the black, the relative proportion (according to the last census) being 9 coloured to 25 black, and the proportion among the inmates of the lazaret being 9 to 13."—(*Dr. Browne.*)

Trinidad.—"It is not. . . As a general observation, true leprosy is indigenous to certain latitudes, and attacks here principally natives of all denominations, black, white, and of mixed races; and although European residents are in a great measure exempt, instances occur among them when acclimatized, and their blood is impoverished by long residence."—(*Dr. Anderson.*)

Guiana.— "Among the white - about 4 per cent.
,, coloured - ,, 22 ,,
,, negroes - ,, 67 ,,
,, coolies - ,, 7 ,,

These figures are taken from the number of inmates in the asylum in 1862."—(*Dr. Reed.*)

"In this colony it is most frequent amongst the negroes and the Portuguese immigrants. A great number of coloured people are affected with it; it is very rare among the whites."—(*Dr. Duffey.*)

Cape of Good Hope.—"It occurs decidedly in the largest proportion among the Hottentots, next to them among the negroes, and last of all among the whites or Africanders. I have met with it in Europeans, but rarely."—(*Dr. Abercombie.*)

"In South Africa the Hottentots are far more liable than any other classes or races of man. Natives of the Mozambique sometimes suffer. Whites only rarely so. Black negroes do not suffer so much as the light copper-coloured Hottentots."—(*Dr. Ebden.*)

"Among the Hottentots more than any other race, from their proverbial want of cleanliness, and poorness of diet."—(*Colonial Medical Committee*, 1853.)

Cairo.—"In Egypt it is chiefly found among the Jews; next in frequency among the Copts; very seldom among the Arabs. The Bedouins are said to be free from the disease. On the whole the lighter coloured races seem to be most prone."—(*Consul Hay.*)

Damascus.—The disease is known chiefly amongst the poorer classes of the mountain peasantry, both Moslems and Christians. These may be called white races, being hardly as dark as the Italian peasantry; but no instance of its having occurred amongst the Jews of Syria, nor amongst the negroes, is known here.

Crete.—In its developed or aggravated form, it is much more frequent among the Greek population in Crete than among the other inhabitants. The form of the disease generally seen among the Moslem population is that of the "bouton d'Alep," known in Crete by the name of khaniotico.

Constantinople.—The cases seen at Constantinople occur among the Turks, Greeks, and Jews. No case has been observed among the Armenian poor, although they are subject to the same hygienic conditions as the poor of other races.

Mauritius.—"It is greatly more frequent in the Asiatic and African than in the European or Caucasian races. The lower the race the more prone it is to the disease, and to the severity of its attack. I have seen leprosy in Egypt and Arabia, in India, Ceylon, in the islands of St. Marie near Madagascar, in the Seychelles Archipelago, and in Bourbon and Mauritius, and I have met few cases of native-born Europeans affected; still they are liable to the disease after long residence in a country where it is endemic. In Mauritus and the dependency of Seychelles it exists in many white creole families, the descendants of Europeans."—(*Mr. Ford.*)

Ceylon.—It is unquestionably more prevalent among the black and coloured population than among the white; more frequent among the black or native races than among the coloured or Eurasian communities, and among the African and Arab tribes and their descendants than among the Singhalese or the original natives of the soil. During my experience of 26 years, I have not seen a single *European*, in the strictest sense of that term, suffering from the disease.—(*T. A .P.*)

Bombay Presidency.—Dr. Carter says that many data yet wanting would be required to answer this question, but that it may be said that no one of the indigenous race is exempt, while no one of them is especially liable. He further observes that the resident coloured population seems as much predisposed as the pure native, but that Jews are seldom attacked, and Europeans very seldom indeed.

Dr. Steinhauser's experience at Aden confirms Dr. Carter's statements as to the immunity enjoyed by Jews and Europeans, and tends to prove that leprosy is more common among the mixed negroid races than any others; Arabs, Somalees, Mussulmans (not Arabs) from India,

the far east of the Turkish dominions, and elsewhere, Hindoos, Parsees, and native Christians, who constitute the very mixed and fluctuating population of that place.

Madras Presidency.—The disease undoubtedly attacks all races, European, East Indians, Mussulmans, and Hindoos of all denominations, Brahmins as well as Pariahs.

It is, however, rare among Europeans. East Indians suffer considerably, though not so severely as natives, especially the lower orders.

Bengal Presidency.—" It is extremely rare for an European to be affected, and it is not very common among the Eurasians."—(*Dr. Jackson.*)

Calcutta.—It is confined almost entirely to the purely black population.

Raneegunge.—Decidedly more common amongst the native races of India, Burmah, and China than amongst the temporary residents, even making every allowance for their relative proportions; it it not rare among half breeds, especially the mildest variety; but I have been repeatedly asked, says Dr. Best, to prescribe for leprosy, among this class, which was decidedly secondary syphilitic disease.

Benares.—" Dr. Cheke states that he has seen cases in Europeans, but none of the other observers have, nor have I.

" Dr. Garden has seen one marked case in an Eurasian. Dr. Cheke says in a general way he has seen cases in Eurasians, but none of the others have.

" I have seen leprosy only among natives "—(*Dr. Dunbar.*)

Cawnpore.—I think more frequent among Mahomedans than Hindoos. It is much more common among the very poor, but the richest do not escape; one of the reigning rajahs has it now. It appears never to occur amongst Europeans in this country. The sub-assistant surgeon at this station informs me that he has met with it in Eurasians, but it is very rare in any but the black population. —(*Dr. Jones.*)

Agra.—" The disease is more frequent among Hindoos than Mussulmen; the relative proportion is 15 to one."—(*Meer Ushruff Ally.*)

Nagpore.—All the cases I have met with, Dr. Hende says, have been in natives.

The following table shows their distribution among the different castes:

Description.	Sex.	
	Males.	Females.
Tubercular and Anæsthetic.		
Brahmins - - - - - - -	8	2
Hindoos - - - - - -	111	54
Mahomedans - - - - - -	19	9
Dhers, or low-caste Hindoos - - - -	15	10
Total - - -	153	75

Bangalore.—The disease is confined almost exclusively to the native and coloured races, and it is comparatively rare among the latter. I have only observed two instances of it in Europeans, in one of whom the tubercular form was developed when an elderly man. In the other, who was a young man, but born and bred in the country, the disease was of the anæsthetic or ulcerative variety.

Mussulmans seem as liable to it as the Hindoo.—(*Dr. Kirkpatrick.*)

Singapore, &c.—In these settlements the Chinese most frequently suffer from the disease; next the Malays. I have only seen one case amongst the Klings (natives from the Madras coast), and only one in an European, described in case 7.—(*Mr. Rose.*)

Dr. M'Dougall writes, " In Sarawak, I think, the Chinese are more affected than either " Dyaks or Malays; I have seen at least 50 or 60 cases in males of these races, but the " greater number have been Chinese."

6.

In what condition of society is the disease of most frequent occurrence, and what are the circumstances which seem to favour its development in individuals, or in groups of individuals?

Please to enumerate these circumstances under the following heads:

a. The characters of the place or district where the disease most frequently occurs in respect of its being urban or rural, on the seacoast or inland, low, damp, and malarial, or hilly and dry.

b. The sanitary condition of the dwellings, and of their immediate neighbourhood.
c. The habits of life as to personal cleanliness or otherwise.
d. The ordinary diet and general way of living.
e. The occupation or employment.

New Brunswick.—The disease is entirely confined to the poor, who live in rude log huts, hardly sufficient to protect themselves from the inclemency of the weather. Usually there is but one room, which is occupied by pigs, poultry, &c., as well as by the family. They are poorly clad, and all around them betokens the most abject poverty. Their habits are indolent, improvident, and extremely unclean. In the winter months their diet consists solely of salt herrings, salt and dried codfish, and potatoes, at times salt pork; in summer they live on fresh fish; they have very little bread. They are chiefly employed in fishing, farming, and lumbering.—(*Dr. Nicholson.*)

"The dwellings, consisting generally of one room, are in winter heated to a very high temperature with close stoves, badly ventilated, and unclean. The ordinary diet is fish, which is frequently offensive from decomposition. Eel soup, thickened with barley, is a favourite dish.

"Occupation—fishermen during the catch; agriculture is shamefully neglected; lumbering their winter employment. Habits indolent. A fine agricultural country neglected."—(*Dr. Bayard.*)

Jamaica.—"It is more common on the sea-shore and on the flat inland districts than in the hilly and mountainous regions."—(*Dr. Fiddes.*)

"The disease appears among all classes, among the well off and those that are not. It has always appeared to me to be more frequent on the sea-coast, but we have no data.

"The dews and coloured people generally consume a large quantity of fresh, and also salted and kippered fish. The lower classes often consume salted fish in an offensive state.

"Persons of all trades and occupations are attacked."—(*Dr. Bowerbank.*)

St. Lucia.—Leprosy is most frequently observed in low, damp, and swampy localities, either on the sea-coast or inland.

The sanitary condition of the dwellings of poor lepers is generally as bad as it can be. The habits of the people are not conducive to healthy existence. Their diet is mostly vegetable; salt fish is the most general animal food they have.

I am not aware of a single case of leprosy occurring among the more comfortable class of the population. The patients are all of the lowest and poorest of the people.—(*Dr. Gardiner.*)

St. Vincent.—More cases are seen in the towns than in the rural districts, because they come to the former for charity.

Some live under the public galleries on heaps of rags, protected from the wind by the skins of oxen; others in wooden hovels on the beach. A few anæsthetic cases are provided for in the almshouse in connection with the Colonial Hospital.

Living on charity, they must take what they can get.

None, unless practising on the superstitious fears of the ignorant by obeah arts.

Barbadoes.—"It attacks unsparingly the higher and the lower classes. It shows itself in all parts of the island; in towns, rural districts, on the sea-coast, and inland; in low damp situations and on dry hills. It develops itself in the best dwelling as well as in the most humble cottage. There can scarcely be a doubt but that cleanliness must retard the spread of leprosy. I do not think it is influenced by diet."—(*Dr. Carrington.*)

"No condition of society is exempt; nevertheless, the disease is comparatively rare among the wealthy. I have ever been at a loss to ascribe its development to those conditions or circumstances referred to, nor have I observed that it is more frequent in one locality than another. Although want of cleanliness may occasionally aggravate the disease, I could never directly trace it to that cause alone."—(*Dr. Goding.*)

Trinidad.—"Among the indigent. It is necessary, however, to say that it is difficult to trace the number of cases among the upper classes, as families will seldom apply for medical advice through a sense of shame. The circumstances which favour its development are:—

a. Low marshy districts, exposed to malaria, both in town and country.

b. Badly ventilated habitations. The higher classes, residing in comfortable houses, are less subject to it.

c. Neglect of personal cleanliness.

d. Deficient and innutrituous food. The poor live much on tainted fish, and vegetables such as plantains, yams, &c."—(*Dr. Saturnin.*)

Guiana.—"The inhabitants of British Guiana mostly live on the sea-coast, which is alluvial soil, low, damp, and malarial. The villages of the negroes and coloured people are undrained, and no attention whatever is paid to sanitary measures. In these villages leprosy prevails. In George Town, the capital of the colony, lepers are numerous; I attribute this to the facility of obtaining charitable relief. The mass of the population live on vegetables, as plantains, tanias, cassava, salt fish, and salt pork. The general occupation is agricultural."—(*Dr. Reed.*)

"Low, damp, and malarial localities seem to favour the disease; filth and bad diet certainly aid it."—(*Dr. Van Holst.*)

Cape of Good Hope.—"It does not appear to occur more frequently in any particular locality. The dwellings of the poor, among whom it chiefly occurs, are badly constructed, ill ventilated, and cold. Their habits are filthy, and their food is often innutritious, consisting much of salted fish.

"In the few cases of the disease I have seen in whites and Europeans, their habits had been cleanly, and their food good and nutritious."—(*Dr. Abercombie.*)

"The Hottentots usually reside away from the sea, in open valleys, high and dry, not liable to malaria. Animal food is not scarce, but fruits and vegetables are so amongst Hottentots, who rarely wash their bodies or their clothes."—(*Dr. Ebden.*)

Cairo.—Most frequently amongst the very poor.

a. Close, confined, and damp parts of the city.

b. The houses very much confined; not receiving much light; noxious effluvia in almost every direction.

c. Habits dirty in the extreme.

d. Ordinary diet, salted and often almost putrid fish, vegetables, and bread, seldom eating good animal food.

e. Scribes and money changers.

Jerusalem.—There is nothing remarkable before the development of the disease; afterwards all lepers live by begging.

This is a healthy climate. The patients have not an unhappy appearance; they are only disgusting to public notice. Some have a little property invested in baggage animals, and they themselves bring in wood, charcoal, &c. to the city.

Damascus.—It is found chiefly amongst the poorer peasantry, but members of the richer classes of mountaineers are also sometimes attacked by it. It is not known to have attacked the townspeople of Damascus, nor of the other large towns in Syria.

a. The districts most subject to it are highlands, table-lands, such as the mountains of Lebanon and Anti-Lebanon, and the Haurân, and very rarely on the sea-coast.

b. The peasants' dwellings are built and maintained without the slightest regard to sanitary rules. Animals of all kinds frequently share the one room of which the house consists, with the owner, his family, and guests. Dustheaps and dunghills are formed in any open space near the houses.

c. Their habits of life are dirty in the extreme.

d. Their ordinary diet is, in the daytime, bread with cheese, olives or other fruit; and in the evening, boiled rice, lentils, or wheat, with butter or oil and sour milk, and meat but rarely. They can go for a very long time on little or no food, and eat inordinately when they get an opportunity of doing so at another's expense.

e. Their ordinary occupation is agriculture, wood-cutting, charcoal or lime burning, mule or camel driving, and tending sheep or goats.

In the diet of the poor, in *Aleppo*, salted and cured meats are enumerated.

Crete.—Dr. Hjorth, who considers that bad diet is one of the principal if not the main element in the development and aggravation of leprosy, remarks: "In consequence of the "numerous fasts of the oriental church, coupled with the neglect of agricultural pursuits, the "Cretan peasant seldom or ever makes use of fresh meat, butter, or fresh vegetables, with the "exception of some of inferior kind. Their food consists of a large quantity of bad salt fish, "barley bread, and of an enormous quantity of olive oil, often rancid, which they will drink "like water. In many places there is a want of good water; it is often brackish, and in the "mountain districts, from which a large number of the lepers come, it is derived from the "melting of the snow."

Dr. Mongeri confirms the statements and appears to agree in the opinion of Dr. Hjorth, that the large consumption of semi-putrid salt fish and pork, coupled with the total neglect of personal cleanliness, has much to do with the development of leprosy. During the frequent fasts of their church, the poor Greeks live almost entirely on vegetables and oil, often of a bad quality.

Ionian Islands.—"With one exception, all my cases have occurred among peasants, and without one exception among the poor and miserable. I have seen some lepers in villages situated

on more or less arid hills (Cephalonia); others living in swampy clayey localities (Lepkimo in Corfu); others residing in calcareous districts (Karoussades in Corfu), in low, damp, ill-ventilated, and ill-lighted dwellings, surrounded with heaps of putrescent filth. At Zante the diet of the lepers I saw consisted chiefly of wheaten bread, at Cephalonia of barley bread, and at Corfu of bread of Indian corn, with vegetables, olive oil, salted fish, but rarely any fresh meat."—(*Dr. Tygaldos.*)

Tabreez.—Disease most frequent among the poor. Dr. Cormick has never known a leper among the upper classes.

a. It is more frequent in rural districts where poor living and constant exposure to cold and damp are undergone. Is said by the consul to be especially prevalent in Zenjan, a small ruinous town in the north of Persia, situated in a dry sterile plain half way between Tabreez and Teheran. Exists also in other elevated dry districts with severe winters, but is believed by the consul to be unknown in the dampest regions of Persia, namely, those lying on the Caspian.

b. The habitations in Zenjan are of the meanest description, and the inhabitants exceedingly poor.

c. The lower classes are very uncleanly in their personal habits.

d. The ordinary diet of the poor consists of milk, sour curds, cheese much salted, and bread. Dr. Cormick says cooked dishes are rare among them, and in some parts vegetable diet rarer still; probably salt is seldom used.

Shanghae.—In this province leprosy seems entirely confined to the lower classes. Dr. Henderson has seen three cases in Buddhist priests.

a. The country for 30 miles round Shanghae is flat, the soil alluvial, the climate damp and relaxing. The country is intersected by small ditches and canals, and there is much stagnant water, with many paddy fields. Leprosy not more common on the sea-coast than inland.

b. The dwellings are mere hovels, all on the ground floor, which is not elevated. They are essentially dark and damp, many of them formed of bamboo and mud.

c. Personal and domestic habits extremely filthy; indeed a majority of all classes affected with some sort of cutaneous disease.

d. There can be little doubt that bad, insufficient, ill-prepared food is the chief cause of leprosy. The food of the people consists chiefly of rice and vegetables; the lower classes eat large numbers of small crabs which abound in the ponds and ditches; what animal food they have seems ill-prepared, and they use very little salt with their food.

So far as Dr. Henderson has been able to learn, those affected with leprosy have been much exposed to malarious influences; have been insufficiently clad, never changing their clothes or removing them by night; have been living on bad stale food, any animal food they had being badly nourished, and often in a state of decomposition.

Mauritius.—"It is equally prevalent in all ranks of society.

"The only circumstances which have seemed to me to favour its development are—1. Residence in the most arid, least elevated, and the hottest parts of the island, and particularly on the sea-coast. 2. The little use made of cold water, the want of cleanliness, and the weakening of the system by hot baths."—(*Dr. Regnaud.*)

"It is most frequent in the lower conditions of society, and on the sea-coast of large countries and in small islands."—(*Mr. Ford.*)

Ceylon.—Poverty, filth, damp, bad water, and whatever induces general cachexia, are circumstances, I think, that favour the development of leprosy when excited by a specific influence—malarial.—(*H. D.*)

It is more frequent to the maritime districts and the fishing coasts.

It is seldom seen in the inland and hilly districts; more in the urban than in the rural provinces. It is prevalent in the low damp and malarious districts.

An entirely fish or salt-fish diet, and want of cleanliness, invariably occur among the natives who are subject to the disease.—(*T. A. P.*)

Bombay Presidency.—The unanimous testimony is that the lower orders are the portion of society in which the disease is of most frequent occurrence.

a. Dr. Carter says the greater number of lepers are inhabitants of small hamlets or rural districts, but many also of towns. The districts are mostly, but not exclusively, on the sea-board. The disease is not limited to low altitudes. He further observes that most of the localities where leprosy now prevails are hot and damp, and Drs. Wyllie and Steinhaeuser add, malarious.

b. All the observers are agreed that the sanitary condition of the dwellings of lepers and of their immediate neighbourhood is not favourable to good health, but not different in any way from that of Indian rural places generally.

c. The same remark applies to the query about their habits of life as to cleanliness.

d. Some of the observers make the same reply to this question; but there seems to be an impression on the minds of Dr. Carter and Messrs. Steinhaeuser and Shepherd that there is some foundation for the popular idea that a diet chiefly composed of milk and fish tends to produce the disease. Dr. Steinhaeuser states that under this idea the Somalee tribes, among whom he has seen cases of the disease, never eat fish under any circumstances. In addition to milk and fish, bad grain and oil are spoken of by Mr. Shepherd as predisponents to the disease.

e. All seem to agree with Dr. Carter's remark, that the occupation or employments of lepers will be found not to have exercised any influence in producing the disease.

Madras Presidency.—The disease is unquestionably most rife among the poorer and lower orders residing in the sea-coast towns, which are low and damp, though it is by no means unknown in inland, rural, and even in hilly districts. . . . All the reporters are unanimous in pronouncing the dwellings of those afflicted with leprosy as generally extremely filthy and defective in all sanitary requirements. In Cochin, the disease is said by Mr. Day to be most prevalent among the soil slave caste, who live in wretched hovels, and may be said to be more like cattle than human beings in the way they are fed and treated; filthy in the extreme, devoid of morality and almost of common decency.

On the western coast of the Peninsula, leprosy prevails to a great extent. By some writers this is attributed to the dampness of the climate and to the diet of the better classes consisting almost entirely of fish and rice, whilst the poorer live upon the flesh of enormous sharks and other coarse fish, frequently in a state of putrescence; yet in Burmah the disease is rare compared with the western coast of India, although the climates are in many respects similar as regards humidity and rain, and the inhabitants subsist almost entirely on putrid fish and rice with condiments.

Bengal Presidency.—"The disease is most frequent in the lowest class, especially the fishermen, who chiefly live upon fish, and that in a semi-putrid state."—(*Dr. Jackson.*)

Pooree.—It is chiefly confined to the poorer people, and to those who are either pilgrims, having come from other and remote parts of India, bringing the disease with them, or to the ill-fed, and those who live in low and squalid habitations, where vice and filth of every description is rife. The rich and well-to-do also, in some instances, are the subjects of it. A good case in illustration of this occurred a few years ago in that of the late Rajah of Pooree, who died from it at the age of 25, a confirmed leper. The unfortunate victims of it are generally to be seen wandering about the streets and native bazaars, begging for sustenance from door to door, objects alike of pity and disgust from the hideous deformities presented by many of them.

The people are generally, with a few exceptions, such as the highest caste Brahmins and those nearly allied to them, dirty and uncleanly, seldom even washing their bodies, and wearing the same clothes till they nearly drop off. This is particularly the case with the poor and labouring classes, who, from poverty and lazy habits bred up from infancy, are the worst. In addition to these habits, they adopt another equally dirty practice, *i.e.*, of anointing the whole of the body with a mixture of turmeric powder and mustard oil, which they do with the idea that it acts as a safeguard against cold and rheumatism.

The ordinary diet of the poor people chiefly consists of boiled rice, vegetable curry, or fish, either fresh or dried, with a very few condimentary spices, and a little mustard or castor oil in place of butter or ghee.

Beerbhoom.—The food is of the poorest, often of the most unwholesome and innutritious description, exclusively vegetable, consisting for the most part of the coarsest kind of rice, to which is added, by those who can afford it, a small portion of the poorest and least nutritious pulse and green vegetable, and is often eaten without salt; or if this article is procurable, it is always largely mixed with dirt, and I fear often adulterated with something still more prejudicial to health; other condiments, particularly of the warm class, so essential to a rice-eating people, are almost unknown to the poorer classes of the people. Those articles of diet, particularly the pulse, are often damaged from damp or other causes; and to the use of this article in this state inveterate cutaneous eruptions have been ascribed; even to some kinds of this article in a sound condition, and which from their cheapness are almost exclusively used by the most indigent, similar and even deleterious effects are attributed. The food thus used by the most indigent classes may be said to be of a most unwholesome and innutritious character.—(*Mr. Sheridan.*)

Dr. Best, of Raneegunge, remarks:—

"Among the poorer classes of this district, the cheap kesaree dâl is much used, and I cannot help remarking that the symptoms of its noxious influence much resemble some of the primary manifestations of leprosy. Thus we have pain and weakness of the knees and ankles, burning of the hands and feet, general feverishness, pain at the pit of the stomach, and, if persevered in, we have scaly eruptions of the skin and pains all over the body."

Cuttack.—All agree in saying that the eating of fish increases the disease; and it is only when they have given up all idea of being cured that they become callous, and make it an article of diet.

Furreedpoor.—The people of this district are extremely fond of fish, which abound everywhere, and of which they are great eaters; "but I do not see," says Dr. Bose, "that they are on that account the more subject to the disease than their less piscivorous brethren in the neighbouring districts."

Bhaugulpore.—It occurs most frequently in the poorer classes, and is most common amongst the beggars in this country.

Their ordinary diet consists of vegetables and rice, and now and then fish, which is generally eaten when it is almost putrid. It is thought by the natives that leprosy is caused by eating bad rice; but I cannot give a decided opinion on this subject; but there is no doubt but that diseased rice, which the poorer class frequently eat, has a very detrimental effect upon the constitution.—(*Mr. Crewe.*)

Monghyr.—The natives here have an impression that oily aliments and fish diet favour the development of the disease.

Benares.—"None of the reporters have any means of giving precise answers to this interrogatory. Leprosy does not seem to be confined to any one locality more than another. The dwellings of the natives are all equally wanting in sanitation; the poorer classes are generally more dirty. But leprosy seems to be affected more by the diet and mode of living than by any other cause; but, nevertheless, men in good circumstances, able to afford not only the necessaries, but also the luxuries of life, become affected with leprosy. These have, however, most generally the disease in its third form."—(*Dr. Dunbar.*)

"This disease exists most among the poor ill-fed classes, but also among the rich; and in these cases I believe a venereal taint is the primary cause."—(*Dr. Cheke.*)

Meerut.—"In the lower classes of society it is very frequently observable, particularly in those who are accustomed to eat putrid fish and meat, and other unwholesome food, &c. &c. Inhabitants of low and damp localities are more subject to the disease; and other circumstances, such as dirty habits of life, living in low, dark, and ill-ventilated huts, &c., accelerate the development of the disease."—(*Nund Coomar Mitter.*)

Seharunpore.—The dwellings of the pupulation at large are of a most wretched description. The towns are still worse than the villages. Any one in the habit of treading their narrow confined streets, and inhaling the peculiar nauseating effluvia emanating from them, must wonder how it comes to pass that the people are not extinguished altogether by plague and zymotic diseases of every kind. The state of native dwellings is a vastly important one, well worthy of the earnest attention and consideration of Government. From the want of energetic and systematic sanitary arrangements spring, I believe, those frequent and violent epidemics so peculiar to eastern countries.

The inhabitants wear the same clothes day and night, and wear them, too, till they drop off from sheer age. During the hot months they require but little covering; not so, however, when the temperature falls to near freezing point. They may then be seen going about shaking in every limb, and, as a natural consequence, they suffer from rheumatism, bowel and pulmonary complaints.—(*Dr. Puske.*)

Hill States.—The greater number of persons affected with leprosy whom I have seen belonged to the very lowest and poorest classes, and the circumstances which seem to favour its development among them are the badness of the food they eat, and their extremely filthy habits.

The filthy state of the houses inhabited by this class is almost beyond belief. The immediate neighbourhood of their houses is also always extremely dirty; heaps of manure, human ordure, and filth of all kinds are allowed to collect and remain here for lengthened periods, and never thoroughly cleared away.

Their diet is of the coarsest description, being usually a grain called "bathoo," from which they make bread that is nearly black. This is imperfectly cooked, and eaten unleavened. Poppy seed and salt is often mixed with it. They are very fond of salt, and eat it in large quantities. It is of an inferior quality, being the dark grey rock salt.—(*Mr. Garden.*)

Indore.—It is very evident that poverty, hunger, and dirt will invite its development and foster its growth, as they will the proclivity to any other disease, and that lepers will, like other outcast mendicants, have to wage a constant war against starvation. As for employment, they all become beggars as soon as the disease breaks out, when they seem always to leave their ordinary employment, and to wend their way to large towns and cities, where mendicancy is most profitable.

Bundelkund.—Most frequently among the poor, but it affects all classes. Deficient, or probably still more, unsound articles of food.

The latter may account for the disease where the former, *i.e.*, deficient nourishment, cannot be the cause. It might be a point of inquiry whether there is any connexion or parallelism of cause between leprosy in its gangrenous or other forms and the diseases, including gangrene of the extremities, produced by the use of diseased grain, such as "ergot."

Bangalore.—No castes of the native community seem exempt from the disease. I have met with many instances of it among the Brahmins, both male and female, whose habits of personal cleanliness are most scrupulous; but I think it is more common still among the lowest classes of the native community, with whom impurity of living in every respect is the normal condition.—(*Dr. Kirkpatrick.*)

Akyab.—The poorer classes, who are decidedly the greatest sufferers from the disease, use both tank and river water for drinking as well as for bathing long after it has become, by its foul appearance and odour, an abomination to the senses of the more delicately constituted European.

d. Their ordinary diet is rice and dâll, vegetables, spices, and oil or ghee, a sort of butter made from buffalo's milk, and fish; no meat, except goat's flesh, and that they partake of sparingly and seldom.

They dwell in huts made of bamboo and leaves, which are impervious to rain, and unexceptionable as regards ventilation, since though the windows are few and small, they are unglazed, and the walls being of mats permit free circulation of air throughout the dwellings. The floors are of mud, beaten into a plaster, laid smooth, and raised from the ground two or three feet.

They are fond of anointing one another with mustard oil, and seem to economise clothing by the practice.

7.

What conditions or circumstances of life seem to accelerate or aggravate the disease when it has once manifested itself in an individual?

New Brunswick.—"Poor diet, want of cleanliness, scanty clothing, and exposure."—(*Dr. Gordon.*)

"Many of the lepers in the lazeretto thought their disease was aggravated by their imprisonment on Shildrake island."—(*Dr. Bayard.*)

Bahamas.—I have a strong opinion that the poor diet generally of the lower classes, and the frequent use of fish and pork, increase the tendency to its development in the hereditarily predisposed.—(*Dr. Chipman.*)

Guiana.—"Among the cases I have seen, it was clear that the comforts of life, coupled with hygienic regulations, arrested for a time, not seldom short, the march of the disease, without however ultimately preventing the fatal result. On the contrary, unwholesome and insufficient food, and ill-ventilated and crowded damp dwellings, together with dissipation of all kinds, evidently accelerate its progress."—(*Dr. Manget.*)

Barbadoes.—"It is doubtless accelerated and aggravated by whatever tends to lower the vital powers. When it appears in one who has the ordinary necessaries and comforts of life, it may not only be protracted for many years, but he may even be able to exercise some useful employment."—(*Dr. Clarke.*)

Trinadad.—"The almost entire use of salted meat and fish, and the abuse of spirituous liquors, as is the case in country districts, where fresh meat is seldom to be found; also the insufficient supply of food."—(*Dr. Saturnin.*)

"Uncleanliness, overcrowding, bad and insufficient food, and general poverty and distress; in a word, everything tending to depress the vital powers."—(*Dr. Murray.*)

Montserrat.—"My opinion is that leprosy is a manifestation of the scrofulous diathesis, and that it is to the adoption of the general measures acknowledged to be mitigatory of this diathesis that we must look for the prevention of the development of the disease."—*Dr. Steventon.*)

Cape of Good Hope.—"Its progress is, I think, much slower among those who have the means of cleanliness and good diet at their command than among the poor and destitute."—(*Dr. Abercrombie.*)

Damascus.—An irregular mode of life and want of cleanliness aggravate the disease; and lepers have assured me, from their own sad experience, that oil taken in cookery or in salad causes great pain, and an increase of the disease. Sexual intercourse seems to have the same effect.

Rhodes.—Mental depression especially, often arising from the enforced separation from their families and friends, and being obliged to live with other leprous persons.

Smyrna.—Bad food and general mal-hygienic conditions.

Mauritius.—"Poverty, close unwholesome dwellings, want of cleanliness and pure air, unwholesome food, as too much of fish, and above all of pork, especially its grease (of which large quantities from pigs that feed on all kinds of offal are imported from Calcutta into Mauritius), tend to accelerate and aggravate the disease when manifested."—(*Mr. Ford.*)

Ceylon.—Poverty, want of cleanliness, coarse and unwholesome food, syphilis, sexual excesses, and all depressing agencies undoubtedly tend to aggravate and accelerate the disease.

The natives believe that the too frequent use of pork as a diet, as well as certain kinds of fish and fruits, either excite or predispose to, and when once formed aggravate the disease.

I unhesitatingly believe that the frequent living upon an entirely fish diet, the fish being of an unwholesome kind, frequently putrid and badly cured, such as the native races often subsist upon, often excites the disease in those who are predisposed to it.—(*T. A. P.*)

Bombay Presidency.—"Leprosy should be viewed as a cachexia of the system, or dyscrasia comparable in some particulars to syphilis or the strumous; it may therefore be said that depressing or deteriorating influences generally will hasten the progress of the disease. It so happens that the poorer lepers are mercilessly exposed by their friends to exposure and want, and hence, no doubt, it is amongst them we find revealed the most lamentable effects of the disease."—(*Dr. Carter.*)

Madras Presidency.—"The progress of this disease is certainly retarded by improving the hygienic condition of the sufferers, as regards cleanliness, ventilation, and food; and I infer that the liability to contract it might be diminished by the same process."—(*Dr. Innes.*)

Poverty, low living, hardship, filthy habits, and debauchery aggravate and accelerate the disease when once it has manifested itself.

Bengal Presidency—Bancoorah.—If a man suffering from leprosy, but "well to do," is suddenly reduced to want, the disease is augmented; whereas on the other hand, if the poor and needy are taken care of, washed, clothed, and well fed, the malady seems to be arrested in its ravages; if not altogether, certainly its progress is less rapid.

Pooree.—Poverty, excess of bodily labour, deprivations or distresses of any kind, chiefly those caused by long journeys or pilgrimages to Juggurnauth, insufficient nourishment, absorption of impure airs, such as from living in unhealthy localities, confined habitations, &c., lying out in the open air, and exposure to inclemencies of season, chiefly during the monsoons and cold weather; indulgence in intoxicating drugs, such as the preparations of hemp and opium; dissipations of all kinds, particularly excess of venery (as was the case with the late Rajah of Pooree, who, as I said before, died from this disease and syphilis at an early age), want of proper medical and other hygienic means, and the abuse of remedies, such as mercury, which is sometimes prescribed by the ignorant quacks in the early stages of the disease, mistaking it for syphilis, not to mention the existence of a scrofulous or syphilitic taint; these then seem to be the most common aggravating circumstances of the disease as I have seen it among the people here.—(*Mr. Durant.*)

Furruckabad.—It would appear that poor living, a fish diet, want of cleanliness, insufficient clothing, and exposure to the heat of the sun accelerate and aggravate the disease when once formed.

Khatmandoo.—The circumstances apparently most favourable to its development, and which seem to aggravate the disease when once established, are all such causes as tend to impo-

verish the blood and lower the state of the health generally; such as bad food, insufficient clothing; damp, dirty, and ill-ventilated dwellings; personal uncleanliness; to which may be added constitutional tendency to it, and a system broken down by syphilis and the imprudent use of mercury; most of which conditions are nearly universal among the poorer classes in Nipal.

Akyab.—The stigma which attaches to sufferers from this disease, and the depression of spirits arising therefrom, have, I have no doubt, much influence in aggravating their malady when once fairly and unmistakeably established. I have known lepers lie in one spot for months, hardly rising to take their food, under the influence of this feeling, and the supineness and torpidity which characterise the disease.—(*Mr. Nisbet.*)

8.

Does the disease appear often to be hereditary?

Have you known instances where one member only of a family has been affected while all the other members remained free from any trace of it?

New Brunswick.—"It is certainly hereditary.

"The cases I have reported establish the fact that the disease may attack one or two members of a family, while the others remain exempt. Leprous parents suffering for many years under ulcerated tubercles, with destruction of the fingers and toes, have had families in whom the disease had not appeared when I saw them."—(*Dr. Bayard.*)

"I have known numerous instances where one member of a family has been affected, while all the others remained quite free from any trace of it."—(*Dr. Nicholson.*)

Jamaica.—"It is frequently hereditary, particularly in the third generation. I have known several instances where one member of a family only has suffered; but the instances are more common of several members of a family being afflicted."—(*Dr. Fiddes.*)

Dominica.—My belief is that leprosy is hereditary, though I am not prepared to assert that the disease may not occur from causes independent of hereditary predisposition.

It is difficult to answer the second query with certainty. I have known instances where only one member of a family has been affected while the others remained free at the *time*. But as I believe that the disease may appear at any age, it would be necessary to carry the period of observation over the lives of each individual member of a family, in order to determine the point with precision.—(*Dr. Imray.*)

Barbadoes.—"It does appear to be hereditary, but I cannot say often so. There are many in the lazaret who have father and mother free from the disease; and I know a white person in middle life, a mother of a numerous family, affected with the anæsthetic form of the disease, in whom it manifested itself at the cessation of child-bearing, whose entire family remains free, and whose father and mother were not affected."—(*Dr. Browne.*)

"There can be no doubt of its being hereditary. Frequently, however, one member will be attacked and the others escape; but very commonly the offspring of those members who escaped will be attacked with it in its worst form."—(*Dr. Stevenson.*)

Guiana.—"It is undoubtedly hereditary.

"Sometimes all the children of diseased parents are affected, at other times one or two only, while the other members entirely escape. The disease often overleaps an entire generation to reappear in the next; the immunity may commence in the immediate family of the leper himself. It is possible that many cases presumed to be of hereditary origin are instances either of extraneous contamination, or of the propagation of the disease from one member of a particular family to the others."—(*Dr. Pollard.*)

Cape of Good Hope.—"Most decidedly hereditary. I have known instances where one member only was afflicted, and then the disease has appeared to pass away from that family."—(*Dr Ebden.*)

Sierra Leone.—Invariably, as far as I can ascertain; it generally skips a generation.—(*Mr. Bradshaw.*)

Damascus.—Often one member only of a family is attacked. Few lepers have children; but when they have, some of the children are diseased, and others are not.

Samos.—Yes, certainly. The form of the disease transmitted to offspring is not always that of the parent. One child may be affected with the tubercular form and another with the articular or diérétic form, the father or mother having the tubercular disease. This fact alone shows that tubercles are not a necessary or essential feature of the morbid state.

Constantinople.—Yes, certainly; yet it often appears spontaneously. Sometimes, one member only of a family is affected.

Canton.—"Leprosy is undoubtedly a hereditary disease. It is said to become mild in the third generation, and to run itself out in the fourth. The children of leprous parents are at once recognised by the coarse thickened expression of the features, a broad nose, large ears, and a dry shrivelled skin on the arms and legs. The Chinese never permit any marriages with the progeny of leprous parents. Its appearance in a family not supposed to have any hereditary predisposition or taint puts an effectual stop to all matrimonial engagements, and makes null and void all previous bonds of betrothment. The lepers themselves usually intermarry only with those of the same grade or type of disease; *e.g.*, a leper of the fourth generation with no external appearance, but known to be of leprous origin, will only marry a woman who is in the same circumstances with himself. Their progeny is considered free from taint, and need no longer be secluded from society."—(*Dr. Hobson.*)

Mauritius.—"Unequivocally so. Sometimes certain members of a leprous family appear to be exempt, but even they not unfrequently exhibit glandular lymphatic swellings, indicating a slight degree of or tendency to the disease; and the offspring of such persons frequently become affected."—(*Dr. Regnaud.*)

Ceylon.—It is often hereditary.

Yes. I have known several such instances.—(*T. A. P.*)

Bombay Presidency.—Opinions are divided as to whether it is often hereditary. Dr. Carter thinks that it is.

Often one member only of a family, is said to be affected, the other members remaining free.

Madras Presidency—Dr. Day states that out of 46 cases, hereditary transmission could only be traced in 19, was entirely absent in 27, and in six had evidently passed over one generation to re-appear in the succeeding. Of 31 lepers whose cases were collected by Dr. Porteous, the mothers of but two were affected, and in no case the father; therefore in two only out of 31 was it inherited. These 31 lepers had 111 brothers and sisters who were not leprous; 13 of the 31 lepers were married and had 46 children among them, in none of whom had the disease betrayed itself. None of the parents of these 13 were affected; the disease therefore was not in these cases communicated by diseased parents, nor did these parents inherit it from theirs.

In addition to the 29 cases just quoted, as tabulated by Dr. Porteous, Dr. Shortt knew of 26 cases, and Dr. Day many instances where one member only of the family was affected. The conclusion is, therefore, that "inheritance does not constitute a strong predisposition to "the disease."

In addition to the above evidence, I may state that in my private practice I have met with tubercular leprosy in three European males, all of whom from their social position had every care and luxury that money could provide.—(*Mr. Shaw.*)

Bengal Presidency—Poorce—Yes; the disease does often appear to be hereditary, as may be seen from the accompanying table, where out of 105 cases 31 give a strong suspicion of hereditary descent, from the circumstances that either one or both of their parents, or other near relatives or friends, have had the disease before them, and the patients themselves could give no other reasonable or probable cause for it. My own opinion is, that even a much larger per-centage of the cases owe their existence to this cause than appears from the table.

Many instances are mentioned by the people where only one member of a family was affected, while all the other members remained free from any trace of it. I have also seen several cases of the kind myself.—(*Mr. Durant.*)

Furreedpoor.—Notwithstanding its undoubted power of transmission from parent to offspring, it is also a noted fact that it is often capable of spontaneous origin, and that these idiopathic cases are just as numerous, if not more so, especially in the tropics, as those which could be alone traced to parental influence.

Arrah.—Hereditariness is the predisposing, and bad food the exciting, cause of the disease; the fact of its appearing amongst the rich and wealthy shows that it must be hereditary. There are instances of the father being a leper, his children free from the disease, which reappears among his grandchildren.

Benares.—"All the reporters but Dr. Dale consider the disease to be hereditary; the natives believe it to be so; still there are but few instances in which more than one member of a family is attacked with leprosy."—(*Dr. Dunbar.*)

Seharunpore.—The belief in its hereditary transmission was so deeply grounded in the minds of the Punjaubees generally, that they were in the habit of burying alive, not only the leper himself, but also his relations and friends, lest in multiplying their kind the disease

would be communicated to distant generations. This practice has since been checked by Government interference.

Lahore.—It is often hereditary, but not always so. I have seen an instance of several healthy children whose father was a confirmed leper. I have also known instances in which one only of a family has been affected while others remained free.—(*Mr. Bose.*)

Nimar.—The disease in several cases would seem to be hereditary; in 14 per cent. of cases parents or grandparents are said to have suffered from it. The cases in which the disease has passed over a generation appear almost as numerous as those in which the parents have had it.

I have known many such instances.—(*Mr. Hunter.*)

Nagpore.—Out of 228 cases of anæsthetic and tubercular leprosy, it was stated or believed to be hereditary in 40, viz., 23 males and 17 females.

In many instances the disease appears to be limited to one member only of a family.

As to the white leprosy, in only one out of 40 cases examined was it said to be hereditary.

Akyab.—That leprosy is hereditary is a belief universal in India. I have never heard a difference of opinion upon that point; but, though this is the generally received opinion even among lepers themselves, each always appears to believe that it has occurred by some unlucky accident in his own case.—(*Mr. Nisbet.*)

9.

Have you reason to believe that leprosy is in any way dependent on, or connected with, syphilis, yaws, or any other disease?

New Brunswick.—"I believe leprosy is a disease by itself. Syphilis and yaws are unknown in the districts where it prevails."—(*Dr. Nicholson.*)

Bermuda.—Yaws is unknown in Bermuda.

Jamaica.—"I believe leprosy to be a disease *sui generis*. I have little doubt that yaws and leprosy may run their course together, as also leprosy and syphilis."—(*Dr. Bowerbank.*)

Dominica.—No. I had occasion formerly to see much of the yaws; I hold that disease to be different in its nature from leprosy.—(*Dr. Imray.*)

St. Vincent.—I think it is connected with scrofula, but not with any other disease. I look upon leprosy as a form of scrofulous disease.—(*Dr. Checkley.*)

Barbadoes.—"I believe it is a disease *sui generis*. The yaws, once so prevalent in the West Indies, is fast disappearing from Barbadoes."—(*Dr. Goding.*)

"I will not say that syphilis can produce *true* leprosy; but that it can produce a disease so closely resembling it as to deceive the most careful observer, I fully believe. It is most common in the offspring of syphilitic patients."—(*Dr. Stevenson.*)

Tobago.—Yes. I look upon leprosy, syphilis and yaws, as cognate.—(*Mr. Purser.*)

Trinidad.—I have not; but syphilis and yaws may coexist with it.

Guiana.—"Leprosy is a disease *sui generis*, independent of any other disease."—(*Dr. Reel.*)

"I believe it to be specificially distinct from any other disease."—(*Dr. Pollard.*)

"I firmly believe leprosy to be connected with syphilis, yea, even to be an offspring of it; imperfectly cured syphilis in parents causes the disease to break out in the progeny in the second, third, or fourth generations."—(*Dr. Van Holst.*)

Cape of Good Hope.—"I consider it to be a peculiar disease, and in no way connected with any other. Tubercular venereal affections may be mistaken for it."—(*Dr. Abercrombie.*)

Damascus.—Leprosy is a separate and independent disease, known in Arabia for many centuries, and mentioned in the Koran of Mohammed under the name of jezâm; whereas syphilis was not known here until the French invasion under Napoleon, when his soldiers brought it hither, whence it is called Hal Franji, or the Frank evil.

Crete.—Although there are certain symptoms in the first stage of the disease resembling those of syphilis, it is not connected in any way either with that or any other malady.

Corfu.—"The common lepra of Willan is often connected with syphilis; but the tubercular disease and the elephantiasis are not so."—(*Proto-medico.*)

Tabreez.—No. Syphilis is rare in the villages of Persia.

Mauritius.—"I have not. In two cases the disease declared itself at the same time with a syphilitic eruption. After the disappearance of the latter, the leprosy continued."—(*Dr. Regnaud.*)

Ceylon.—"Scrofula and syphilis, I believe, would lead to leprosy under favourable circumstances; but that leprosy is a constitutional form of syphilis, as some writers believe, I do not think."—(*H. D.*)

"Leprosy is, in my opinion, often dependent or connected, either directly or remotely, with syphilitic taint."—(*T. A. P.*)

"The majority of cases that have come under my observation were connected with syphilis; and this is perhaps the reason why the disease itself is more frequent in the towns than in country."—(*T. G.*)

Bombay Presidency.—Opinion is decidedly against the belief that leprosy is in any way connected with syphilis, yaws, or any other disease. Dr. Carter thinks that leprosy and syphilis are related; and Dr. Wyllie takes a similar view of leprosy and scorbutus.

Madras Presidency.—Syphilis is extremely common among the natives of India, and all the reporters who have come in contact with leprosy mentioned syphilis as no uncommon complication, Among the 58 patients in the Leper Hospital, Madras, 11 had syphilis previous to the accession of the leprosy; but in none of the reports is any connexion traced between leprosy and syphilis.

Mr. Day in his report, and also in a paper in the "Madras Quarterly Journal of Medical "Science," endeavours to establish that elephantiasis Arabum is allied closely to elephantiasis Græcorum or leprosy, from the circumstance that nearly all the lepers under his charge at Cochin showed symptoms of elephantiasis.

Bengal Presidency.—"I have no reason to believe that leprosy is in any degree dependent upon syphilis, or any other disease."—(*Dr. Jackson.*)

Moorshedabad.—I believe leprosy is very often connected with, if not dependent on, syphilis; and the abuse of mercury is general in native practice.—(*Dr. Fleming.*)

Pubna.—I do not think that leprosy is connected with syphilis, but I believe that it is connected with scrofula in some cases.—(*Mr. Parker.*)

Serampore.—In cases of secondary syphilis, in which mercury has been administered over and over again, the disease has not unfrequently degenerated into leprosy.

Bhaugulpore.—I have very good reason to know that leprosy is dependent on syphilis, for I have known several cases that have been preceded by syphilis.—(*Mr. Crewe.*)

Gyah.—The difficulty of attempting in this district to connect any disease with syphilis is very great, because nearly all the natives have had syphilis, and have taken mercury largely for it.

Almorah.—The natives themselves believe leprosy to depend very often on a syphilitic taint, but I am disposed to think this altogether a mistake. No doubt, with a predisposition to leprosy already existing, if a person's constitution becomes tainted with syphilis, this, like any other lowering cause, may develop the other disease, but I think the morbific cause in each is quite distinct. The natives sometimes consider symptoms which have externally some resemblance to leprosy as leprous, which in reality are true secondary and tertiary syphilitic symptoms. Affections of the mouth and throat and nasal passages, loss of voice, &c., are common to both diseases, but those which depend on a syphilitic cause are almost always easily distinguishable from the true leprous affections.—(*Dr. Merton.*)

Hill States.—I have not. Syphilis is extremely common in these mountains.—(*Mr. Gurden.*)

Bhutteeana.—Yes; more than half the cases that presented themselves in the Government charitable dispensary suffered under some form or other of syphilis.

Lahore.—I have every reason to believe that leprosy is often, but not always, dependent upon syphilis, which may be considered as one of its most powerful predisposing causes.—(*Mr. Bose.*)

Jodhpore.—I believe a person affected with secondary syphilis will be more likely to become the subject of leprosy, in consequence of the cachexia the first-named disease induces. I believe both diseases may exist, and become as it were blended together. I do not think there is any such disease as syphilitic leprosy, that is, leprosy arising from syphilis as an exciting cause.—(*Mr. Moore.*)

Gwalior.—I should think it was quite a distinct disease from syphilis or the yaws; it may have some connexion with scrofula.—(*Mr. Sutherland.*)

Nagpore.—Thirty-three of the patients, viz. 26 males and 7 females, out of the entire number, 228, ascribed their disease to syphilis; 14 males to syphilis and mercury; and two males to small-pox.

I would observe that the native hakeems constantly prescribe mercury for all kinds of diseases (often to salivation), and that if mercury had the effect ascribed to it, leprosy should be more common than it is.—(*Dr. Heude.*)

Nipal.—I do not believe that syphilis, except in cases where there is a decided constitutional or inherited tendency to leprosy, has anything to do with its development; although syphilitic eruptions, in Nipal as elsewhere, often assume a decidedly leprous character.—(*Dr. Oldfield.*)

Akyab.—The general opinion among the natives here is that the abuse of mercury is a frequent cause of leprosy, and I am disposed to think that the opinion is well founded. The value of the mineral as an antisyphilitic remedy is well known, and it is largely employed for the cure of venereal affections by these people. I think it very probable that both the mercurial and syphilitic poisons may induce a cachectic condition of system highly favourable to the development of leprosy, where the hereditary taint exists.—(*Mr. Nisbet.*)

10.

Have you met with instances of the disease appearing to be contagious in the ordinary sense of that term, *i.e.*, communicated to healthy persons by direct contact with, or close proximity to, diseased persons?

a. If so, in what stage was the malady in the diseased person? Were there ulcerations with a discharge?

b. Please to describe briefly the case or cases of contagious communication which you have seen yourself.

c. Does the disease seem to be transmissible by sexual intercourse?

New Brunswick.—"I am thoroughly convinced that the disease, in Tracadie, is not contagious, and that it is not transmissible by sexual intercourse."—(*Dr. Bayard.*)

"I have never met with an instance of leprosy being communicated to a healthy person by contagion."—(*Dr. Nicholson.*)

"Several lepers have cohabited with their wives for years, and no infection was communicated to them."—(*Dr. Benson.*)

Jamaica.—"I am certain that it is in no way contagious, and that it is not transmissible by sexual intercourse. The evidence against the contagion of leprosy, in all its forms, is irrefragable."—(*Dr. Fiddes.*)

Barbadoes.—"I have not met with any cases of contagion. None of those in attendance, during the last nine years, upon the inmates of the lazaretto have contracted the disease; and I, after receiving a wound from a knife, moistened with the fluids of an inmate, have escaped, although the wound was followed by great constitutional irritation and loss of the finger. From what I have heard, I do not believe it communicable by sexual intercourse."—(*Dr. Browne.*)

Grenada.—"I have seen a few persons amongst those affected where contagion appeared evident.

"*b.* A young girl about 12 or 14 years of age slept in the same bed with a young woman who had symptoms of leprosy. Within 12 months the girl presented the red patches, and seven or eight years afterwards she was a confirmed leper. The mother of this girl contracted the disease, but the father escaped.

"I do not think the disease in its incipient stage transmissible by sexual intercourse.

"I consider that contagion will take place when ulcerations exist with copious discharge, and this can only occur in the first or tuberculous leprosy."—(*Dr. Aquart.*)

Trinidad.—"I have never met with a single instance of it appearing to be so. Ulcers with ichorous discharge are dressed several times a day by the surgery man, who has been employed for 12 years at the leper asylum. The washerwoman, who has been there for 16 years, and handles the clothes of the lepers, and the medical superintendent, delivering women in labour, amputating limbs, and performing other surgical operations, have escaped.

"The disease has not been transmissible by sexual intercourse in many cases which have been under my care, and which most decidedly confirm my opinion that it is not contagious."—(*Dr. Saturnin.*)

Guiana.—"I have met with only two cases in which, after minute inquiry, I believe the disease to have been communicated by direct contact. My own opinion is in favour of the contagiousness of leprosy, and that it may be propagated by the matter of ulcerated tubercles being applied to any raw surface; but I admit that I have met with cases which would seem to preclude the idea that the disease can be considered contagious, in the ordinary sense of the term.

"I have known instances where black women have cohabited for years with their husbands while labouring under confirmed and ulcerative leprosy, and have children by them, without manifesting the slightest trace of the disease."—(*Dr. Manget.*)

"I am clearly of opinion that it is contagious in every stage and form, and especially so after ulceration. I have seen many instances which could only be referred to contagion; the convictions of the parties, and the most rigorous examination of the history of the cases giving no clue whatever to the pre-existence of any family taint. It is notorious in respect of a white family of distinction in this colony, that, having disregarded the warnings of their medical advisers of the danger of permitting the young members to play in company with a negro boy who exhibited the symptoms of the disease, they one and all became infected, and the majority of them fell victims to the fatal indiscretion.

"(*c.*) The liability to the disease in this way is undoubted."—(*Dr. Pollard.*)

"From what I have seen and heard in Surinam, Dutch Guiana, where more attention is paid to the disease than in British Guiana, I believe it to be contagious. I have known an officer of high rank there contracting it from cohabiting with a woman whose family were affected with it. In Dutch Guiana, people are afraid of shaking hands with any persons who are suspected of the disease, and even of sitting on the same chair which they have occupied, or of using the same privies."—(*Dr. Van Holst.*)

Cape of Good Hope.—"I have not seen a single case where it was communicated by contagion. I have known lepers cohabiting with females who remained exempt."—(*Dr. Ebden.*)

Jerusalem.—I have never heard of such instances.—(*Consul Finn.*)

Damascus.—It is not contagious, and not transmissible by sexual intercourse.

Rhodes.—It is entirely exempt from contagion, or transmission by sexual intercourse.

Mytilene.—It is demonstrably not contagious. Dr. Bargilli practised inoculation in two instances, but without results.

Crete.—There are 127 persons who have all lived together healthy among lepers for many years.—(*Dr. Brunelli.*)

Corfu.—"Two instances I have met substantiate the opinion that it is contagious after a lapse of time. In both the wife became affected some years after the husband had been attacked."—(*Proto-medico.*)

"I have never been able to recognise the contagiousness of leprosy. (*c.*) Women have often lived with leprous husbands without contracting the disease."—(*Dr. Tygaldos.*)

Tabreez.—I have met with no case of direct contagion. (*c.*) I have seen several instances of the contrary.—(*Dr. Cormick.*)

Shanghae.—I have never met with an instance of the disease appearing to be contagious.—(*Dr. Henderson.*)

Victoria.—No instance of apparent contagion has been met with in this colony.

Mauritius.—"I have met with two cases where the disease seemed to be transmissible; in the one instance from the husband to the wife, and in the other from a man to a child of his wife by a former husband."—(*Dr. Regnaud.*)

"Never. I know two instances where medical men have wounded themselves in dissection, but without any bad results."—(*Dr. Powell.*)

Ceylon.—"I have no reason to consider it contagious, or transmissible by sexual intercourse."—(*Dr. Davy.*)

I have not met with a single case of contagious communication of the disease, although popular belief in this country is strongly in favour of its communicability.—(*T. A. P.*)

I have not known a single instance in which a wife, whose husband was a leper, was affected by this disease, whereas numerous instances have come under my observation in which the offspring of a diseased person have been affected.—(*T. G.*)

Bombay Presidency.—None of the observers appear to have obtained conclusive proof of leprosy being contagious, or transmissible by sexual intercourse.

Madras Presidency.—Leprosy does not appear to be contagious. In 1853 Mr. Porteous gave a list of the servants who were employed at the Madras Leper Hospital, with the dates of their service, by which it appeared there were nine servants in the institution who had been employed for periods varying between two and 14 years, and all were unaffected with the disease.

Bengal Presidency—"It is not a contagious disease in the ordinary sense of the term, . . nor does it seem communicable by sexual intercourse."—(*Dr. Jackson.*)

Calcutta.—Never. Healthy men have dressed the ulcers of lepers and washed their soiled bandages for years without a trace of the disease appearing on them.

c. Yes.

Sumbulpoor.—*a.* On the subject of contagion there appears to be some room for doubt. I have never known or heard of a case in which simple contact on one occasion has produced

the disease, but by prolonged liability to contact with, or close proximity to, diseased persons, there is reason to believe that the disease has been reproduced. The natives of Sumbulpoor do not themselves believe that leprosy is contagious.

c. I have not been able to obtain any proof of such transmission.—(*Mr. Jackson.*)

Mozufferpore.—I know of many cases in which there was a clear proof of the contagious nature of the disease.

a. I believe leprosy is alone contagious when the ulcerative stage has commenced, and it appears as if the disease took a very long time to affect the system. It is not a matter of days, or even months, but often of years.

The parents of female children having leprosy will frequently destroy their offspring.

c. Yes; there can be no doubt about it.—(*Mr. Macnamara.*)

Arrah.—As far as I can ascertain, it is not known to be contagious or infectious.

c. I cannot ascertain; the hakeems say no.—(*Dr. Hutchinson.*)

Benares.—"All the reporters agree in stating that leprosy is not contagious, nor transmissible by sexual intercourse."—(*Dr. Dunbar.*)

Cawnpore.—I have met with none, nor has the sub-assistant surgeon, but the native doctors say it is contagious in the suppurative stage. The hospital servants as well as the sub-assistant surgeon constantly handle these cases in the ulcerative stage, and they have never become affected.—(*Dr. Jones.*)

Budaon.—I have met with instances in which the disease proved to be contagious after living in close proximity to the diseased person for a long period of time, say one or two years.

a. The malady was in full vigour, and there were ulcerations with a discharge.—(*Dr. Harris.*)

Serohi—Jodhpore—Ulwur—Jeypore—Harowtee.—The replies of Dr. Lownds, Mr. Moore, Mr. Dickinson, and Dr. Burr, are in the negative. Mohamed Naeem says that he has known one case in which the servant of a leprous person took the disease by waiting upon his master. On the other hand, he mentions the instance of a woman in the last stage of leprosy having a child two years old at her breast; she died in the hospital; but her boy, now 16 years of age, is a fine strong youth, without any trace of the disease.

Nagpore.—During the nine years I have held charge of the Nagpore gaol, with a daily average of 500 prisoners, all of whom freely intermingled, and some of whom when imprisoned were lepers, I have never known an instance of contagion, and the reply to Interrogatory XI. tends to confirm the same.

As far as I could ascertain, the disease does not seem transmissible by sexual intercourse. —(*Dr. Hende.*)

Moulmien.—Never contagious.

Kyouk Phyoo.—I have never met with an instance.

c. I do not believe it to be transmissible by sexual intercourse. I knew a man, a confirmed leper, who was the superintendent of the Leper Asylum in Calcutta years ago, yet he was a married man, and his wife was perfectly free from the disease.—(*Mr. Thomas.*)

Akyab.—I have seen nothing to induce me to believe that leprosy is contagious, and I do not believe it is ever communicated in this way, nor even by sexual intercourse.—(*Mr. Nisbet.*)

Singapore.—I have met with three cases in which I can with certainty state the disease was contracted by continued and direct contagion; two cases specified under *b*, and one specified in case 6, the details of which are given below.—(*Mr. Rose.*)

Labuan.—Dr. McDougall writes, "I have not met with a case I could satisfy myself had "arisen from contagion; but it is the universal belief among the people, whether Chinese, "Malay, or Dyak, that it is contagious, and they all alike separate the lepers, and avoid "all contact with them."

II.

Are persons affected with leprosy permitted in the colony to communicate freely with the rest of the community? or is there any restriction imposed, or segregation enforced, in respect of them?

New Brunswick.—"No; as soon as the disease has made its appearance, they are confined to the lazaretto."—(*Dr. Gordon.*)

Bahamas.—There is no positive law to prevent lepers from mixing with other persons, although the colony has endeavoured to prevent it by establishing a lazaretto in conjunction with the asylum.

Jamaica.—"Hitherto no restriction has been imposed."—(*Dr. Bowerbank.*)

Dominica.—No restrictions are imposed, unless the lepers are receiving relief from the parochial fund.

St. Vincent.—Segregation and legal provision were attempted here, but the attempt failed.

Barbadoes.—"Among the independent classes, they sedulously exclude themselves from society. All from the highest to the lowest have such a dread of the disease being known in their families that they keep them out of sight as much as possible. The destitute are sent to the lazaretto, or go about begging."—(*Dr. Young.*)

Trinidad.—"Leprous vagrants and beggars, found in the public streets and highways, are arrested by the police and conveyed to the leper asylum. There are no restrictions imposed in regard of those who can maintain themselves."—(*Dr. Saturnin.*)

Guiana.—"There is an ordinance to compel the confinement of lepers to the asylum of the colony; but as informations are seldom laid, it may be considered inoperative. The negroes, being confirmed fatalists, although firmly believing in the contagiousness of the disease, take no exception to the freest intercourse with lepers."—(*Dr. Pollard.*)

"Neither the lepers nor their friends wish that they should be confined, as they dread the seclusion and separation from their ordinary habits almost as much as penal servitude. Any cases duly certified and sent to the Leper Asylum are kept separated ever after."—(*Dr. Carney.*)

"In Dutch Guiana, on any suspicion the person is brought before the medical committee, and, on the least proof of the existence of the disease, he is sent to the Leper Establishment, where the lepers are kept separated from the rest of the community."—(*Dr. Van Holst.*)

Cape of Good Hope.—"There is no law authorizing the deportation of any leper, nor his removal from the home of his friends. The Government provides a very comfortable asylum for all lepers; but its insular position deters many, and their friends prefer caring for them at home."—(*Dr. Ebden.*)

Cairo.—They mostly live by begging in the streets.

Jerusalem.—Contact is habitually avoided on all sides. The lepers have vessels on the ground before them into which the charitable cast their alms.

Damascus.—In towns there are no restrictions on lepers; but the villagers are afraid of contagion, and therefore oblige the diseased person to proceed to Damascus, or some other city where there may be a leper house. Those who do not or cannot conform to this custom are made to live in a cave or hut outside the village, where they remain in perpetual quarantine.

Rhodes.—They may communicate freely until the disease attracts public attention, and then, without consulting any medical man, and even against his opinion, they are banished to a desert spot of the island, as at Halki, or to an uninhabited island, as at Symi, where they must build their own dwellings, and subsist in rags as they best can, by begging or otherwise.

Tabreez.—As soon as the disease is known to have affected a person, he or she is driven from the town or village to the highways, where the sufferer lives in a most pitiable condition, in wretched holes or hovels, depending entirely on charity.

Canton.—They are nominally secluded from society, but practically the poor are allowed to roam about as beggars, and the rich are exempted from confinement in the lazar house by payment of large bribes to the police. Leprosy, however, is regarded as so unclean and contagious a disease that the infected persons are banished by their families, who will not eat or live with them lest they also should become contaminated.

Shanghae.—Lepers communicate freely with the rest of the community. No restriction is imposed.

Victoria.—Leprous persons are in this colony permitted to communicate freely with the rest of the community.

Mauritius.—"Formerly in Mauritius and its dependencies lepers were kept segregated; but, for many years past, since the disease has been considered to be non-contagious, no restriction has been imposed."—(*Mr. Ford.*)

Ceylon.—There is no legislative restriction for the compulsory segregation of lepers in this island; but there is a public asylum to which the poor and unfortunate sufferers voluntarily resort. Those who are well to do remain in their own houses and among their own families, but never freely mix themselves with the rest of the community.

Bombay Presidency.—No restriction is imposed in respect of lepers in the Bombay Presidency. A harsh custom prevails among the lowest orders of expelling from their doors any of their offspring affected with leprosy, who thus swell the ranks of wandering mendicants.

Madras Presidency.—There are no laws to prevent lepers from communicating with the rest of the community; but, on the whole they are avoided.

Bengal Presidency.—"There is no legal impediment to the communication of lepers with the people. The social impediment is sufficiently strong. The malady is held in great dread by the Europeans and natives; many of the former have their servants inspected every month by a native doctor to ascertain if there is any one affected by it; so general is the impression of its being contagious. Instances are recorded of a Mussulman being disinherited in consequence of the disease; and, amongst the Eurasians, a marriage may be broken off by the discovery of the taint in one of the parties."—(*Dr. Jackson.*)

Calcutta.—They are to be seen at all the bazaars, where some of the principal beggars are lepers.

Burdwan.—Segregation is enforced only in the gaol.

Raneegunge.—No restrictions by law, but the people avoid them, and consider they are the most depraved of the human race.

The general expression is, "God has punished them for some great sin they have committed," and it is difficult to get anything further out of them.

Benares.—"Lepers are under no legal but only social restriction, and this is confined to cooking and eating and personal contact; not to common intercourse, nor are lepers ejected from their homes."—(*Dr. Dunbar.*)

Seharunpore.—In this district lepers are certainly avoided by the community at large, that is, they are not permitted to hold free communication, or to keep close company with the public. They herd by themselves at night, and are scattered during the day begging. This social restriction is based upon Hindoo physiology, which holds a leper to be an unclean person, and teaches the people to avoid even the touch of such an one. The popular vulgar conviction among the lower orders of Mussulmans is the same as that of the Hindoos in this respect, but the better educated classes of both hold it to be nothing more than a disease, in the ordinary acceptation of the term, and their Moslem teaching is silent on this point, at least nothing is said about debarring a leper from the advantages of society.

Serohi.—Lepers are forced to live outside of villages by the inhabitants, but there are no regulations on the subject. At Mount Aboo the lepers live by themselves in a cave.

Lahore.—There is no enforced segregation.

Loodiana.—The inhabitants of the towns and villages themselves prevent such communication occurring. The authorities do not, I believe, in any way interfere, beyond providing a village outside the chief town in the district (Loodiana) as a residence for the lepers. When a native of a village in the district becomes affected with leprosy, a house is built by his neighbours for him outside the village, and he is supplied with food, &c., by his friends. If he prefers it, he comes to the leper village near Loodiana. The solitary hut of the leper is to be seen outside many of the larger towns and villages in the district; one here and there. —(*Mr. Butt.*)

12.

12. What public provision is made for the reception and treatment of the leprous poor? Are they admitted into the general hospitals? or are there separate infirmaries or asylums provided for them?

Please to describe the structural and sanitary condition of such buildings, and the arrangements made for the medical and hygienic treatment of the sick in them.

New Brunswick.—"The leprous poor are fed and clothed in the lazaretto, and a medical man attends upon them."—(*Dr. Gordon.*)

"The building is surrounded by a fence 12 feet high, to prevent the escape of the lepers during the night. Within the area of the enclosure, six acres in extent, the patients may take exercise and amusement."—(*Dr. Nicholson.*)

The Lieutenant-Governor states that a few years ago the lazaretto was removed from Sheldrake Island in the Miramichi river to Tracadie, on the east coast of the county of Gloucester. "Its situation is dreary in the extreme. . . Until of late years, the building, called "by courtesy a leper hospital, was little better than a mere prison." *See* Appendix, p. 203.

Jamaica.—There has not been hitherto any asylum for lepers in this colony. The Legislature has recently passed an Act for such an institution, but it has not yet been established. About a dozen lepers in this city (Kingston) are kept, at the expense of the Corporation, in an old building formerly an asylum for the destitute poor of the parish. It is miserably dilapidated and filthy, and the condition of the inmates deplorable. Lepers are not admitted into any of the general hospitals.

Montserrat.—There is a small lazaretto, capable of containing six persons in separate apartments, forming a detached part of the asylum for the reception of the sick and infirm poor.

Antigua.—There has been a leper hospital for the last 25 years, in the leeward suburbs of the city, not far from the sea. At present there are 22 inmates.

St. Vincent.—Some cases of anæsthetic leprosy are, and have been, admitted into the almshouse.

Barbadoes.—All leprous persons found vagrant in the streets may be sent to the lazaretto (established in 1853) by a magistrate's order. There could be no difficulty in their obtaining admission to the general hospital, if labouring under other diseases.

Grenada.—There is a poor-house and a colonial hospital, to which they may be admitted, according to the rules of these institutions.

Trinidad.—"An asylum was provided in 1843, about three miles from Port of Spain, for indigent lepers. Lepers are not admitted into the general hospitals. There is an asylum for their reception."—(*Dr. Saturnin.*)

Guiana.—"The Combined Court vote annually certain sums for the support and treatment of the leprous poor. A separate and isolated establishment, termed the General Leper Asylum, is provided for them. It was established in 1858, and is situated on Mahaica Creek."—(*Dr. Reed.*)

Cape of Good Hope.—"There is a lazaret on Robbin Island, about eight miles from Cape Town. It forms part of a general establishment for lepers, lunatics, and chronic ailments; but each class of patients is separately accommodated."—(*Dr. Abercrombie.*)

"Lepers are not generally admitted into an hospital ordinarily, but they are so temporarily in some rare cases."—(*Dr. Ebden.*)

Sierra Leone.—They are admitted into the general hospital.

Cairo.—No provision is made. Four or five cases of leprosy have been admitted into the public hospitals at intervals.

Jerusalem.—In one part of the city, within and close to the wall, there are some clay-built cottages—not more than a dozen—for the reception of those patients (usually denominated lepers) for whose benefit large endowments have been left by benevolent persons in past times. These dwellings have a mud wall surrounding them on three sides, the fourth side being the wall of the city; and the doors and windows are turned toward the wall. No medical attendance is provided.

Damascus.—In Damascus there are two establishments, one just outside the city walls for Moslems, and the other in the Christian quarter for Christians, where the lepers of these sects are respectively fed and clothed from the proceeds of property—such as shops, houses, &c.—entailed for their benefit.

Lepers are never admitted into general hospitals.

The buildings are of the poorest sort, and no medical aid is afforded to the inmates.

Crete.—Whoever walks out of the gate of one of the large towns, especially on a Saturday, is distressed by the hideous sight of many of these unhappy beings sitting by the road-side imploring charity. It is sad to behold the condition of these unfortunate people, and to think that as soon as they are branded with the name of leper they are driven away from parents, children, relatives, and friends; shunned like criminals, deprived of the power of earning their livelihood in an honest manner by their labour, and condemned to the degraded state of beggars.

Corfu.—They are not admitted into the general hospital. Nothing is done for their relief; they are left to their misery and sufferings.

Constantinople.—The leper asylum at Scutari, in the middle of the cemetery there, contains 20 small apartments. None but Mussulmen are admitted; leprous persons of other races are received into their respective hospitals.

Tabreez.—There is not a single hospital or asylum in the country, nor is there any provision for the alleviation of suffering and distress.

Hong Kong.—There is no asylum here, but there is a lazaret, supported by private charity, on Macao, of which a notice is given by the governor of the island (*vide* Appendix p. 222).

Canton.—There is a lazar-house here supported by the government capable of holding several hundred persons. It is chiefly used for poor outcast lepers, who receive daily small allowances of rice, but are at the same time allowed to roam the streets as beggars.

Shanghae.—There is no public provision made for the reception and treatment of the leprous poor in this district.

Victoria.—There are no separate infirmaries or asylums for leprous patients, but they are admitted into the general hospitals.

Mauritius.—" No public provision is made. Lepers are not admitted into the general hospital at Port Louis. An establishment for lepers used to be kept by Government on Ile Curieuse, one of the Seychelles, with a medical superintendent on the spot."—(*Mr. Ford.*)

" A hospital at St. Lazare was founded six years ago by the Sisters of Charity in the island. It is not under Government superintendence."—(*Dr. Regnaud.**)

Ceylon.—They are not admitted into the general hospitals, except perhaps for a few days until they can be transferred to the leper asylum, which is beautifully situated on the banks of a river 4½ miles from Colombo town. The arrangements therein are such as obtain in all other well regulated government hospitals, and the inmates are supplied with everything that might contribute to their health and comfort. Medical attendance is provided, medicines supplied, the diet is liberal and nutritious, and even small luxuries, indulged in by natives, are not denied them. They have plenty of water for purposes of ablution. But they are a discontented, dissatisfied body, morose, and indulge in drink and opium or bhang.

Bombay Presidency.—With the exception of the leper asylum at Rajcote and Bombay, no special provision is made for the leprous poor. They are admitted into most of the general hospitals.

In Bombay lepers are received both into the native general hospital (the Jamsetjee Jejeebhoy) and into the Dhurumsalla, a home for the destitute, supported by a private charity. In the former they are not strictly segregated, and in the latter the leprous and blind form the mass of the resident poor.

Madras Presidency.—There are three lazarettos in this Presidency; one at Madras, one at Cochin, and one at Bangalore. As a rule, lepers are not admitted into the general or civil hospitals throughout the country, but a leper affected with any intercurrent disease would not be denied admittance.

All these institutions have suitable establishments of medical attendance, ward, attendants, washermen, sweepers, coolies, &c., and the same dietary is allowed as in European and native hospitals respectively. All are admitted who seek relief, and such as are picked up by the police as vagrants and beggars are brought to the leper hospital. They are encouraged in Madras to employ themselves in gardening, which the grounds admit of; many do so and cultivate fruit trees and vegetables, the profits of which are made over to the patients themselves; but many get tired of the monotony of hospital life and seek their discharge after varying periods. There is no law by which they can be detained in the house, but they not unfrequently return.

Bengal Presidency—Calcutta.—There is an asylum for the reception and treatment of the leprous poor, who are not admitted into the general hospitals or dispensaries. The asylum is composed of several detached buildings, well ventilated and dry; some capable of holding from 18 to 20 beds, others from 12 to 14; the males being left strictly apart from the females.

Pooree.—There is no special hospital or infirmary for the leprous poor; but there is a large and well supplied Government dispensary and pilgrim hospital kept up in one building at this station, into which a certain number of lepers who apply for relief are admitted, and supplied with medicines and food at the Government expense.

As it would be injudicious to accommodate infected patients in the wards, the lepers, when admitted, are kept in the verandah, where they receive all the attention necessary.

* We admitted last year several cases of *tuberculous lepra* (*tsarath*), persons admitted with this now spreading affection being precluded from entering the Grand River Asylum as before. All our patients were males, and most of them had reached the ulcerative stage of the disease. In this hospital tuberculous leprosy is often met with in patients who, before they present any sign of the skin affection, are suffering from caries of the small bones, such as those of the hand and foot; this is accompanied by chronic ulcers with scooped out edges, showing themselves mostly on the palmar and plantar surfaces of the limbs, and leading down to the diseased bones. The separation of these, or portion of them, from the contiguous sound parts is a long and tedious process, the patient in the meanwhile presenting, for a long time, no other complication.—*Report of the Civil Hospital, Port Louis, for* 1863, *in the Reports on H.M.'s Colonial Possessions*, 1865. (*Blue Book*).

Benares.—There is a leper asylum at Benares. Lepers are also admitted for treatment as out and in patients in dispensaries.

The leper asylum is in connexion with the asylum for blind and destitute persons of all nations and classes, founded by Rajah Kally Shunkur Ghoshaul Bahadoor.

Mussoorie.—Admitted in common with other patients; and, if poor, fed whilst under treatment at Government expense in the charitable dispensaries.

Lahore.—Most live as roving mendicants. They are very seldom admitted into general hospitals; a few only are sometimes accommodated in ordinary pauper-houses, where they are simply fed and clothed at the public expense.

Bangalore.—An asylum for the leprous poor of the cantonment and pettah of Bangalore was built under the directions of the late Sir Mark Cubbon in the year 1845, and this having been found inadequate and badly situated, a new asylum was built in 1857. Only those whose disease is far advanced are admitted into it, and it has been intended more as a place of refuge for them than as an hospital for their cure.

At the civil hospital in Bangalore, all lepers who have applied for treatment have received it; and from 1853 to 1862, inclusive, 73 cases were treated as in-patients and 45 out-patients, besides 16 cases which have been entered in the registers as lepra simply, but who were probably lepers.

Moulmein.—None. They are treated at the civil and general dispensaries and hospitals in Burmah and India.

Straits Settlements.—Government have a leper ward attached to the large pauper hospital at Singapore (built at the expense of a wealthy Chinese named Tan Tock Seng), where lepers are received, but they manage to escape, and prowl about, seeking alms, a nuisance to the whole community.

At Malacca and Penang, however, large sums of money have been subscribed by the richer natives of all classes for the erection of a leper hospital, so great is the dread they have of the disease; and Government have given over Pulo "Siranbon," an island contiguous to Malacca, where a comfortable lazaretto has been erected, to which lepers are removed at their own request, I believe (as I repeat there is no act at present in force to compel them).

13.

Can you state the number of leprous persons maintained at the public expense in the colony?

New Brunswick.—The number at present maintained is 22. At one time there were 37 lepers in the lazaret.

Bahamas.—The number in the lazaret at Nassau is generally from 8 to 12.

Jamaica.—"I believe about 14 or 15 in Kingston receive each 2*s.* per week. Many others beg about the streets."—(*Dr. Bowerbank.*)

"I am not aware of the number maintained by the other country parishes. I believe that several get a pauper allowance, and are left to provide for themselves."—(*Dr. Fiddes.*)

St. Kitts.—The number is 47. A weekly allowance of from 1*s.* to 2*s.* is made to each.

Nevis.—Five lepers are maintained in the asylum.

Montserrat.—The six in the lazaret are wholly provided for, and a small money allowance is granted to two or three others.

Barbadoes.—The number at present maintained by the public in the lazaret is 46.

Trinidad.—At present the number maintained is 55.

Guiana.—The following is the number in the asylum for five years:—

		Males.	Females.	Total.
In 1858	- -	66	11	77
„ 1859	(additional) -	31	15	46
„ 1860	„ -	23	—	23
„ 1861	„ -	20	7	27
„ 1862	„ -	32	10	42
				215

(*Dr. Reed.*)

Cape of Good Hope.—The average number in the lazaret for the last 10 years has been from 50 to 60.

Sierra Leone.—Total, 103; 57 males and 46 females. They are principally liberated Africans.

Jerusalem.—The number is generally about a dozen.

Damascus.—Before the troubles of 1860, there were about 50 lepers in the two establishments, viz., 20 in the Moslem, and 30 in the Christian one. Of the former there remain 16 or 17, and of the latter, some died of fright, and others returned to their village huts; but there are now more than 30 Christian lepers who are desirous to come to Damascus as soon as the house, which was burned down, shall have been rebuilt.

Cyprus.—There are 35—15 men and 20 women—at present in the lazaret. The excess of females is owing to the fact that the men more frequently escape from it.

Crete.—It may be calculated that 300 lepers reside in the six villages assigned to them, and that 200 remain secreted in their houses.*

Constantinople.—The number in the asylum at Scutari is at present 30—15 men and 15 women—married among themselves. The children born in the asylum are as yet healthy.

Canton.—About 900 are in the leper asylum; besides these about 2,500 lepers subsist in Canton as beggars, pedlars, &c.

Mauritius.—In 1851, the number of lepers in the lazaret on Ile Curiense, Seychelles, was 32—21 males and 11 females. In February, 1864, the total number was only five; "but "this is no criterion as to the actual amount of existing leprosy."

Ceylon.—"In 1816, the number of inmates in the leper hospital near Columbo was 32—17 males and 15 females."—(*Dr. J. Davy.*)

Forty-five was about the average daily number of patients maintained at the leper hospital during the year 1862.

Bombay Presidency.—"Government does not directly contribute to the maintenance of lepers, though it does so indirectly to some extent. In the Jamsetjee Jejeebhoy hospital about 60 lepers are annually admitted as patients; in the Dhurumsalla the residents number about 100."—(*Dr. Carter.*)

Madras Presidency.—About 60 lepers in Madras, and between 30 or 40 at Cochin, and about five or six at Chingleput, are generally under treatment.

Bengal Presidency—Calcutta.—There are at present 48 lepers in the asylum; 33 men and 15 women.

Pooree.—I find from the only rough data at my command, obtained through the police, that there are about 200 persons of all ages who are living either partially or wholly on public charity as lepers. This, though I believe to be incorrect, and below the actual number to be found in Pooree, still may be looked upon as a near approximation to the truth.—(*Mr. Durant.*)

Benares.—The leper asylum contains an average of eight patients. They generally come when unable to go about begging, as they prefer the comparative freedom of wandering mendicants to the confinement of the asylum. They generally leave the asylum as soon as they are able to walk about without pain. There are at present 10 lepers; their ages vary from 16 to 50, and duration of disease from four to about 30 years.

Agra.—"The daily average for the last year, 1862, maintained in the leper asylum here (supported by charitable subscription), was about 50."—(*Dr. Murray.*)

Lahore.—In this, the district of Lahore, there used to be maintained for some time past about 15 lepers in a day, who are now transferred to the leper village at Torunturun, a place about 40 miles from here, situated in the sister district of Umritsur.

Bangalore.—The usual number of lepers maintained in the asylum is about 33 to 34, and the relief is meant to be confined to lepers belonging to Bangalore and its immediate vicinity. The numerous lepers all over the Mysore country are unprovided for by the Government, and must be maintained either on their private means or by the charity of their neighbours.

At *Singapore* there are about 32.

* Dr. Hjorth considers that the number of lepers in the island is double that assigned by Dr. Brunelli. In a valuable paper by Deputy Inspector Dr. Smart, R.N., who, while serving with the Mediterranean fleet in 1851-52, took the opportunity of examining into the prevalence of leprosy in Crete, the number was then estimated at certainly not less than 900, of whom about two-thirds were assembled in the leper villages, and the remainder were either residing with their families, living in places of concealment, or mixing unsuspected with the inhabitants. He gives a table, enumerating the districts of the island where the disease chiefly prevails, and the estimated number of resident lepers in each.—*Medical Times and Gazette*, 1853, Vol. II.

14.

Have you reason, from personal knowledge, to believe that the disease has been of late years,—say during the last 15 or 20 years,—on the increase in the colony of or otherwise?

And if so, please to state what, in your opinion, may have contributed to its increase or its diminution.

New Brunswick.—There does not appear to be any increase or diminution of the disease in this country.

Bahamas.—From all I can learn, the disease is on the increase in several of the out islands. (*Dr. Chipman.*)

Jamaica.—"That it has been increasing in this city, and in the island generally, during the last 15 years is a fact well known to the public, and to the profession.

"The transmission of the disease by the sexual intercourse of the lepers may be one of the important causes of this increase; and the degraded condition of the majority of the people in their dwellings, food, and mode of life must tend to produce a dyscrusia of the blood, and to foster the development of leprosy."—(*Dr. Fiddes.*)

Antigua.—After emancipation, in 1834, it appeared to be on the increase; but I believe this was owing to cases coming more before the public which had formerly been kept on the estates.—(*Dr. Nicholson.*)

Barbadoes.—"I do not believe that leprosy has been on the increase in Barbadoes during the last 15 or 20 years. As to its diminution I cannot speak confidently."—(*Dr. Young.*)

"I do not know whether it has or not, but it has been brought more under public notice since emancipation in 1838."—(*Dr. Browne.*)

"I think it has increased of late years, but I cannot ascribe this to any particular cause." (*Dr. Stevenson.*)

Trinidad.—"I have reason to think that it has decreased during the last 12 years, as the number of patients then in the asylum was 60 and more, whereas from that date it has diminished by 8 or 10 per cent."—(*Dr. Saturnin.*)

"It has certainly appeared to me to be on the increase in this colony during the last 20 years."—(*Dr. Murray.*)

"I do not believe that it is on the increase nor that it has diminished. An inquiry was instituted on this subject by Governor Sir Ralph Woodford, confirmatory of this fact."—(*Dr. Anderson.*)

Tobago.—It has not been on the increase, but positively on the decrease; and this has no doubt been mainly dependent on the circumstance of the lower orders being better housed, fed, and clad, and their comparative immunity from depressing mental causes.

Guiana.—"From personal knowledge, I know that it has been on the increase during the last 20 years.

"During the time of slavery in this colony up to August 1838, slave lepers were kept isolated from the healthy; this tended to prevent the disease spreading. On emancipation taking place at that date, the lepers went to live with their friends. Immigration then began, first with the neighbouring West India Islands, and many lepers were introduced. Subsequently, they came here from Madeira, India, China, and Africa, as immigrants."—(*Dr. Reed.*)

"Without doubt, the disease is fearfully on the increase of late years, at least in this part of the colony. The free intercourse and cohabitation are the principal causes.

"On some estates I know several coolies afflicted with it."—(*Dr. Van Holst.*)

Cape of Good Hope.—"From the number of lepers now to be seen in the streets of Cape Town, I believe that the disease is on the increase, owing probably to no steps being taken to segregate the lepers, and separate the sexes in the colony."—(*Dr. Abercrombie.*)

Smyrna.—Forty years ago there was a makallah or parish here full of them; but for the last 10 or 15 years they have all disappeared, in consequence of the better food, clothing, and hygienic condition of the people.

Scio.—No increase or otherwise has taken place within the last 50 years.

Mytelene.—The disease is probably on the increase, from the liberty given to lepers to marry.

Tabreez.—Dr. Cormick thinks, and it is the general opinion, that leprosy has been on the increase of late years.

Mauritius.—"In 1781, there were 12 white and 59 black lepers in the island, according to the official memoir of Drs. Deschamps and Rochard; since then no statistical inquiry has

been made. The disease has spread more and more, and I am certain that there are at this time several thousands in the colony. During my practice for the last seven years I have observed a degeneracy of the native population, attributable, I think, to a faulty hygienic condition, coupled with the debilitating influence of the climate."—(*Dr. Regnaud.*)

"It has certainly been on the increase during the last 15 or 20 years; but I do not believe more so than in proportion to the increase of the population. The large immigration from India, all over which vast country leprosy prevails, has also brought an influx of persons infected with the disease."—(*Mr. Ford.*)

Ceylon.—"I have reason to believe that the disease has of late years been on the increase among the better classes of the coloured population. It is, in my opinion, ascribable to imprudent connections with hereditarily predisposed individuals, and to syphilitic taint on the part of the men."—(*T. A. P.*)

"In Ceylon the disease has gradually increased during the past 15 years; and the larger number now in the hospital is, I believe chiefly from the influx of Malabars into Ceylon."—(*T. G.*)

Bombay Presidency.—It is a general opinion that leprosy has not been, of late years, on the increase in this presidency. It is believed in Surat that, since large wages have been given for labour by the railway company, the disease has been slightly on the decrease.

Madras Presidency.—The disease appears to be stationary in this presidency.

Bengal Presidency—Pooree.—From what I can gather from the people and the hospital records, I may state that the disease does appear to be on the increase, though not to any great extent; still, if so, this is a fact of great significance, and shows that whatever circumstances do give rise or are obnoxious to it are more active and sure in their effects now than they were before. Of these I believe I am correct in stating that indigent poverty, caused by severe calamities of season, and the high prices of provisions prevailing in consequence, are the chief.—(*Mr. Durant.*)

Beerbhoom.—I believe that the disease is on the decrease, owing to a greater degree of prosperity among the people of the district generally; and this result, in my opinion, may be ascribed in a great measure to the construction of railways through the district.—(*Mr. Sheridan.*)

Jessore.—From minute inquiries I find the disease has gradually been decreasing in this district for some 20 years, attributable to the clearing away of jungle, drainage, &c., and therefore getting rid of a great deal of malaria; also the country being in a high state of cultivation instead of a swamp inhabited by wild buffaloes, which it was 30 years ago.—(*Dr. Amesbury.*)

Saharunpore.—On inquiry from old residents of the district, it appears that the disease has been and is still on the increase, and the principal cause of this is undoubtedly owing to its direct propagation from parent to offspring.

Sreenugger.—The people of the place entertain a notion that the disease is on the increase, because they see now-a-days leprous persons in increased numbers. Not long ago, here it was a custom to bury alive with some ceremony every person affected with leprosy. A father would bury his son, and a son his father; but, since the English has commenced to rule the district, this abominable practice has stopped. The probability, therefore, is, that persons who by the ancient custom would have been buried are now allowed to live, and the consequence is that leprosy can be seen in a number of persons at the same time.

Budaon.—I believe the disease to have been on the increase during the last 40 years in Budaon, and that the greater prevalence of syphilis during the same period has contributed in some degree to its increase.—(*Dr. Harris.*)

Loodiana.—From the statements of the lepers themselves the disease seems to have decreased in this part of the country of late years. They say that 20 years ago there used to be about 100 lepers at the village. There are now about 25.

Within the last 20 years, since the Punjaub came under British rule, the sanitary condition of the towns, &c., by attention to cleanliness, drainage, widening streets, making roads, &c., has been much improved.

Bangalore.—Though during the last 10 years whilst I have been surgeon to the Mysore commission, and stationed at Bangalore, my opportunities of observation have been considerable, I have not remarked any decided difference in the frequency of the disease; but a Hindoo pundit has informed me he has noticed that leprosy has been considerably more common within the last 20 years.—(*Dr. Kirkpatrick.*)

Straits Settlements.—I have no hesitation in stating it has increased to a serious extent at Singapore, Penang, and Malacca; I have been in these parts upwards of 19 years, and can

speak confidently on this head. I have more than once brought the circumstance to the notice of Government and recommended complete segregation, and I attribute the great increase to neglect of this precaution.—(*Mr. Rose.*)

15.

What results have you observed from the hygienic, the dietetic, or the medicinal treatment of the disease? Does leprosy ever undergo a spontaneous cure? and if so, at what stage of the disease?

Are you aware what proportion of the leprous poor treated at the public expense in the colony recover wholly or partially?

New Brunswick.—The general health of the patients now in the lazaretto is greatly improved, from daily out-door exercise, the use of caustic and sulphuretted baths, and a nutritious and unstimulating diet. The plan of treatment I have adopted is that laid down by Drs. Danielsen and Boeck.

There never has been an instance here of a spontaneous cure, nor have there been any of complete recovery. Some cases have partially recovered, but the disease has always returned in a more serious form.—(*Dr. Nicholson.*)

Jamaica.—In the majority of cases, treatment is unavailing. In the earlier stage of the tubercular form, benefit is occasionally derived from hydropathic treatment, and by the application of the tinct. iodinii to the affected parts, and the use of the iodide of potash internally. Flannel should be worn next the skin, and all hygienic means to improve the general health be strictly observed. I have seen a few, but very few, cases where the disease has undergone a spontaneous cure.—(*Dr. Fiddes.*)

Antigua.—Arsenic is the only remedy which in my practice has had any effect in arresting the disease, and that only for a time. I have seen the tubercles disappear under its use, sensation restored to fingers that were incapable of feeling and using a needle, so that the patient was enabled to sew; yet the disease returned and proved fatal.—(*Dr. Nicholson.*)

Barbadoes.—None of the leprous poor in the lazaretto have recovered, wholly or partially, during the nine years I have had charge of it; nor have I ever heard of a spontaneous cure of the disease.—(*Dr. Browne.*)

I never saw a spontaneous cure of true leprosy. It can, however, be modified by hygienic regime and medical treatment, at least in its very earliest stages. When it is fully developed, all treatment seems useless.—(*Dr. Stevenson.*)

Trinidad.—During 40 years' extensive practice in this colony I have observed great benefit, and even cures, derived from treatment and regimen, when resorted to in the early stage of the malady. I have never seen a spontaneous cure.—(*Dr. Anderson.*)

Guiana.—Lepers in poor circumstances are especially benefited by proper hygienic and dietetic treatment; the disease often becomes mitigated thereby. Medical treatment may afford relief and suspension, but no cure, of the malady. It is possible that leprosy may undergo a spontaneous cure, but only at the earliest stage, previous to any ulceration.

None of the patients have recovered wholly; many, having the disease in its different forms, have had it stationary for months and years.—(*Dr. Reed.*)

I have no faith in any attempts at mitigating or curing leprosy; the only remedy available, in my opinion, is absolute isolation.—(*Dr. Pollard.*)

Cape of Good Hope.—Lepers never recover; but good food, pure air, cleanly habits, with tonics and stimulants, do a very great deal to retard the progress and mitigate the severity of the disease.—(*Dr. Ebden.*)

Crete.—Dr. Hjorth believes that it may be reasonably hoped to cure the malady in its precursory stage, and even to arrest its progress at a more advanced period, provided a radical change in the diet and general condition of the patient be insisted on. Without this all medication must be useless.

Tabreez.—Dr. Cormick believes the disease to be incurable in its confirmed state. At the commencement it may be arrested by generous diet conjoined with tonics. Sarsaparilla with bichloride of mercury is useful. Has seen great good in two cases from goat's milk whey taken of a morning, with generous diet and great attention to cleanliness.

Mauritius.—I have found that good food, an airy dwelling, and the use of chowmogree oil, appear to render the progress of the disease slower, but nothing more. I never saw or heard of any case of spontaneous cure.—(*Dr. Bolton.*)

The daily use of cold baths, a nourishing diet, principally of milk, the use of flower of sulphur with the food, &c., have to me seemed to be of use.—(*Dr. Regnaud.*)

Ceylon.—Medical treatment in all its forms, hygienic and dietetic, may occasionally arrest or protract the disease in its premonitary and incipient stages. It may prevent the progress of the disease to its more loathsome and severe forms, or render it stationary; but it never effectually cures the disease after it has once developed itself. It never undergoes a spontaneous cure.—(*T. A. P.*)

Bombay Presidency.—Several of the observers speak with some degree of confidence of the power of hygienic and dietetic measures in arresting, or even promoting a cure of, leprosy; but all concur as to the utter inefficiency of medicinal treatment.

Madras Presidency.—The general testimony of all the medical officers not only settles the inutility of drugs from which great benefit was expected, but it shows that considerable improvement in the general physical condition of the patients may be secured by placing them in favourable hygienic conditions. Good food, pure air, a rigid attention to cleanliness, and a certain amount of bodily exercise, certainly contribute more than anything else to ameliorate the health of lepers; and if the Materia Medica be indented on, it should be for such medicines as are calculated to improve the quality of the blood. Chalybeates, the preparations of iodine and iron, and cod-liver oil, promise the most benefit as internal remedies; while anointing the dry and fissured skin with emollient oils, the use of sulphur vapour baths, and the application of calamine cerate, astringent lotions, water dressing, or calaplasms to sores, according to the circumstances of each case, seem the external measures especially indicated. Reference has been made to the intercurrent attacks of other diseases, such as dysentery, diarrhœa, albuminuria, and pulmonary affections, to which these poor invalids are more or less liable, and which demand other and appropriate treatment; but, looking to the peculiar abnormal condition of these patients, it is scarcely necessary to insist on the cautious and sparing employment of such an atonic and depressing drug as mercury, and one also which operates so powerfully in reducing the proportion of red corpuscles in the blood.

Bengal Presidency.—Benefit no doubt is derived from careful attention to hygiene, diet, and medical treatment.

Preparations of iron, arsenic, creosote, the madar, are useful, but especially a change of locality.

I have never known leprosy undergo any spontaneous cure, so long as the person afflicted resided in the same place; but I have known European lepers benefited and in the end relieved by making the voyage to England, and remaining in the country some time under treatment.—(*Dr. Jackson.*)

Moorshedabad.—Good food, suitable clothing, and protection from the inclemency of the weather, have a most beneficial effect on many cases of leprosy.

Pooree.—The effect of pure air and good diet combined is no doubt remarkable in keeping the disease to a certain extent under control, as may be seen from the fact that, immediately the patients leave the hospital and go back to their dirty hovels, and live on all kinds of bad and impure food, the sores which had healed over for some time, and showed no tendency to break out afresh, inflame and ulcerate again, with a tendency to increase and implicate other structures, all going on as badly as before.

Malda.—I have known it to be much benefited by cleanliness, generous diet, and general tonic treatment, and free and fresh circulation of air; and by the use of baths of fresh or tepid water, frequently repeated according to seasons.—(*Mr. Thompson.*)

Midnapore.—In lepra anæsthetica I have found counter-irritation along the course of the spine most useful. I usually apply it after the native fashion; viz., by application of a heated iron; and the sores resulting I either keep open for some time, or else renew them in an adjacent spot; and under this plan of treatment, combined with one or more of the remedies above mentioned, sensation very soon becomes restored, and the patient is comparatively cured; but I should hesitate to say that I have ever seen a perfect cure, as I believe the disease is very liable to recur.

Leprosy, I believe, never undergoes a spontaneous cure. It remains, however, in abeyance for many years in some cases.—(*Mr. Kendall.*)

Meerut.—I have observed considerable improvement in the general condition of the patients by placing them in favourable hygienic conditions. Good food, fresh air, sufficient clothing, moderate exercise, and the cold shower-bath certainly contribute more than anything else to ameliorate the health of leprous persons. Under these they gain flesh, their skin assumes a more healthy appearance, and their lives are in a great measure rendered more comfortable, but they never perfectly recover.—(*Nund Coomar Mitter.*)

Sreenuggur.—Residence in colder climates, cleanliness of body, ease of mind, avoidance of animal food of every kind, and restriction to nutritive unstimulating farinaceous food, have been observed to be beneficial. When a leprous person takes animal food here, the disease increases within twenty-four hours, and the suffering of the person becomes very great. Medically, cod-liver oil and arsenic, when there are no signs of active cutaneous inflammation, are the only medicines that have been found productive of good in the patients that attend the out-door of the Government charitable dispensary in the district, for some time with perseverance.

Bhutteeana.—The disease appears to be aggravated by the bad plan of treatment adopted at first by the native quacks. By them the preparations of mercury, particularly the corrosive sublimate, are administered without the slightest hesitation. Venesection is also carried on to extreme by them. Frequent purgation and low diet are also enjoined, to add to the sufferings of the poor and unfortunate victim.

Loodiana.—Some of those least and most recently affected have been tolerably regular attendants at the dispensary, and by tonics, dilute nitric acid, and chiretta, slightly stimulating embrocation to the diseased skin, daily bathing, and general attention to health, they have certainly improved in condition.

Bundelkund.—Great temporary improvement is generally observed from general tonic and local stimulating treatment, but no complete cures have been observed. This refers to the treatment found to answer best in asthenic cases, which alone have come under my observation.

Khatmandoo.—In the early stages of the disease, before swelling and ulceration of the integuments have taken place, I have seen many cases apparently cured by the continued use either of arsenic in small doses combined with potash, or of the ferruginous tonics, especially the sulphate and iodide of iron, strict attention being at the same time paid to all means likely to improve the blood and strengthen the general health. I have seen many instances in which the disease has been greatly aggravated, and the most frightful sloughing induced, by the indiscriminate and profuse administration of mercury by native practitioners. In all these cases hydriodate of potash is the proper medicine to employ, and I have often used it with the greatest advantage. The natives of the country believe that animal food, as well as salt, pepper, and any spices which are eaten in a dry state, should be avoided by all persons affected with leprosy; and they recommend the free use of milk, a very sparing use of rice, and only such condiments as ginger, or other spices as require to be cooked before they are eaten.—(*Dr. Oldfield.*)

16.

What is the estimated population of the colony of ? and when was the last census taken?

Is there a general and uniform registration of births and deaths, including the causes of death? and if so, how long has such a registration existed?

New Brunswick.—By the census of 1862, the population was about 252,047.

There is no such registration, although this important requirement has been frequently urged by medical men on the attention of the Legislature.

Bermuda.—By the census of 1861, the population was 11,450;—the whites 4,624, and the blacks 6,826.

There is no such registration.

Bahamas.—By the census of 1861, the population was about 35,000.

There has been a general registration (including the causes of death?) for about 10 years.

Jamaica.—By the census of 1861, the population was 441,264;—whites, 13,816; coloured, 81,074; and blacks, 346,374.

There is no such registration. A few years back an Act for this purpose passed the Legislature, but its provisions were not complied with, and it was repealed.

Tortola.—By the census of 1861, the population of the Virgin Islands was estimated at 6,051;—whites, 476; coloured, 1,557; and blacks, 4,018.

Such a registration commenced on 1st January 1859, and has existed up to the present time.

St. Kitts.—By the census of 1861, the population was 24,440.

Within the last four years such a registration has existed; but no provision being made for the compulsory medical certification of the causes of death, it is worthless as a record.

Nevis.—By the census of 1861, the population was 9,800.

There is a general registration (including the causes of death ?) established since 1860.

Montserrat.—By the census of 1861, the population was 7,645.

Such a registration (including the causes of death in cases attended by a certified practitioner) has been in operation since 1861.

Antigua.—By the census of 1861, the population was 36,412.

For the last six years there has been a uniform registration, including in some cases the causes of death (*vide* Appendix, p. 209.)

Dominica.—By the census of 1860, the population was estimated at 25,527.

The Act for the registration of births, marriages, and deaths came into operation in 1860. The alleged causes of death are reported, but they cannot be relied upon, from the want of medical attendance in the majority of cases.

St. Lucia.—The estimated population is 26,675.

There is no such general registration.

St. Vincent.—By the census in 1862, the population was estimated at 31,755.

There is no such registration.

Barbadoes.—By the census of 1861, the population was 152,727; — whites 16,594; coloured, 36,138; and blacks, 100,005.

There is no registration of the causes of death. It is much to be desired, as numbers die without any medical treatment.

Grenada.—By the census of 1861, the population was 31,990.

There is no general registration.

Tobago.—By the census of 1861, the population was 15,410.

There is no such registration. A measure of this kind would be of great public utility.

Trinidad.—By the census of 1861, the population was 84,438.

A general registration was established in 1847, and put in force in 1858. The causes of death may be ascertained at the office of the Registrar-General.

Guiana.—There is no registration of births and deaths.

The people of British Guiana, by the census of 1861, was :—

Country of Demerara, exclusive of George Town -	- 62,195
„ Essequibo - - - -	- 27,959
„ Berbice - - - -	- 24,119
George Town, the capital - - - -	- 29,174
New Amsterdam and Stanley Town - -	- 4,579
	148,026

About four years ago a person was appointed as Commissary of Population, but after a short time the office was abolished. Such an officer is much wanted.

Cape of Good Hope.—The estimated population is about 320,000; but no census has ever been taken.

There is no such registration, and therefore no correct data to judge of the mortality from any disease.

Sierra Leone.—By the census of 1860, the population was 41,497.

A uniform registration of births and deaths, including the causes of deaths, has existed since 1857.

Corfu.—By the census of 1860, the population was 72,967.

Since 1841, medical certificates were furnished to the Health Department, and a regular register is kept in which the particulars of death are inserted.

Mauritius.—By the census of 1861, the population of Mauritius was estimated at 310,050; of the Seychelles, 7,486; and of the other islands, 1,569.

The births and deaths are regularly registered, and the causes of death assigned by the relatives of the deceased, but without any medical certificate, except in the case of hospitals and prisoners.

Hong Kong.—By the census of 1861, the population was 119,321.

There has been a registration of births and deaths (including the causes of deaths) from the foundation of the colony.

Victoria.—By the census of 1861, the population was 540,322.

Since 1853 there has been a uniform registration including the causes of death throughout the colony. (*Vide* Appendix, p. 224.)

New South Wales.—By the census of 1861, the population was 250,860.

Since 1856 there has been a uniform registration, (including the causes of death,) and an annual return is published. (*Vide* Appendix, p. 223.)

Tasmania.—An Act for the registration of births, deaths, and marriages, has been in force since the close of 1838. Within the last few years, it has been systematically carried out on the plan of the Registrar-General in England, owing chiefly to the zeal and ability of Dr. Swarbreck Hall of Hobarton.—(*Vide* Appendix, p. 224.)

No case of leprosy has been met with in Tasmania.

Ceylon.—In 1861 the estimated population was nearly two millions. I am not aware whether any census was ever taken. The number stated above was ascertained for the purposes of the Road Ordinance.—(*H. D.*)

There is no registration of births and deaths; but a bill is in the course of preparation at the present session of the Legislative Council, for a Registration Act to supply the desideratum long felt in the island, and which has always been an acknowledged source of difficulty in the drawing up of any vital statistics.—(*T. A. P.*)

Bombay Presidency.—The population of the British States under the Government of Bombay is estimated to be 11,790,042, and that of the Native States in the Presidency at 4,460,370. Little use, however, can be made of these figures. An approximate census of the city of Bombay was taken in May 1849, and the population was then estimated at 566,119; but little reliance, however, can be placed on these figures, as the population is remarkably fluctuating, and the numbers must have increased since 1849.

There is at present a complete and well-arranged registration carried on in the city of Bombay, which would seem to leave little to desire on this score. It was commenced, for deaths at least, in 1848; and since that date to 1860 inclusive (12 years), no fewer than 543 deaths from leprosy have been registered, being an average of 45 per annum.

Madras Presidency.—In consequence of the want of statistics, the reporters are unable to answer that important interrogatory, where it is asked to give the number of lepers, and the population in the townships and districts in which it most prevails.

Calcutta.—The estimated population of the city at the census taken in 1850 was 415,063.

There is no systematic registration of births and deaths.

Pooree.—The present estimated population of the town of Poorce or Juggurnauth may be given at 28,000 or 30,000 souls; and out of these the number of lepers, as they are seen, at 300 at least. More no doubt could be found; but, owing to the indoor confinement of females, &c., which is common to all Indians, the exact number cannot be arrived at.

The population of these provinces, when the census was taken in 1854, was 29,000,000.

Births and deaths are not registered.

Furruckabad.—The last census of this district was taken in 1851–52; the population then numbered 877,475. A new census is now (March 1863) in course of being taken. The number of lepers is estimated at 418, of which number 401 are males.

Lahore.—The population of the district of Lahore, extending over an area of 3,608 miles, was ascertained by the census of 1854 to be 649,447 souls.

There is no register of births or deaths kept up either here, or in any other part of the Punjaub.

17.

Can you state the name of the townships or districts in which leprosy prevails most, and give the number of lepers, and the population in each of such townships or districts?

Please to add any other observations which you believe may serve to throw light upon the predisponent or exciting causes of the disease, or which may bear on its prevention, mitigation, or cure.

Any documents, printed or not, descriptive of the disease, as it has been observed at any time in the colony of ————, with any reports of post-mortem examinations, or any pictorial illustrations, will be acceptable; also copies of the Annual Registration Returns, and of other works bearing on the vital statistics of the colony.

New Brunswick.—Dr. Benson, in an official report in 1862 to the Lieutenant-Governor of the colony, remarks:—"If it is allowed that the disease is hereditary, no material "benefit can arise to the province from the foundation of a lazaretto, with the expectation "of arresting the malady, as your Excellency will perceive that in several cases the patient "leaves a family of several children at home to propagate the disease after his death, and

" that hundreds of relatives are likely to be inheritors of the family curse. That it is a " most useful institution, when used as an asylum for the unfortunates, is fully borne out " by the manifest improvement in their general appearance, and by the diminished rate of " mortality among them since Dr. Nicholson has been stationed at Tracadie."

The despatch of the Lieutenant-Governor to the Duke of Newcastle contains the account of a visit paid by him to the lazaretto in 1862. Therein he says:—" There is something " almost appalling in the thought, that from the time of his admission until his death, a " period of perhaps many long years, a man is condemned to pass from youth to middle life, " and from middle life to old age, with no society but his fellow-sufferers, no employment, " no amusement, no resource, with nothing to mark his hours but the arrival of some fresh " victim, with nothing to do except to watch his companions slowly dying around him." And he adds, " It certainly appears to me that no person should be committed to the " lazaretto until a competent medical authority has pronounced him to be really suffering " from the disease, more especially as there are other disorders which to an unskilled eye " present nearly the same symptoms as those which attend the earlier stages of leprosy."

Jamaica.—In the letter of the Mayor of Kingston to the Secretary of the Government, it is stated:—" There are a great many persons in this city labouring under the loathsome " disease of leprosy, but there is no asylum or place provided by the public for their " reception or accommodation . . . . . The re-enactment of the 23rd Vict. c. 8 (*see* 26 Vict. " c. 5.), and the appropriation of 2,000*l.* per annum for a leper's home will, I trust, enable " the Government shortly to provide for the accommodation of persons for whom the deepest " sympathy is felt by the authorities of the city."

By Clause XII. of the Act, power is given to policemen, constables, &c., to apprehend any person deemed to be " afflicted with leprosy, or yaws, or other disease akin thereto," who may be found loitering about the streets, or living as a vagrant, and on a medical certificate, take him or her to the asylum, to be there detained under care and treatment.

Trinidad.—By the dispatch of the Governor to the Duke of Newcastle, July 7th, 1863, it appears that the Island Ordinance of 1841 (wherein the disease is declared to be contagious,) " for establishing an asylum for indigent lepers and providing for their cure, maintenance, and " support," is still in force. By the fifth section it is enacted that lepers wandering about, begging alms, &c., are liable to be apprehended and removed to the asylum by a magistrate's order, and there detained until he or she shall be discharged by the authority of the Governor. Any one aiding in the unlawful removal of an inmate from the asylum is liable to fine or imprisonment.—(*Vide* Appendix, p. 207, 208.)

Guiana.—I am sorry that I am not in a position to give such information as would elucidate the many and important queries submitted by the Royal College of Physicians ; and I much fear that this want of knowledge of a disease, which by the great majority of the community is believed to be on the increase, is but too general amongst the medical practitioners in this community. I have never heard of any one having made a particular study of leprosy.—*Dr. Magnet.*

As leprosy is considered generally a contagious and hereditary disease, admitting that there is a predisponent tendency to imbibe and develope it, its prevention must be a matter of police regulation, by enforcing the perfect isolation of the lepers from the healthy population. —*Dr. Reed.*

Syria and Palestine.—Consul Skene of Aleppo remarks that " Damascus and Jerusalem " afford the best field for the observation of leprosy, and reports of medical men from these " districts would be highly valuable."

The cities in which there are leper houses are Damascus, Jerusalem, Nablus, and Ramley.

Rhodes.—Dr. Mazzinghi remarks, " As long as lepers are left in a worse hygienic state " than the rest of the inhabitants, with the want of cleanliness, good food, suitable dwellings " and medical assistance, together with the apathy and indifference of the Government as to " their state, the disease will always remain in its present obscurity."

It is well known that large numbers of leprous poor are left to their fate in many parts of the Turkish Empire.

Scio.—The district that furnishes the greatest number of lepers is the northern, which contains from 15 to 20 villages, with a population of from 15,000 to 20,000. The district is mountainous, the air pure, and the water abundant and wholesome; but the inhabitants are poorer and worse off than the rest of the population, and more exposed to frequent atmospheric vicissitudes. The repeated and long fasts of the Greek religion, occupying almost half of the year, must contribute to the development of the disease among a people so badly off as the Greeks. Among the Turkish peasants, whose life is less laborious than the Greeks, leprosy is extremely rare, although the two live in the same villages. The former practise frequent ablutions, use more animal food, and little, if any, salted fish.

Persia.—In the north of the kingdom, the districts most subject to the disease are Khumsa and Hash-rood, both elevated countries of mountain and plain.

Ceylon.—In Colombo the largest number of lepers is to be found. That town being the capital contains the largest population; and it is not unusual to transfer leprous poor from other districts to Colombo, in order to afford them the comforts of the only Leper Asylum to be found in the colony.

Of this disease, medical men have always found considerable difficulty in ascertaining the causes, and pathology has not afforded any great assistance.

Six photographic portraits of leprous patients are forwarded.

The townships and districts in which leprosy most prevails are in the North-western Province; Colombo, in the Western Province; Galle, Matura, and Ballepittinge in the Southern Province.

Mauritius.—The Governor, Sir H. Barkly, in his despatch to the Duke of Newcastle, January 5th, 1864, remarks:—"It will be seen that no public institution exists, or has ever "existed, in Mauritius for the reception of lepers; and it would appear comparatively useless "to found one now unless under far more stringent regulations—even if seclusion therein "were not made compulsory—than could be adopted consistently with the present position "of the population. In the West Indies the lazarets were everywhere abandoned as soon as "emancipation took place. * * * *

"This (the non-increase of leprosy in proportion to the increase of the population) is "probably attributable to the greatly improved condition of the Mauritius labourer of late "years; and it affords ground, I trust, for hoping that with more generous diet, and "cleanlier personal habits, the disease will gradually die out here as it has done in modern "days throughout Europe."—(*Vide* Appendix, p. 217.)

Bombay Presidency.—On account of the little attention the disease has at any time excited in India (Bombay, at least,) few data exist for the determination of this question.

(1.) The disease is certainly common in most parts of the Concan, particularly to the south and east of Bombay. In some villages, the proportion of one leper to 80 to 100 total inhabitants is certainly not excessive.

In 100 cases of leprosy now in the dhurumsalla, no fewer than 14 came from a small fishing town 10 miles south and the immediate neighbourhood, 12 from a similar locality nearer Bombay, 10 from another more inland, 10 from a similar fishing town of small size, nine patients from two others on the coast, and so on, evidencing, as I think, a degree of prevalence well warranting the attention of both official and professional men.—(*Dr. Carter.*)

Madras Presidency.—There are two excellent papers by Drs. Day and Van Someren on Leprosy, published in the 1st and 3rd volumes of the "Madras Quarterly Journal of Medical Science."

Few satisfactory *post mortems* of lepers have been made; the loathsomeness of the disease, the heat of this climate, and the prejudices of the natives, all conspire to prevent these being frequently instituted.

Bengal Presidency.—Dr. Jackson remarks:—"The malady is held in great dread "by the Europeans and natives, and the more respectable and alarmed of the former have "generally their servants inspected every month by a native doctor, to ascertain if there is "any one affected with the disease. Instances are recorded where the disease has been "sufficient to disinherit a Mussulman from succession to his property. Among the Eurasians "I have known several instances of an engagement to marry being broken off in consequence "of its having been discovered that one of the parties was affected with leprosy.

"The present inquiry will, I have no doubt, be productive of great good, by the attention "of the several local Governments being brought to bear most beneficially upon a class of "their subjects who may now be considered on the whole as outcasts."

Pooree.—Mr. Durant has sent three photographs of lepers, showing the tubercular and mutilating forms of the disease.

No printed books or records of any kind descriptive of the disease as it occurs in this district exist, nor have any other works bearing on the vital statistics of this district ever been written, as far as he is able to find out.

Mozufferpore.—I have made five post mortems upon the bodies of leprous patients, my attention being more particularly directed to the nervous system; and neither in the nerves themselves, nor in the brain and spinal cord, have I been able to detect any lesion, either with the naked eye or by the aid of the microscope.—(*Mr. Macnamara.*)

Hazareebaugh.—Leprosy has been supposed by some to be possibly caused by eating a peculiar pulse called by the natives "teyorâ." Another species of the same dâl has certainly been proved to have a deleterious effect on those who make use of it continuously; I mean

the "kheysari," the chickling vetch or lathyrus sativus; indeed its very name in Sanscrit, "khanjakuri," implies "lame-making."—(*Mr. Delpratt.*)

Patna.—I have no exact data to enable me to reply to this question. That a leprous taint is very common among the rural population of the district of Patna is proved by the following facts:—Within the last six months I have had to examine 2,348 men, intended for the new police of the city and district of Patna: these men appear before me in a state of nudity, with the exception of a cloth about the loins; traces of leprosy are thus easily observed. The average age of the men examined was 23 years. I found a leprous taint or diathesis to exist in one out of every ten, and this proportion was rejected as unfit for service.—(*Dr. Sutherland.*)

Meerut.—In the plains, lepers are vagrants and wanderers, and are seen in every district of the North-western Provinces, but congregate more in certain localities, viz., Hurdwar, Bindrabun, and Benares. Dr. Kirton states that at the station of Mozuffernugger, with a population of 13,000, there are twelve known cases of leprosy, and in the other towns of that district the same proportion is believed to hold good.

Loodiana.—Most of the lepers I have examined said that, after the first year or two or three, they had suffered but little pain from the disease.

But they did complain of the hot weather, and stated that their condition improves, and that they are capable of much greater exertion in the cold weather than in the hot; they seem to feel the heat extremely.

Most of the men, who became affected with anæsthetic leprosy early in life, say that they are impotent; those who became subjects of the disease later in life say that they are affected in the same way, but not to the same extent.

There are no documents, printed or manuscript, describing the disease as it prevailed at any former period; nor are there any works bearing on the vital statistics of the district.—(*Mr. Butt.*)

Nagpore.—Dr. Hende adverts to the great difficulty of obtaining reliable statistical data from the natives, partly because the people cannot understand them, and yet more because they are alarmed at them, fearing that they may be preparatory to another turn of the financial screw, or that they may lead to the withdrawal of some cherished caste privilege or custom, or have some other future object in view.

That this is not an imaginary idea, I may state that when it became known that the inquiry was to be instituted, nearly 200 lepers at once left the city, in consequence of a malicious report having been spread, that, as some prisoners were about to be transported from this beyond sea, the Government wished to catch all lepers and ship them off by the same opportunity.

Akyab.—I may mention a case which I operated upon at an indigo factory in the Nuddea district of Lower Bengal, and in which, on removing the affected part, the left lower extremity at the line of junction of the lower with the middle third of the tibia, no arterial hæmorrhage followed, and the stump healed kindly and rapidly without the application of a ligature. The arterial trunks divided anteriorly and posteriorly were, as blood-distributing agents of nutrition, to all intents and purposes obliterated; and the supply of nourishment having been cut off in this way, nature had removed toe after toe, and was engaged in removing the foot at the ankle joint, when I assisted her with the knife, by removing the useless and troublesome member a little higher up.—(*Mr. Nisbet.*)

Morbid Anatomy.

Crete.—Dr. Mongeri describes the appearances he found in a man, aged 50, who had been 30 years in the lazaret, and had lost all his fingers and toes:—

"The integuments of the body were hard, coriaceous, and covered with brown prominent scales. When these were detached, numerous tubercular elevations, not visible during life, were made apparent. The larynx externally was twice its normal size; the *rima glottidis* was occupied with a mass of tubercles of various size; the mucous membrane of the larynx, trachea, and the bronchi was extremely pale. There was much bloody serum in the thoracic cavity; the right ribs were carious; those on the left side were not affected. The lungs were profoundly diseased. The stomach and intestines were very pale, and numerous tubercles were found in their tissues. The omentum, mesentery, and the abdominal parietes were so loaded with these deposits as to resemble the 'ladrerie' in swine, a very common disease in Crete."

Ceylon.—Dr. J. Davy, in 1816, made a post-mortem examination in one case in a Cingalese, 43 years old, who had been upwards of 14 years affected:—

"The tuberculated parts of the skin were thickened, and each tubercle seemed to be produced chiefly by a thickening of the cutis. The integuments of the lower extremities, and

especially of the knees and legs and feet, were generally thickened; in most places, the true skin was not less than a quarter of an inch thick. Under the thickened layer a layer of fat presented itself, which was also diffused through the cellular membrane between the muscles. Most of the muscles of the leg seemed to be converted into adipose matter, so that very little muscular fibre remained."

Victoria.—In the only post-mortem examination which has been made, Mr. Hutchison found the following appearances:—

"Body extremely emaciated; skin of a tawney colour, dry and corrugated; nose flattened from absorption of the cartilage; small abscess around the larynx, and when the skin was cut into, purulent matter welled out. The epiglottis and internal parts of the larynx were thickened, and the *rima glottidis* was nearly closed; the mucous membrane for some way down the trachea was gone."

Bombay.—Dr. Carter has given, in his valuable paper in the Transactions of the Medical and Physical Society of Bombay, Vol. VIII., "tabulated notes of the history, symptoms, and "post-mortem examination of 16 fatal cases of leprosy, with the dissection of the nerves "of the trunk and extremities."

No special or uniform morbid appearances were discovered in the brain and spinal marrow or in their investing membranes, nor in any of the thoracic or abdominal viscera, with the exception perhaps of the kidneys, which were not unfrequently more or less deeply altered. In four or five instances, there was fatty degeneration of their texture. "In five cases where "death was attributable to chronic dysentery, kidney disease was certainly present in two, and "in a third fibrinous deposit was found; in one of two just referred to abscess of the liver was "present, and opacity of the aortic valves, lining membrane of left auricle, and peritoneum: "these and other facts are of interest, but belonging as they do to the general pathology "of Bright's disease, need not be enlarged on here. I have, I believe, rather under-esti-"mated the frequency of this complication; but the connexion that exists between general "cachexia of the system, so common in the class to which lepers belong, and degeneration of "the renal organs, has yet to be definitely ascertained."

It is in the morbid changes which the nerves undergo in leprosy that the interest chiefly centres. "Enlargement and diminished opacity are the fundamental changes which the nerves exhibit. The general cellular investment, the ordinary seat of neuromatous swellings, inflammatory and other formations, is here but little altered: the amount of enlargement varies from just above the normal size (at the seat of disease, above or below it, the nerve may be smaller than natural) to more than twice that: the colour may be grey, reddish-grey, reddish-brown, or very rarely a dead opaque white: the consistence of all degrees from almost flabby to semi-cartilaginous, but generally firmer than natural; marked vascularity is uncommon; adhesions have been found, but only under exceptional circumstances.

"The cutaneous nerves are altered in a similar manner, but are sometimes less rounded and firm.

"These changes do not occur indiscriminately in the course of the nerves, but make their appearance at certain selected spots; for the compound trunks where they are most superficially placed, for the cutaneous nerves immediately after they have perforated the deep fascia. As regards the former, the nerve-trunk above the 'locus morbi' may be unchanged, below it is usually atrophied, but occasionally almost normal in appearance and structure: the apparent extent of disease may be limited to two or three inches, but it is often considerably more; in both sets of nerves the terminal branches will be found atrophied and pearly in aspect, being, in well-marked cases, evidently incapable of performing their functions."

The following is a detailed list of the nerves which Dr. Carter has found to be affected in his examinations:—

Name of Nerve.	Place of Disease.	Parts supplied.
Supra-orbital (cut.)	After emerging and onwards.	Skin of brows, forehead, &c.
Infra-orbital (cut.)	After leaving foramen.	Cheek, nose, lip, eyelid.
Mental (cutaneous)	Ditto.	Lip, chin, &c.
Superficial cervical (cut.)	After piercing the fascia.	Side of neck.
Great auricular (cut.)	Ditto.	Lobule of ear, &c.
Small occipital (cut.)	Beyond its origin.	Skin behind the ear, &c.
Descending branches of cervical plexus (cut.)	After piercing the fascia.	Skin of chest, shoulder, &c.
Circumflex (compound) cutaneous branches.	Ditto.	Skin of shoulder, arm.
Internal cutaneous (cut.)	Ditto.	Inner part of arm and forearm.
Lesser ditto.	Ditto.	Inner part of arm.
Intercosto-humeral (cut.)	After piercing side of chest.	Ditto.

Name of Nerve.	Place of Disease.	Parts supplied.
External cutaneous (cut.)	After piercing the fascia.	Outer part of forearm.
Musculo-spiral (comp.) its cutaneous branches.	Ditto.	Back and outer side of arm.
Radial (cutaneous.)	Ditto.	Back of hand, outer side.
Median (compound.)	Above elbow and above wrist.	Three outer fingers (palmar surface).
Ulnar (compound.)	At elbow, above wrist, and in palm.	One and a half inner fingers (palmar surface).
Its dorsal branch (cut.)	After piercing the fascia.	Back of hand, inner side.
External cutaneous (cut.)	Ditto.	Outer side of thigh.
Middle cutaneous (cut.)	Ditto.	Front of thigh.
Internal cutaneous (cut.)	Ditto.	Inner side of thigh and knee.
Long saphenous (cut.)	Ditto.	Knee, inner side of leg and foot.
Popliteal (compound.)	In popliteal space.	
Peroneal (compound.)	Ditto.	
Short saphenous (cut.)	After piercing the fascia.	Back of leg, outer side of foot.
Musculo-cutaneous (compound), its cutaneous branches.	Ditto.	Front of leg, dorsum of foot, &c.
Posterior tibial (compound.)	Above inner ankle.	Heel and sole of foot, &c.
Plantar (compound), their cutaneous branches.	In sole of foot	Sole and toes (plantar surface).
Anterior tibial (compound.)	Dorsum of foot.	Inner toes (dorsal surface).

The ulnar and radial nerves in the upper, and the musculo-cutaneous in the lower extremities, are oftenest affected; they supply the dorsum and inner side of the hand, and the dorsum of the foot. The branches of the fifth cranial nerve on the face appear to be least frequently affected.

The microscopic appearances of the diseased nerves are described by Dr. Carter, and illustrative drawings are given.

Skin.—The morbid change "is limited to the dermoid and subjacent tissues, and it consists in the deposit of a plasma in which granules and nuclei subsequently appear: the nerves, vessels, and appendages of the skin being necessarily inplicated, thence result many of the symptoms previously described. This deposit is obviously of the same character as that found in the nerves, and the similarity forms, in my opinion, clear proof of the unity of leprosy, for the pathological changes are also the same in the eruption."

Bones of the hands and feet.—They become affected "only where the nerve-trunks of compound function, or those supplying the deeper-seated structures, are diseased." The destructive changes observed in them consist either in interstitial absorption and atrophy of their substance, or in caries, or necrosis, of the phalanges, &c. These changes are illustrated by drawings of several specimens; the microscopic appearances are also described.

Dr. Carter has not detected any special or distinctive changes in the blood of leprous patients; but he remarks that "the chemical and vital pathology of leprosy has not been even cursorily examined."

The following are the Conclusions on the subject-matter of each interrogatory which the Committee have drawn from an examination of the entire Evidence submitted to them.

1.

The distinctive characters of leprosy are the same in all parts of the world where the disease has been observed. These are certain kinds of cutaneous eruption and discoloration, associated with a tendency to ulceration or the death of the affected parts, and with disorders of innervation, more particularly the impairment or loss of sensibility.

Two forms of the disease are very generally described in the replies, viz., the "tubercular" or "tuberculous" and the "anæsthetic."

Inasmuch, however, as the terms "tubercular" or "tuberculous" might convey the impression that leprosy is allied to *tuberculosis*, it is proposed to designate the first of these forms by the term "tuberculated."

Again, the loss of sensibility is not confined to the "anæsthetic" form of the disease, although this symptom generally occurs earlier and is more marked in it than in the "tuberculated" form.

The arrangement, therefore, of the different forms of leprosy into the "tuberculated" and the "non-tuberculated" appears preferable.

As, however, these forms not unfrequently co-exist, or succeed one another in the same patient, they must be regarded as modifications of one morbid condition.

Among the varieties of non-tuberculated leprosy are included the cases that are sometimes designated "leucopathic," characterised by white spots or blotches on the skin which are more or less decidedly anæsthetic; and also those cases in which the cutaneous eruption consists of circular or annular spots, not unlike those of *lepra vulgaris*, but in which the centre of the spots is anæsthetic, and other distinctive characters of leprosy are present. These two last-named varieties of the disease are more frequently mentioned in the replies from the East Indies than in those from other countries.

In most countries where leprosy exists, the term "leprous" is ignorantly applied to many diseases which cannot properly be regarded as true leprosy.

Hence various chronic maladies of the skin occurring in unhealthy persons living in poverty and neglect of cleanliness are often confounded with it, and the patients, being regarded as "lepers," are treated as outcasts and objects of abhorrence.

Elephantoid enlargement of the lower extremities is also in some places considered as allied to leprosy. The circumstance of the two diseases bearing the same generic name (*elephantiasis*) in medical writings has doubtless contributed to this opinion. They appear to have no real affinity with each other; although both are sometimes endemic in the same countries, and occasionally co-exist in the same patient.

2.

a. The development of the disease is not restricted to any period of life. It appears to occur most frequently about puberty, and from that period of life to maturity; but it has been observed from infancy or early childhood up to 50 years of age and upwards.

Occasionally, but very rarely, signs of the tuberculated form have been seen in the offspring of lepers at or soon after birth.*

An arrested development of the body and various forms of congenital malformation are said to be occasional results of the hereditary tendency to leprosy.

The tuberculated form is said to manifest itself generally somewhat earlier in life than the non-tuberculated form.

* According to the observations of Drs. Danielssen and Boeck, the tubercular form begins to manifest itself generally at some period between 10 and 40 years of age, most frequently between the 20th and the 30th year; and the anæsthetic form between the 10th and the 30th year. But scarcely any period of life is exempt. These gentlemen have seen young children affected with tubercles, and their parents stated that these children had at birth blueish spots on the skin, which subsequently became tuberculous. They have also met with cases of the anæsthetic form at eight years of age; and in these cases, according to the parents, there had been bullæ on the extremities at a very early period of life.

b. Before the appearance of any visible or external symptoms there is often, for a longer or shorter period, a feeling of general malaise. This is obscurely marked and ill-defined, without any uniform or regular course, and is usually indicated by recurrent ague-like chills, occasional feverishness, and sense of internal heat; by pains, or creeping pricking sensations, or formication and itching in the limbs; by a numbness in a hand or foot, or in one or more of the fingers or toes, and by general weakness and depression both of mind and body.

Sometimes, especially in certain cases of the non-tuberculated form, there is in the early stage of the disease an intense burning sensation, and a painful tingling along the course of one or more of the nerves of a limb, increased by pinching or tapping the skin over the affected part, and sometimes accompanied by a dry fissured state of the skin, falling off of the hair, and shrivelling of the nails.

Prior to the eruption of the elevated, discoloured, and shining spots characteristic of the tuberculated form, there is not unfrequently an erythematous redness of the parts about to be affected, generally the face, attended with a feeling of heat or burning, a puffiness of the features, and increased sensibility of the skin. The duration of these symptoms varies much in different cases before the appearance of the characteristic eruption of cutaneous tubera or nodules.

The hyper-æthesia or increased sensibility is invariably replaced, in course of time, by anæsthesia of the affected parts.*

The excessive perspiration from the hands, mentioned by Dr. Jackson as occurring among some of the natives in Calcutta, deserves to be noted as an evidence of the leprous diathesis, if not of the actual disease. This symptom is also noticed by Sir Ranald Martin.

3.

No definite or satisfactory conclusion can be drawn from the evidence received on this part of the enquiry. Much will depend upon the age at which the disease may have first appeared, upon the constitution of the patient, and the circumstances of his condition. What Dr. Carter, of Bombay, says, seems to express the general spirit of the evidence received:—"As the two chief varieties of leprosy appear to be inimical to life in different "degrees, the above questions are not susceptible of a precise answer. Taking, however, "the disease as a whole, its duration may, when not extensive, extend to upwards of twenty "years; it is generally much less, five, ten, or fifteen years being perhaps the usual period; "but there is not to my knowledge, either a limited course, or a uniform termination to the "affection."†

The non-tuberculated form is usually slower in its progress than the tuberculated. In both, the disease sometimes remains stationary for many years, and life is occasionally prolonged to old age; but the arrest of the malady is more frequent in the non-tuberculated form.

Lepers do not usually die of leprosy, but most frequently of some intercurrent disease as diarrhœa or dysentery, or of inflammation of the lungs and air passages. If lepers should

---

* Drs. Danielssen and Boeck, in their description of the anæsthetic form of leprosy, remark, that "there "occurs an excessive sensibility in some spots, accompanied with periodic rigors. This hyper-æsthesia, "sometimes limited to patches of the skin, at other times affects extensive surfaces, as entire limbs and a "great part of the face. It may gradually increase to such a degree that, on the slightest touch, the patient "experiences an almost electrical shock. Every movement causes violent pains, as if he were pricked with "a thousand pin points. * * * This extreme sensitiveness may continue for several years; but eventually "it gradually diminishes until it ceases altogether; and then it is succeeded by anæsthesia of the affected "parts, and this becomes more and more complete."

According to their experience, there are often in the tuberculated form several successive outbreaks and disappearances of the discoloured spots on the skin, after intervals of several weeks or months, or even of a few years, before they become stationary and persistent. These external symptoms have generally been preceded by a constitutional malaise, accompanied sometimes with a slight febrile disturbance of longer or shorter duration. In a few rare instances, the disease set in with sharp paroxysms of fever for a week or two, followed by the eruption of blueish spots on the surface. The case then either lapsed in course of time into the ordinary chronic form of the disease, or the patient was carried off by an attack of pleurisy, pneumonia, or meningitis.

In the anæsthetic form, the formation of bullæ, supervening upon a state of general weakness, lassitude, and depression, is usually among the earliest symptoms. The bullæ (the seat of which is very often the palm of the hand or sole of the foot) burst, superficial ulcers are formed, and these after a time heal. This variety of pemphigus may go on recurring, at short intervals, for a length of time without the general health being much impaired; but its occurrence is an almost infallible premonition of the development of the anæsthetic disease. The appearance, too, of white spots or blotches on the skin is a frequent, but not a constant, precursor.

† Drs. Danielssen and Boeck state that "the average duration of the tubercular form among the patients in "the hospital at Bergen from 1840 to 1847 was between nine and 10 years, and of the anæsthetic form among "the same was between 18 and 19 years. The shortest period in the case of the former was three years, "and the longest period was 22 years; in the case of the latter, the shortest period was five years, and the "longest period was 31 years."

happen to be attacked by the intermittent or remittent fevers of the country, they usually succumb.

Disease of the kidneys, attended with albuminuria, seems to be not unfrequent; and in some cases the patient sinks from general marasmus and atrophy.

The too common destitution and neglect of the sufferers greatly aggravate both the liability to the above maladies and the danger of their occurrence.

It has been remarked that the children of leprous persons are less amenable to medical treatment for other maladies than other children of the same age and condition.

4.

The general belief seems to be that the disease is decidedly more frequent in the male than in the female. It is certainly much more frequently seen among males; but the number of cases brought under observation is stated, by several observers, to be no criterion of the actual frequency or prevalence of the malady, as the women in all the countries where it is most common live much more secluded than the men, and are moreover more unwilling to expose themselves when afflicted.

In some leper asylums in the West Indies, the number of the two sexes is about the same. Several of the respondents are of opinion that the disease occurs quite as frequently among females as among males, and a few state that it is most common among the former.

Of 543 deaths among leprous persons at Bombay during 12 years, 409 occurred in males.*

5.

In hot climates, the disease appears to be very much more frequent among the dark than among the white population. Most of the cases among the latter are said to occur in persons born in the country, or in those who have long resided in districts where the disease is endemic.

In the West Indies, the relative frequency of the malady among the different races is not easily determined in consequence of the small proportion of the white to the coloured inhabitants, and their still smaller proportion to the negroes; and also because when white persons become affected, they are either secluded from society, or remove to another country.†

In Southern Africa the greatest sufferers are stated to be the Hottentots, next the negroes, and lastly the white natives.

In Egypt, the Bedouins are said to be exempt.

In the Mediterranean Archipelago, the poor Greek population appear to be much more frequently affected than the Mohamedans.

In India, all the native races appear to be liable to the disease. The European residents are very seldom attacked, the Eurasians more frequently.

Whether, and to what extent, the members of the Jewish nation are more liable to the disease than other similarly conditioned races are points requiring further investigation. The statements received from Jamaica, St. Vincent, and Cairo, on this point, are at variance with those from Damascus and Bombay.

6.

The great majority of cases of leprous disease in all countries occur among the lowest and poorest of the people; the better conditioned classes are, however, far from being exempt, their liability appearing to vary a good deal in different countries. In a few of the replies it is surmised that the latter are nearly as liable to the disease as the poor.

Leprosy appears to be most frequently met with in low and malarial districts, especially on or near the sea-shore; but it is by no means confined to such localities, as it often occurs

---

* Of 906 leprous patients treated in St. George's hospital at Bergen, Norway, from 1841 to 1846 inclusive, 461 were males and 445 were females.

† "In the asylum at Barbadoes, 27 inmates are black, 18 coloured, and one white. But I am confident," says Dr. Browne, "that the disease is far more prevalent among the white population than the above number "indicates, the aversion to accept the charities of the institution being much greater in that race than in the "others. The number of 18 among the coloured would seem to point to a greater prevalence among them "than among the blacks, the relative proportion (according to the last census) being nine coloured to 25 "black, and the proportion among the inmates of the lazaret being 9 to 13."

in inland and hilly districts; as among the Hottentots, the mountaineers of Lebanon, the inhabitants of the highlands in the north of Persia, and of various elevated regions in Hindostan.

Lepers are more frequently to be seen in towns than in rural districts; being attracted to the former in search of the means of subsistence by mendicancy or otherwise.

With respect to the dwellings of the leprous poor, they are for the most part in every country as miserable and unwholesome as they well can be.

The personal uncleanliness of the sufferers is on a par with the filthiness of their abodes. Ablution of the body seems to be seldom or ever thought of, so that the skin is often encrusted with the impurities of years. Their clothing too, equally foul, is seldom taken off by night or by day, and is kept on as long as it will hold together.

The food of the classes chiefly affected with leprosy is almost invariably described as being poor and innutritious, generally unwholesome, and often quite insufficient in quantity.

The frequent or constant use of fish, much salted, and often tainted or semi-putrid, is perhaps more frequently referred to as a cause of the disease than that of any other article of food. It is pointedly mentioned in the replies from the West Indies, the Cape of Good Hope, Egypt, Crete, Corfu, Calcutta, and Ceylon.

The want or deficiency of fresh meat and vegetables in the diet is very generally noticed.

The consumption of rancid oil in large quantities is believed by some respondents to be an aggravating, if not an exciting, cause of the malady.

In India, the use of certain sorts of pulses, especially when in an unsound or damaged state as they frequently are when eaten by the poor, is widely believed to favour the occurrence of leprous disease.*

7.

All observers agree that an unwholesome and insufficient diet, exposure to atmospheric vicissitudes without sufficient clothing, residence in foul, damp dwellings, and the neglect of personal cleanliness serve to aggravate the disease and to accelerate its progress; and, on the other hand, that it is greatly retarded and mitigated by more favourable conditions in these several respects. Intemperance, sexual excesses, and whatever tends to lower the vital energies and to impoverish or deteriorate the blood are always hurtful. "The mental depression arising from the enforced separation from their families and friends, "and being obliged to live with other leprous persons," are enumerated among the *lædentia* by Dr. Mazzinghi, of Rhodes; and Dr. Bayard, of New Brunswick, mentions that "many of "the lepers in the lazaretto thought their disease was aggravated by their imprisonment on "Sheldrake island."

The use of certain articles of food is believed to be notably hurtful. Besides salted fish, the frequent use of salted pork is mentioned in several of the replies, and "especially of its "grease, of which large quantities from pigs that feed on all kinds of offal are imported "from Calcutta into Mauritius."—(*Mr. Ford.*)

Lepers have assured Consul Rogers, of Damascus, "that oil taken in cookery or in salad "causes great pain, and an increase of the disease."

Among other circumstances which are alleged to aggravate the disease, special mention is made by some observers of the incautious administration of mercury, a medicine which has been often used in its treatment.

8.

There is an almost unanimous concurrence of opinion that leprosy is often hereditary; but that it also frequently occurs in persons in whom no hereditary tendency can be traced,

* In Norway, most of the cases of leprosy occur among the very poorest classes of the inhabitants, and especially among those living round the shores of the deep bays or fiords on the west coast. The huts of the people, generally of but one low narrow room, in which all the family live, with a small window that is not made to open, are usually planted down in a damp site and surrounded with all sorts of filth. Their food consists almost entirely of fish, fresh, or very much salted, meal, potatoes, and badly made cheese. They very rarely can get any fresh meat. The lepers themselves very generally ascribe their malady to constant exposure in the cold, damp, and wet weather of the climate, frequent at all seasons, and especially in the long severe winters. When engaged in fishing, or in pasturing, they often get thoroughly wet to the skin and chilled, without the means or opportunity of drying their clothes or obtaining any warm nutriment. "If "to these conditions we add," remark Drs. Danielssen and Boeck, "that personal cleanliness is very much "neglected among our peasants, we can readily discover causes capable of engendering the disease, where "other circumstances favour its occurrence."

appears to be equally certain. In what proportion of cases the disease is of hereditary origin, it is often extremely difficult, if not impossible, to determine.

Among the children of lepers, the form of the disease transmitted to the offspring is not always that present in the parent. One child of a family may have the tuberculated, and another child the non-tuberculated, form of the malady.

Leprosy is stated not unfrequently to pass over one generation, and to reappear in the next.

In China it is said to become mild in the third generation, and to run itself out in the fourth. For this reason, lepers usually intermarry only with those in whom the same grade or degree of the disease exists; *e. g.* a leper of the fourth generation, having no external appearance of the disease upon him but known to be of leprous descent, will only marry a woman similarly circumstanced; their progeny is then considered free from taint.

That instances frequently occur where one member only of a family is affected, the other members remaining free from any trace of the disease, is obvious from the experience of observers in all parts of the world.

"Sometimes," observes Dr. Regnaud of Mauritius, "certain members of a leprous family "appear to be exempt, but even they not unfrequently exhibit glandular lymphatic swellings, "indicating a slight degree of or tendency to the disease, and the offspring of such persons "frequently become affected."

It is justly remarked by Dr. Imray of Dominica, when speaking of hereditary predisposition, that "as the disease may appear at any age, it would be necessary to carry the period of "observation over the lives of each individual member of a family, in order to determine the "point with precision." *

9.

Leprosy is very generally considered to be a disease *sui generis*, quite independent of and unconnected with any other disease.

The opinion that leprosy may be excited by the poison of syphilis, or that the two diseases are related to each other, is held by several observers, especially those reporting from India. Dr Stevenson of Barbadoes also says that "leprosy is most common in the children "of syphilitic patients."

On the other hand, syphilis is stated to be unknown in the districts of New Brunswick where leprosy occurs, and also to be of rare occurence in the villages of northern Persia, where the latter disease is not uncommon.

Some venereal tuberculated affections in their outward characters appear to resemble very closely cases of tuberculated leprosy, so that the two diseases are liable to be mistaken the one for the other. The diagnosis will of course be more difficult when the two morbid states co-exist in the same patient, as they not unfrequently do in many parts of India and elsewhere.

The yaws is a disease which is not met with in many countries where leprosy is common. It was formerly very common in several of the West India islands, but of recent years it has become comparatively rare.

Scrofula and leprosy are considered by several of the respondents to be allied or congenerous diseases.

---

* Drs. Danielssen and Boeck have given two tables to show the relative frequency of the influence of hereditariness in the cases of leprosy treated in the hospital at Bergen. Of 145 cases of the tubercular form, hereditariness could be traced in 127 instances; and in 68 cases of the anæsthetic form, it could be traced in 58 instances. "From these tables," they remark, "it will be seen that out of 213 leprous patients, the "disease was hereditary in 189 (185 ?), and that in 24 (28 ?) cases only it was of spontaneous development. "Moreover, it will be seen that the hereditariness was more frequent on the maternal than on the paternal "side, and that it was found to be more frequent (plus répandue) in the collateral line than in the direct line. "What deserves particular notice is the mode of its propagation in passing through successive generations. "The singular result is remarked that the disease not only passes over some generations, but that it manifests "itself in the second and fourth generations with much greater intensity than in the first or third "generations. If it has spared the first generation, it as a general rule appears in all the individuals of the "second, who transmit the germ of the disease to succeeding generations. Tolerably often, it seemed to pass "over the second and third generations, and to reappear in the fourth generation, and then to spread in all "directions, so to speak, with a new energy." * * * * "We have already said that leprosy may also "be acquired. We speak of those cases where the malady declares itself in persons born of healthy parents, "in whose families the disease had never been seen, but who have resided, for a longer or shorter period, "in countries where it is endemic, and who have lived under conditions liable to occasion its development."

Owing to the fact that the *Elephantiasis Arabum*, (the "Barbadoes" or "Cochin leg,") is common in many countries where leprosy is endemic, and that in some places it is frequently found in leprous patients, it has been conjectured by a few observers that the two diseases are allied affections.*

10.

The all but unanimous conviction of the most experienced observers in different parts of the world is quite opposed to the belief that leprosy is contagious or communicable by proximity or contact with the diseased. The evidence derived from the experience of the attendants in leper asylums is especially conclusive upon this point.

The few instances that have been reported in a contrary sense either rest on imperfect observation, or they are recorded with so little attention to the necessary details as not to affect the above conclusion.

That leprosy is rarely, if ever, transmissible by sexual intercourse, when one of the parties has no tendency whatever to the disease, is the opinion of the great majority of the respondents who have had the largest opportunities of observation.†

11.

Great diversity of practice exists in this respect.

In many countries, including some British colonies, the slightest ascertained taint of the malady carries with it a compulsory seclusion tantamount to banishment from the rest of the community, or even to perpetual detention in a lazaret.

Where an enactment to this effect exists, it has been found extremely difficult, and often scarcely possible, to enforce its provisions for the complete separation of the diseased.

In most of our West Indian colonies, lepers may be apprehended and detained in an asylum when they are found as mendicants or vagrants loitering about the streets or highways. Enactments for this purpose have been proposed or passed even within the last few years in some of these colonies.

In the villages of Syria, lepers are required to go to Damascus or some other town where there may be a public asylum; and if they will not conform to this rule "they are made to live in a cave or hut outside the village, where they remain in perpetual quarantine."—(*Mr. Rogers.*)

Throughout India, no compulsory segregation of leprous persons is ever attempted, and no restriction or restraint whatever is imposed on their free intercourse with the rest of the population. In Calcutta "they are to be seen at all the bazaars, where some of the "principal beggars are lepers."—(*Dr. Jackson.*)

When the disease occurs in persons of the well-conditioned classes. they very generally seclude themselves or are withdrawn from society by their relations, or they leave the country altogether. So thorough is the conclusion that such persons, living with their families, have often been supposed long dead, even by parties visiting in the house.

12.

The public provision for the leprous poor is almost always scanty and insufficient.

The condition and arrangements in leper hospitals or asylums, where such exist, vary much in different colonies. Most frequently no establishments of the sort exist.

---

* "We hope," remark Drs. Danielssen and Boeck, "that our description of the leprosy has shown that it "is a peculiar disease, which, when fully developed, cannot be confounded with any other. The spots, "indicative of the tuberculous form, have been in the early stages regarded as *pityriasis*; but this confusion "will speedily be cleared up. On the other hand, we have seen cases of this form when such spots existed, "as well as at a later stage when distinct tubercles had appeared, mistaken for a syphilitic affection and "treated accordingly. This error is very serious; for, besides the loss of time incurred in the use of "inappropriate treatment, the administration of anti-syphilitic medicines is apt to occasion very hurtful "consequences, which may speedily lead to the death of the patient. An exact knowledge of the two "diseases will prevent such a blunder."

† Drs. Danielssen and Boeck state, that "Among the hundreds of lepers whom we have seen daily, not a "single instance has occurred of the disease spreading by contagion. We know many married persons, one "of whom is leprous, cohabiting for years without the other becoming affected. At St. George's hospital, "many of the attendants on the inmates have lived there for more than 30 years, and are quite free from "any trace of disease." * * * "As the result of our observations, we have only to deny the contagiousness "of leprosy."

The asylum in New Brunswick is surrounded by a high fence, 12 feet high, to prevent the escape of the lepers during the night. "Its situation is dreary in the extreme. Until of late years the building, called by courtesy a leper hospital, was little better than a mere prison."—(*Lieut.-Governor Gordon.*)

In some of the West India colonies a leper asylum has existed for a considerable length of time; in others one has been established only of recent years. In Jamaica no regular asylum seems to have been hitherto provided. In Kingston, the principal town, a few lepers are lodged in an old building which is "miserably dilapidated and filthy, and the condition of the inmates deplorable. A weekly pittance is allowed them; they spend the day begging about the town, and return to the hovel at night."*—(*Dr. Fiddes.*)

Prior to the emancipation of the slaves, the leprous poor in the West Indies were kept on the estates to which they belonged.

At the Cape of Good Hope, there is an asylum into which are received not only lepers, but also other poor persons afflicted with various chronic maladies, and likewise lunatics. Occasionally, but rarely, lepers are admitted into the general hospital.

In Corfu "nothing is done for their relief; they are left to their misery and sufferings. They are not admitted into the general hospital."—(*Dr. Tygaldos.*)

In Mauritius no provision is now made. Until recently, the leprous poor were sent off to one of the Seychelles Islands, and there treated in an asylum. They are not admitted into the general hospital at Port Louis.

In Victoria, Australia, leprous patients are received into the general hospital.

There are a few special asylums for the leprous poor in the three presidencies of India and in Ceylon. They are also readily admitted into the general hospitals when labouring under any intercurrent disease.

13.

The information on this point is very imperfect, nor does it afford any criterion of the extent to which the disease exists among the poorer classes of the communities enumerated.

In the different West India colonies, the number of leprous persons maintained at the public expense appears to vary from a dozen to fifty or upwards.

In the lazaret at the Cape of Good Hope, the number averages between fifty and sixty.† At Sierra Leone, the number appears to be considerably higher.

---

* The condition of the leprous poor in other parts of Jamaica appears to be much the same as in Kingston:—

"I have alluded, in my letter to the Governor, to the condition in which the victims of this dreadful disease, tubercular leprosy, are left in some parts of the island. I can never forget the painful impression left on my feelings, from the sight of the miserable creatures I saw in the huts near Falmouth. They seemed to be regarded as pariahs or outcasts, to be driven from the fellowship of their fellow creatures, and herd only among themselves. There were between 20 and 30 in number, of both sexes and of all ages, from the grey-haired old negro resting with both hands upon a staff, without any visible or outward disease except as indicated by dirty rags around his ankles, down to the naked child of three or four years of age, seemingly healthy if it was not for the scaly eruption on the face and forehead. The father of the child was there also, with a similar cutaneous eruption. Some had lost fingers or toes; others were affected with an elephantoid enlargement of the leg, and with large spreading sores on their feet and ankles, which were swathed round with filthy rags. There was one case of cancer-like ulceration of the angle of the mouth; already, a considerable portion of the side of the face was eaten away, exposing the teeth and inside of the mouth. Among the group were two old women, and a young one of three or four and twenty years of age. She was well made, and to the eye presented a fine healthy appearance; but she had lost the fingers of both hands down to the metacarpal bones. She sought to conceal the deformity, and could with difficulty be made to reach forth her maimed hands.

"The expense *to the parish* for the maintenance of these poor creatures was, I learned, about 7*s.* a-week for each.

"In the parish of Trelawny there are, in different parts, numbers of persons affected with the disease, as appears from a remonstrant petition addressed by the inhabitants of the inland township of Stewart Town, and now lying before me, to the parochial authorities in March 1848. Mr. Kidd, who gave me the document, stated at the same time that since that date the number of lepers in the district has decidedly increased, and that most of them are living with their families. In other parishes, too, the disease is of frequent occurrence."—*Report on the Cholera in Jamaica, and on the Sanitary Condition of the Island, by Gavin Milroy, M.D.* (Printed by order of the House of Commons, 1853.)

† "The entire number of patients in the hospital near Cape Town, at present is not less than 300, of whom 70 are lepers, 75 are insane, and the rest sufferers from a variety of diseases, blind, lame, and otherwise infirm persons. Among the lepers, only two are of European extraction; but of the other inmates, at least one fourth consists of Europeans,—English, French, Italians, Germans, Danes, Swedes, Hungarians, and even one Turk. * * Some of these, the most pitiable poor creatures, who are deprived of the use of their feet, and have lost all their fingers, so as to be unable to hold crutches, may be seen creeping painfully along on their knees and the palms of their hands to the meeting house. One man, who has entirely lost the use of his lower extremities, actually thrusts himself along in a prostrate posture."—*Reports of the Moravian Missions, for* 1856 *and* 1858.

In Mauritius, where no public provision is made, the number of inmates in the Hospice St. Lazare, which is entirely supported by private charity, has in the course of six years risen from 12 to 52.

The data on this head from the different presidencies of India do not admit of being generalized.

14.

The replies from the different West India colonies on this head do not agree. In some it is confidently stated that the disease has increased of late years, *e. g.* in Jamaica, the causes assigned for the increase being the free "sexual intercourse among leprous persons, and the degraded condition of the majority of the people in their dwellings, food, and mode of life"—(*Dr. Fiddes*); and in Guiana, where the increase is in part attributed to many of the immigrants who have come from Madeira, India, China, and Africa, being affected with the malady on arrival in the colony.

In a few of the islands the disease is believed to have declined within the last 20 years, as in Tobago, where the decrease is ascribed "to the circumstance of the lower orders being better housed, fed, and clad, and to their comparative immunity from depressing mental causes"—(*Dr. Elliott.*)

In several islands the disease is considered to have been stationary during the period mentioned.

A similar diversity of belief respecting the subject of this interrogatory exists in other colonies, and also in different foreign countries. From the general want of trustworthy statistical data, no accurate conclusion can be formed as to the increase or diminution of the malady of recent years.

15.

There is a unanimous accord of opinion that the greatest benefit is derived from the adoption of hygienic measures, and that by improving the general conditions, physical and moral, of the leprous poor very much may be done to retard or arrest the malady in its early stages, and also to mitigate its severity when more fully developed.

Medicinal treatment is universally admitted to be of no avail unless combined with the regular use of a nutritive unstimulating diet, suitable clothing, protection against the vicissitudes of weather, personal cleanliness, and exercise in the open air. There is certainly no medicinal substance, vegetable or mineral, which exerts anything like a direct or specific effect on the malady.

The medicines which have been found most useful are tonics and alteratives; of these the preparations of iron and of iodine appear to be generally preferred. Arsenic is also mentioned with favour by some observers, but it seems to be of more doubtful utility. Certain oils, especially the oil of the *chaulmoogra odorata* and cod-liver oil, are reported to have been given with advantage; also sarsaparilla, mudar (*calotropis*), and other reputed vegetable alterants.

The fact that the free administration of mercury in the treatment of leprosy, and of persons having a leprous diathesis, is liable to be productive of very hurtful consequences has been already alluded to. The immoderate use of the drug by the native doctors of India is known to give rise to most disastrous effects.

The systematic use of baths, simple, saline, or sulphuretted, appears to be decidedly, beneficial.

Counter-irritation over the spine by the application of a hot iron is mentioned as having proved useful in diminishing the anæsthetic symptoms.

The evidence is all but unanimous that leprosy very rarely, if ever, manifests any tendency to a spontaneous cure.* When fully developed, a complete recovery is not to be looked for.

* Dr. Fiddes, in his paper in the *Edinburgh Medical Journal*, relates a case of tuberculated leprosy in which "nature proved adequate to expel the disease, and to remove the tubercles at the same time." After an attack of erysipelas of the entire body, followed by desquamation of the cuticle in large and successive laminæ, "the tubercular elevations disappeared from the face and from every other part of the surface, the "skin being left with slight scars, tender in some places, and rather insensible in others. The deep sinuous "ulcers on the bottom of the feet granulated and cicatrised, and the voice regained in great measure its "natural tone. The beard, eyelashes, and eyebrows were not restored, so that he retained the morbid "peculiarity of his expression, which was increased by the dry and bleeched-like condition of the face, from "want of the unctuous exudation of the sebaceous follicles; but he was relieved of the disease, and was able "soon afterwards to undertake the duties of a Government situation which he held for some years, and "during that time there was no tendency to a relapse. He left Jamaica eventually, so that I am unable to "trace his history further."

It is quite apparent, however, that the progress of the disease may often experience a marked retardation or arrest when the patient is maintained in a favourable hygienic condition.*

16.

It appears that a census of the population was taken in most of the British colonies in 1861.

Very few indeed of the colonies have the advantage of a general or uniform registration of births and deaths, including the causes of death. Of the West India colonies it appears that in several steps have been taken within the last few years to establish such a registration; but as no details have been received by the Committee, it is impossible to state what have been the statistical results. Antigua is the only island from which any report has been received (*vide Appendix*, pp. 209, 211) respecting the annual birth and death rates among the inhabitants. It is very much to be desired, in the interest of the physical and moral amelioration of the West Indian population generally, that similar annual reports should be furnished by all the other islands.

In the Australian colonies of Victoria and New South Wales, and also in Tasmania, a systematic registration of the births, marriages, and deaths, upon the plan of the Registrar-General of England, has been carried out during the last ten or twelve years.

Bombay appears to be the only presidential city in India in which a complete and well arranged registration of deaths is established.

17.

No sufficient information has been received relative to the first portion of this interrogatory.

The reports of post-mortem examinations made by Dr. Carter, of Bombay, are of great interest. They tend to confirm the general accuracy of the researches of Drs. Danielssen and Boeck, who were the first to investigate this field of pathological inquiry, and to whom the profession is so much indebted for the light they have thrown on the nature and medical history of leprosy. We subjoin a summary† of the principal morbid changes which they

* Drs. Danielssen and Boeck have found the internal use of mercury to be decidedly prejudicial in cases of leprous disease; it is liable, they say, to produce a scorbutic state of the system. In conjunction with a regulated nutritious diet, and the use of baths, saline or sulphurous, or of sea bathing, cod-liver oil, together with some preparation of iron, iodine, or arsenic, are the medicaments which in their experience have been most useful. In the anæsthetic form of the disease more especially, the repeated application of the cupping glasses and of moxas along the line of the spinal column has been of marked advantage in relieving the lesions of innervation, whether of increased or diminished sensibility.

On the question as to the cure of leprosy, these gentlemen remark:—"From our experience and knowledge "of the malady we can declare that the more the disease is developed, the more unfavourable must be "the prognosis; nevertheless, far be it from us to say that it is incurable, even in its advanced stage; for we "have seen that nature had brought about a cure in several instances where the patients were grievously "affected."

† *The Tubercular Form.*—In the developed stage of the disease, the corion or cutis vera of the affected parts is tumefied and thickened; on squeezing it between the fingers a yellowish-white, viscid, or gruelly fluid exudes. The sub-cutaneous cellular tissue is infiltrated with a gelatinous or lardaceous effusion, firmly adherent to the corion. The sub-cutaneous veins and nerves are found thickened and enlarged from the deposit of this effused matter on their outer surface. In the advanced stage of the disease, the deep-seated as well as the superficial nerves, especially when lying near to ulcerations, are very much thickened and enlarged, in consequence of the results of inflammation of their sheaths.

The mucous membrane of the nares, fauces, and larynx is swollen, occupied with tubercles, soft, and of a yellowish colour, and often ulcerated. The opening of the larynx is frequently the seat of morbid deposit, so that the *rima glottidis* is sometimes nearly closed up. Tubercles are occasionally found on the mucous lining of the trachea and large bronchi. The cervical glands are occasionally much enlarged.

The substance of the lungs is seldom altered, but the pleura is often much thickened, in consequence of tuberculous deposits in its cellular tissue.

The sub-peritoneal cellular tissue may be similarly affected as the sub-pleural. The mesenteric glands are very generally more or less enlarged. Isolated rounded ulcers are occasionally found on the inner surface of the intestines. The liver is sometimes the seat of the deposit of tubercles. The kidneys are almost always found more or less seriously affected in the advanced stage of the disease, the morbid changes being usually those characteristic of albuminous nephritis.

Within the cranial and vertebral cavities no distinct or uniform morbid changes have been detected, either in the substance of the brain or spinal marrow, or of their investing membranes.

The Anæsthetic Form.—When the disease has been completely developed, and the paralysis of the muscles as well as of the skin has been decided, the skin is often found to be very much attenuated, all the fatty matter to have disappeared, and the substance of the muscles to be atrophied. The cellular tissue in the parts surrounding the seat of ulceration or necrosis is infiltrated with a serous or lardaceous deposit. The nerves which traverse this infiltrated tissue, as well as the deep-seated ones, are excessively swollen; their sheaths are filled with a firm albuminous matter in which the ultimate nervous filaments are imbedded; alterations

observed in the numerous dissections they made of leprous patients who died in the hospital at Bergen.

Photographs of leprous patients have been received from Bombay, Ceylon, and Hong Kong; also from Hong Kong two casts showing the mutilations caused by the disease.

Besides the countries and districts enumerated in the "Abstracts" the following list of those in which "it has been ascertained that leprosy is unknown," at the present time, has been received:—

Nova Scotia.
Prince Edward's Island.
Turk's Islands.
British Honduras.
Falkland Islands.
Gibraltar.
Malta.
Alexandretta and Latakia.
Trebizond.
St. Helena.*
Natal.
Labuan.
Western Australia.
Queensland.
Tasmania.

It seems far from improbable that the disease may exist in some of the above-mentioned places, although the fact was unknown to the respondents.

The diffusion of the malady in various regions of the world, not comprehended in the present inquiry, is shown in the "Sketch of its geographical distribution at the present time," given in the Appendix.

Its continued prevalence in some provinces of a few countries in Europe while it has, for several generations, disappeared from other countries which were once infested with the disease, is a fact of much significance in respect of the probable causes that favour its development and persistence. The Scandinavian peninsula affords a signal example. In a portion of Norway it appears to be as rife as it ever has been†; whereas the conterminous country of Sweden is comparatively exempt. Several districts in the south of Europe—in Spain, Portugal, and Italy—are still affected with it to a considerable extent.

A few rare cases of indigenous origin have been met with in the British Islands during the present century;‡ but by far the majority of the examples of the disease which have been recognized recently in this country have occurred in persons who either had been

---

which are considered to be the result of inflammation of the nerves, and are identically the same as those which are found in the tuberculous form of the disease. Under such circumstances, the axillary and inguinal glands are often much enlarged.

The central organs of the nervous system are usually the seat of notable morbid changes. These appear to consist chiefly in congestion of the posterior or dorsal veins of the spinal marrow, effusion of an albuminous serum within the arachnoid membrane and between it and the dura mater, adhesion of the arachnoid membrane to the pia mater, and consolidation or hardening of the substance of the spinal cord at the part affected. Generally, it is somewhat contracted in size, and sometimes it is so atrophied as not to be much larger than a quill in its dimensions. The cineritious substance is much altered in aspect, having acquired a dirty yellow colour, so as to resemble a good deal the medullary substance. The roots of the nerves within the vertebral canal are invested with albuminous exudation. Sometimes the axillary and the ischiatic plexuses, and the principal nerves issuing from them, are found to be visibly atrophied.

The above changes are always most conspicuous in the cervical and the lumbar regions of the spinal marrow.

The morbid appearances discovered within the cranial cavity appear to be similar in character to those which exist within the spinal cavity, but in a much less decided or advanced degree. Whenever there had been well marked anæsthesia of the face, the Casserian ganglion was always found to be the seat of some change. There was usually sero-albuminous effusion around it, and this was sometimes so considerable that the dura mater was distended and bulged out at the part; the nervous filaments of the ganglion seemed to be glued together by the exuded matter.

With respect to the condition of the blood in leprous patients, the most marked abnormal change from the standard of health appears to consist in the excessive quantity it contains of albumen and fibrine; these are precisely the principal elements, more particularly the albumen, in the morbid effusion with which all the pathological alterations, characteristic of the disease, are connected. The same sanguineous dyscrasia is found in both forms, the tuberculous and the anæsthetic, of leprous disease.

* Mr. Fowler, Colonial Surgeon, states, that "a few cases of leprosy have occurred at St. Helena at various "times within the memory of those living, but there are no cases now on the island."

† The number of ascertained leprous patients in Norway in 1858 is stated to have been 2,087.—*Report of the International Statistical Congress* in 1862.

‡ Reference may be made to a case in a youth from one of the Hebrides, admitted into the Edinburgh Infirmary, (*Edinburgh Medical Journal*, July 1855); to a case in Guy's Hospital, described by Dr. Gull in the *Hospital Reports* for 1859 (3rd series, vol. v., p. 147); and to the case related by Mr. Nourse, of Brighton, in the *Medical Times and Gazette*, September 2nd, 1865. A case of the mixed form of the disease, occurring in a poor Irishwoman long resident in London, and who had never been abroad, was received into Guy's Hospital, under the care of Dr. Owen Rees, during the present summer (1866).

born in one of our tropical possessions, or had been long resident there.* Such instances appear to be less infrequent than is generally imagined; and it also seems not improbable that some anomalous forms of intractable skin disease may be vestiges or obscure manifestations of a partially leprous diathesis.

The great extent to which leprosy prevails in many distant dependencies of the British empire, and the inevitable destitution and mendicancy that attend its existence among a population, render its thorough investigation a matter of special duty on the part of the Government of this country. In many regions of India the lepers may be counted by thousands, and in several of our West India Colonies also the number of the afflicted is very large.

As the disease is known to be prevalent in the colonial dependencies of various European countries, and the Committee are not aware that it has been made the subject of official inquiry by any of those States during the present century, they would submit that the attention of other Governments, and more particularly those of France, Spain, Portugal, and Holland, should be drawn to the importance, in the interests of science and humanity, of further investigations being made respecting it.

Much of the obscurity and error which have hitherto prevailed in regard of the malady has unquestionably been owing to the general ignorance as to its essential or distinctive characters, and also to the vague use of the undefined terms "lepra," "leprosy," and "elephantiasis," as well as of such vernacular appellations as "mal rouge," "mál de la rosa," and "coco-bay," &c. Diseases having no affinity either with true leprosy, or with one another, have been confounded together by want of precision in their nomenclature.

The confusion has been increased by the two-fold meaning of the term "lazaret." Originally it denoted exclusively an asylum for lepers, who were believed to be objects of peculiar care to St. Lazarus; but subsequently it was applied to all places for the detention of persons labouring under infectious distempers, especially the oriental plague, and who were enjoined to be kept apart from the rest of the community for a specified period. The popular belief as to the contagiousness of leprosy,—which is not unfrequently spoken of as "the plague of leprosy,"—thus became more rooted than ever.

With respect to the employment of measures for the compulsory segregation of leprous persons, the opinion expressed by the Committee in their communications to the Colonial Office on May 21 and July 20, 1863 (vide p. iv.) has been much strengthened by the evidence subsequently received.

That leprosy is essentially a constitutional disorder, indicative of a cachexia or depraved condition of the general system, and manifesting itself by the outward signs described at length in the "Abstracts," and that the hope of extirpating the malady amid a people must rest mainly on the adoption of measures for ameliorating their general health and amending their physical condition, can scarcely admit of doubt.† The experience of the past appears to point, in an unmistakeable manner, to an improved diet, as one of the principal factors in its gradual decline and eventual cessation in most parts of Europe. During the middle ages, and down to within the last hundred or hundred and fifty years, the food of the mass of the people was generally unwholesome and innutritious. The scarcity of fresh meat and the ordinary consumption of highly-salted meats, scant supply of fresh vegetables and fruits, and the inferior and often unsound character of the bread in common use, together with extremely filthy habits, could not fail to act injuriously upon the general health, and predispose them to endemic chronic maladies, as well as to the occasional ravages of epidemic disease. It seems indisputable that, as the agricultural and horticultural condition of Britain advanced, and the diet of the working classes was bettered by the more frequent and abundant use of fresh animal and vegetable aliments, and of more wholesome cereals, leprosy became less and less common, until it altogether disappeared, except in scattered and occasional instances.‡ In Ireland, too, notwithstanding

* *Vide* a paper in *Guy's Hospital Reports* (3rd series, vol. ii., p. 141), and also one by Mr. Hutchison in the *London Hospital Reports*, 1865. A well marked case of tuberculated leprosy was admitted into University College Hospital in 1864, under the charge of Dr. Hillier. It is described in the *Transactions of the Pathological Society*, vol. xvi., and at more length in *Dr. Hillier's Handbook of Skin Diseases*, p. 214.

† The question alluded to in the communications from Mr. Erasmus Wilson and Sir R. Martin, (*vide* Appendix,) as to the transmission of leprous disease by vaccination and wet-nursing, is one of special interest to Europeans resident in India and other tropical countries, and calls for a searching examination.

‡ "This happy change (the disappearance of leprosy) perhaps may have originated and been continued "from the much smaller quantity of salted meat and fish now eaten in these kingdoms; from the use of linen "next the skin; from the plenty of better bread; and from the profusion of fruits, roots, legumes, and

the frequent destitution of the people in many districts, the general cessation of the malady since the end of the 17th century seems to show that mere poverty of food, provided this be fresh and wholesome, is insufficient to produce or to perpetuate the disease.

In the case of our vast Indian empire with its 150 millions of inhabitants, the question of the food of the people in its probable relations to the wide spread prevalence of leprosy and other endemic disorders, is a matter of the highest interest in an economical as well as in a scientific point of view. That a marked change in the habits of the native population will ensue upon the increase of diverse industries, the improved cultivation of the land, the less frequent recurrence of famines, and the consequent amelioration of their general condition from year to year, and that better food, better clothing, and better housing, with greater personal cleanliness, will lead to the abatement of leprosy, may be confidently anticipated.

As respects the negro and coloured population of the West Indies, the substitution of fresh animal food for the salted semi-putrid fish, now so largely consumed, could not fail, in conjunction with other hygienic measures, to have a most beneficial effect.

An accurate Registration of Births and Deaths, notifying the causes of the latter, and the regular publication of the results from year to year, are indispensable means for ascertaining the hygienic condition of a people, and for discovering the circumstances which mainly affect it. No satisfactory protection of the public health can be maintained without such a system of statistics. The all but universal want of this important information in our West India Colonies, and in the principal cities of India, will account for the general neglect of sanitary precautions amid their communities, and for the large amount of disease and the excessive mortality which usually prevail among them.

Antigua seems to be the only British island in the West Indies which has established and carried out a systematic record of its vital statistics. The annual reports for 1862 and 1863, given in the Appendix, disclose a grave state of things there that calls for public attention. For the seven years from 1857 (when the registration was commenced) to 1863, the deaths have been considerably in excess of the births, and principally during the three last years. The population according to the census in 1861 amounted to 36,412, of which number 2,556 were whites, 6,619 were coloured, and 27,237 were black. "The decrease in the native population since the taking of the census appears to be 1,068, or at the rate of nearly one per cent. per annum."—*Report for* 1863.

The total number of registered births in 1863 was 1,407; of this number 187 were returned as still-births, or at the excessive rate of 13·29 per cent. of the whole.* The birth-rate for the year (exclusive of the still-born) was 3·35 per cent. of the population, or one birth to every 29·84 of the inhabitants.

Considerably more than half the births (59 per cent.) were illegitimate.†

The general death rate in 1863 was 4·27 per cent., or one death to every 23·53 of the whole population. Among the whites it was 3·91; among the coloured it was 4·89; and

---

" greens, so common in every family. Three or four centuries ago, before there were any enclosures, sown-
" grasses, field turnips, field carrots, or hay, all the cattle that had grown fat in summer, and were not killed
" for winter use, were turned out soon after Michaelmas to shift as they could through the dead months, so
" that no fresh meat could be had in winter or spring. Hence the marvellous account of the vast stores of
" salted flesh found in the larder of the eldest Spencer in the days of Edward the Second, even so late in the
" spring as the 3rd of May."

* * * * *

" One cause of this distemper might be, no doubt, the quantity of wretched fresh and salt fish consumed by
" the commonalty at all seasons, as well as in Lent, which our poor now would hardly be persuaded to touch."

* * * * *

" The plenty of good wheaten bread that now is found among all ranks of people, instead of that miserable
" sort which used in old days to be made of barley or beans, may contribute not a little to the sweetening
" their blood and correcting their juices."—*White's Natural History of Selborne*, 1778.

* Dr. O'Kearney, the registrar and medical officer of the large district of St. John's, remarks:—

"The condition of the labouring class in this district as regards midwifery attendance is deplorable in the
" extreme; in fact, the question may be well raised whether the poor would not be better left to the
" resources of nature than committed, during the trying period of child-birth, to the care of the uneducated
" and mercenary class who make profession of midwifery skill. In the country districts, and also in the
" city of St. John, the midwives generally belong to a class of persons who from age or infirmity are
" incapacitated from other work, and who with equal rashness and ignorance too often have recourse to
" practices incompatible with safety to mother and child. It would be easy to instance cases of examples of
" bad results of recent occurrence bearing upon the important subject should such be required."

† The increasing prevalence of concubinage appears from the following return:—

MARRIAGES.

1836	329	1850	168
1840	554	1857	234
1843	484	1863	163

among the blacks it was 4·12. In some districts, the deaths were in the proportion of 5·2 per cent., or one to every 19·23 of the inhabitants.

Of the total number, 1,624, of registered deaths, 379 occurred among infants of one year and under.

In 1862 and 1863, the mortality was very much above the average of the preceding five years. "The prevalence of small-pox during the greater part of 1862 and in the "beginning of 1863, and the visitation in the latter year of one of the severest droughts "on record have, with perhaps other causes, produced a degree of distress and destitution "never before witnessed in Antigua."

In the latter part of 1863, 1,298 immigrants were imported into the island, and thus the population at the end of that year was raised by 230 above the census return in 1861. But it is obvious that no amount of immigration can permanently compensate for the loss of life from intrinsic causes among a labouring population.

As the condition of other West India Colonies is believed to be similar to that of Antigua,* the whole subject of their hygienic and sanitary relations manifestly requires the serious consideration of the Imperial Government as well as of the Local Authorities.

---

* "The general impression among the best informed is that, for many years past, the population of this "island has not been on the increase, if it has not actually been diminishing, and numerous enquiries which "I made led me to the same conclusion. If such be the case, it is obvious that either an unusually small "number of births takes place, or that there is an excessive mortality. There is every reason to believe that "the latter is the fact. Although the practice of concubinage, which has unhappily of late years universally "prevailed among the negroes, to the general neglect and abandonment of marriage, is always unfavourable "to the increase of the species, it will be found upon enquiry that many of the women are anything but "unprolific. They have a number of children, but few of them live after a year or two. There is certainly "great mortality in early infancy." * * * "I have reason to believe that, in different parts of "the island, the annual death-rate is at least five per cent. of the population, but I found it impossible to "obtain anything like accurate data." * * * "If there be such a waste of human life "continually going on as has been represented in the preceding pages, not to mention the preventible "sacrifice of thousands during the late pestilence, does it not become a question of State policy to consider "what means should be taken to arrest the evil?"—*Report on Jamaica by Dr. Milroy, ant. cit.*, 1853.

THOMAS WATSON, *President.*
GEORGE BUDD.
G. OWEN REES.
ARTHUR FAVRE.
WILLIAM W. GULL.
GAVIN MILROY.
E. HEADLAM GREENHOW.
HENRY A. PITMAN, *Registrar.*

ABSTRACTS

OF

REPLIES TO INTERROGATORIES

PREPARED BY THE

LEPROSY COMMITTEE

OF THE

ROYAL COLLEGE OF PHYSICIANS.

INDEX.

No.		Page
	INTERROGATORIES	i
1.	NEW BRUNSWICK	1
2.	BERMUDA	6
3.	BAHAMAS	7
4.	JAMAICA	9
5.	TORTOLA	15
6.	ST. KITTS	16
7.	NEVIS	17
8.	MONTSERRAT	18
9.	ANTIGUA	19
10.	DOMINICA	21
11.	ST. LUCIA	22
12.	ST. VINCENT	24
13.	BARBADOES	26
14.	GRENADA	34
15.	TOBAGO	36
16.	TRINIDAD	38
17.	BRITISH GUIANA	42
18.	CAPE OF GOOD HOPE	48
19.	SIERRA LEONE	52
20.	TANGIERS.—TUNIS.—TRIPOLI.—BENGAZI.—CAIRO	53
21.	JERUSALEM.—CAIFFA	54
22.	BEYROUT.—CYPRUS	55
23.	DAMASCUS	56
24.	ALEPPO	57
25.	RHODES	58
26.	SMYRNA.—SCIO.—MYTELLENE.—SAMOS	60
27.	CRETE	62
28.	IONIAN ISLANDS (CORFU)	65
29.	SALONICA	68
30.	MONASTIR.—BOSNIA SERAI.—BUCHAREST.—VARNA	69
31.	DARDANELLES.—BRUSSA.—SAMSOUN	69
32.	CONSTANTINOPLE	70
33.	TABREEZ	71
34.	CHINA, JAPAN, &c. (Hong Kong, Canton, Shanghae, New Chwang, Kin-Kiang, Kana Gawa, Formosa)	72
35.	AUSTRALIA (Victoria, New South Wales)	80
36.	MAURITIUS	83
37.	CEYLON	90
38.	MADRAS PRESIDENCY	100
39.	BOMBAY PRESIDENCY	108
40.	BENGAL PRESIDENCY	118
	APPENDIX.	203

Interrogatories prepared by the Leprosy Committee of the Royal College of Physicians.

---

1. Is leprosy known in the colony of ? If so, be pleased briefly to describe it as it occurs there.

a. Are there several different forms or outward manifestations of leprosy? If so, by what names are they respectively known?

b. Are these several forms, in your opinion, only varieties of one common morbid state? or are they specifically distinct diseases, having no affinity with each other?

c. Please to enumerate succinctly the more obvious and distinguishing characters of each form of leprosy which you have seen.

2. At what age does the disease generally manifest itself? and what are usually the earliest symptoms observable?

3. At what period of life, and within what time, does the disease usually attain its full developement? and at what period of life, and after what time, does it usually prove fatal?

4. Is the disease more frequent in one sex than in the other? if so, in what proportion?

5. Is it more frequent among certain races? among the white, the coloured, or the black population? and in what relative proportions?

6. In what condition of society is the disease of most frequent occurrence, and what are the circumstances which seem to favour its developement in individuals, or in groups of individuals?

Please to enumerate these circumstances under the following heads:

a. The characters of the place or district where the disease most frequently occurs in respect of its being urban or rural, on the seacoast or inland, low, damp, and malarial, or hilly and dry.

b. The sanitary condition of the dwellings, and of their immediate neighbourhood.

c. The habits of life, as to personal cleanliness or otherwise.

d. The ordinary diet and general way of living.

e. The occupation or employment.

7. What conditions or circumstances of life seem to accelerate or aggravate the disease when it has once manifested itself in an individual?

8. Does the disease appear often to be hereditary?

Have you known instances where one member only of a family has been affected while all the other members remained free from any trace of it?

9. Have you reason to believe that leprosy is in any way dependent on, or connected with syphilis, yaws, or any other disease?

10. Have you met with instances of the disease appearing to be contagious, in the ordinary sense of that term, i. e., communicated to healthy persons by direct contact with, or close proximity to, diseased persons?

a. If so, in what stage was the malady in the diseased person? Were there ulcerations with a discharge?

b. Please to describe briefly the case or cases of contagious communication which you have seen yourself.

c. Does the disease seem to be transmissible by sexual intercourse?

11. Are persons affected with leprosy permitted in the colony of New Brunswick to communicate freely with the rest of the community? or is there any restriction imposed, or segregation enforced, in respect of them?

12. What public provision is made for the reception and treatment of the leprous poor?

Are they admitted into the general hospitals? or are there separate infirmaries or asylums provided for them?

Please to describe the structural and sanitary condition of such buildings, and the arrangements made for the medical and hygienic treatment of the sick in them.

13. Can you state the number of leprous persons maintained at the public expense in the colony of ?

14. Have you reason, from personal knowledge, to believe that the disease has been of late years,—say during the last 15 or 20 years,—on the increase in the colony of or otherwise ?

And if so, please to state what in your opinion may have contributed to its increase or its diminution.

15. What results have you observed from the hygienic, the dietetic, or the medicinal treatment of the disease? Does leprosy ever undergo a spontaneous cure? and if so, at what stage of the disease?

Are you aware what proportion of the leprous poor treated at the public expense in the colony of recover wholly or partially?

16. What is the estimated population of the colony of ? and when was the last Census taken?

Is there a general and uniform registration of births and deaths, including the causes of death? and if so, how long has such a registration existed?

17. Can you state the name of the townships or districts in which leprosy prevails most, and give the number of lepers and the population in each of such townships or districts?

Please to add any other observations which you believe may serve to throw light upon the predisponent or exciting causes of the disease, or which may bear on its prevention, mitigation, or cure.

Any documents, printed or not, descriptive of the disease, as it has been observed at any time in the colony of with any reports of post-mortem examinations, or any pictorial illustrations, will be acceptable; also copies of the Annual Registration Returns, and of other works bearing on the vital statistics of the colony.

Abstract of the Replies to the Interrogatories prepared by the Leprosy Committee of the Royal College of Physicians.

No. 1.

NEW BRUNSWICK.

1. Leprosy has existed in this province for many years, and has arrested the attention of the Colonial Government upwards of 20 years past. Its first appearance was in Tracadie, a district in the county of Gloucester, bordering the bay of Chaleurs in the gulph of the St. Lawrence; it was brought into the province by a French emigrant family originally from St. Malo in Normandy.

a. I have not seen, and I think I can correctly assert, that there are not any other forms of leprosy in this province. Greek elephantiasis exists in various degrees of severity, and retains its pathognomonic symptoms in all of them.* *Dr. Bayard.*

Greek elephantiasis or tubercular leprosy is the only form known in New Brunswick. It usually appears first with reddish, yellowish, or tawney spots on the skin; and as the disease progresses the face and greater part of the body are beset with tubercles, varying in size from a pea to an olive; these soften, ulcerate, and emit a sanious discharge, and afterwards cicatrise. A kind of dry gangrene attacks the fingers and toes, which drop off at the phalanges, and thus the disease progressively advances to a fatal termination, which is usually preceded by diarrhœa. This is the only form of the disease I have seen. *Dr. Gordon.*

Leprosy has been known in New Brunswick since 1815. How or by what means it was introduced into the country is unknown. There are two forms of this disease here: the tubercular, and the anæsthetic or non-tubercular. I hold them to be varieties of one common state. The tubercular form is characterised by the appearance of yellowish or dark red spots or patches on the skin, usually at first on the head, chest, arms, and legs, and from half an inch to four inches in diameter. Tubercles of different sizes form on various parts of the body, chiefly on the face, eyebrows, nose, or ears. Some of them subside, leaving a whitish cicatrix, much thinner than the surrounding yellowish or dark red skin; others ulcerate, and give rise to ill-conditioned sores. The ears become much thickened with elongation of the helix. The hair falls off from the eyebrows, and afterwards from other parts of the body. The mucous membrane of the mouth, fauces, &c., becomes ulcerated and tuberculous, causing great difficulty of breathing, with excessive fœtor of the breath. There is more or less insensibility of the skin of the affected parts; but this symptom is not so marked as in the next form of the disease, the anæsthetic, in which discoloured spots appear as in the first form, but, in place of tubercles, bullæ or vesicles form, which burst, ulcerate, and heal up, to be followed by fresh crops, which then follow a similar course, perhaps for years. The phalanges of the fingers and toes drop off, followed by great distortion. The anæsthesia is sometimes so great that I have known one of the patients in the hospital burn her hand and arm severely at the stove, without being aware of the injury till told of it by one of the inmates. The insensibility affects the mucous surface of the mouth, fauces, &c. The sense of smell is lost.

(*Dr. Nicholson.*) Resident physician to the Tracadie Lazaretto.

The Greek leprosy is prevalent in the French settlements of Nequac, Tracadie, and Carraquet, situated on the north side of the Miramichi River, and extending up and down the river about 20 miles. It is altogether confined to the French population. There is no other form of leprosy known in the province, that I am aware of.

The disease here generally begins with the appearance of a very fine red rash, mostly in the limbs, which exudes a watery fluid. This very soon disappears, and is followed by a feeling of drowsiness, disinclination for work, and great depression of spirits. At a period of from one to three months, tawny-coloured patches appear (most commonly on the forehead, chest, and extremities), interspersed with white patches. The white patches are perfectly devoid of feeling, and can be burnt or torn without giving the patient the slightest uneasiness. The nails of the fingers and toes assume a white colour, becoming scaley and brittle, gradually break off, and are never replaced. A year or two after the discoloration appears, tubercles form on the face, nose, and hands; sometimes also over the body. These ulcerate

* Dr. Bayard refers to a paper by him in the "Lancet" for January 1850, wherein he has related several cases of the disease.

at different periods, and are covered with a thick blackish crust, very similar to the syphilitic scab. The bones of the nose become carious and exfoliate. The conjunctiva is frequently covered with tubercles, which, ulcerating, penetrate the sclerotic coat, and the eye is evacuated. The fingers and toes then begin to suffer; the toes especially. Sores surround the joints, and, ulcerating deeper and deeper, sever the extremity of the toes and fingers, and joint after joint follow. In the latter stages the bowels are much deranged. The lungs also suffer much, with great difficulty of breathing. The breath is of a peculiarly fœtid smell, evidently resulting from ulcerating tubercles. *Dr. Benson.*

2. From the 7th to the 51st year of age. *Dr. Bayard.*

Most frequently about puberty; but it may occur at any age, from childhood to 50.

The discoloured spots are the first symptoms observable. *Dr. Gordon.*

I believe all ages are liable. The youngest patient I have seen when admitted into the hospital was 9 years; the oldest was 63.

The earliest symptoms are the yellowish spots on the forearms, legs, and face. They are occasionally preceded by a marked alteration of the general health for several years, depression of spirits, lassitude, languor, dullness, and a decided febrile state.

Dr. Nicholson.

At no particular age; earlier probably in those whose intermarrying with diseased families has been most frequent, judging from the cases in the hospital. Thus James M'Graw (a frightful object) is uncle to Stanislaus and John M'Graw. The two latter brothers are of the ages of 13 and 15. Stanislaus was 9 years old when first discovered to be leprous, and his brother was nearly of the same age when attacked. Whereas other patients were 60 years old when first attacked.

The adults generally find the first symptoms come on after exposure to wet and cold.

I have not heard of any very young subjects dying of leprosy.

The duration of life in leprosy seems to depend much on the diet and habits of comfort and cleanliness. *Dr. Benson.*

3. The disease usually attains its full development in 7 years from its commencement. The average duration of life under it is about 14 years. *Dr. Gordon.*

It rarely appears before puberty. From the first invasion of the disease to its full development seems to be from 3 to 7 years; often much longer. The period of life and the time when it proves fatal vary much. *Dr. Nicholson.*

4. I have seen 22 cases, of which 15 were in males and 7 in females. The ages of the patients varied from 11 to 41 years of age. *Dr. Bayard.*

Most frequent in the male sex; but I cannot say in what proportion. *Dr. Gordon.*

It appears to attack males in a much larger proportion than females. There are at present in the hospital 14 males and 8 females. *Dr. Nicholson.*

5. All the cases I have seen were among the French population in Tracadie.

Dr. Bayard.

It is chiefly confined to the French population. *Dr. Gordon.*

It has here been confined to the French population, with the exception of four persons who are said to have died of the disease many years ago. *Dr. Nicholson.*

There are no blacks in the infected districts. *Dr. Bunsen.*

6. The disease has occurred almost exclusively in Tracadie, a rural district. Isolated cases have been found in Niquac, Tabicsintac, Pokemouche, Carrannquet, Bigaud, Little Tracadie, and at Rivière du Cache; surrounding districts, with a scattered population. The general features of the country are similar in all. The land is undulating, and intersected with fresh-water rivers, abounding with salmon and trout, and flowing into the inlets of the Bay of Chaleurs and the Straits of Northumberland, which furnish abundance of cod, herrings, and eels. The country cannot be considered malarial.

The dwellings consist generally of one room, heated in winter to very high temperature with close stoves. Their condition adverse to health. A few cleanly; many the reverse.

The ordinary diet is fish, which is frequently offensive from decomposition. Eel soup, thickened with barley, is a favourite dish.

Occupation—Fishermen during the catch; agriculture is shamefully neglected; lumbering their winter employment. Habits indolent. A fine agricultural country neglected.

Dr. Bayard.

Among the poorer classes of farmers and fishermen, inhabiting low damp situations, and whose principal diet is imperfectly cured fish and pork.

Their dwellings are warmed by close stoves, are kept at a high temperature, and badly ventilated, and unclean. *Dr. Gordon.*

The districts where the disease exists are along the shores of the Gulf of St. Lawrence

and Bay de Chaleurs. The country is flat, though not damp or malarial. The climate is considered salubrious. The extremes and mean of temperature are said to be,—

Extreme cold - - - -	24° F. below zero.
Extreme heat in shade - - -	96°
Mean temperature - - -	44°

The disease is entirely confined to the poor, who live in rude log huts, hardly sufficient to protect themselves from the inclemency of the weather. Usually there is but one room, which is occupied by pigs, poultry, &c., as well as by the family. They are poorly clad, and all around them betokens the most abject poverty. Their habits are indolent, improvident, and extremely unclean. In the winter months their diet consists solely of salt herrings, salt and dried codfish, and potatoes, at times salt pork; in summer they live on fresh fish; they have very little bread. They are chiefly employed in fishing, farming, and lumbering. *Dr. Nicholson.*

7. Neglect of personal cleanliness; the impure air of crowded and unventilated rooms; long exposure to extremes of heat and cold; accidents causing structural injuries; parturition, in some instances; the action of other concurrent diseases occasionally, and mental depression, have accelerated and aggravated the disease; and in some cases these causes have induced the development of an hereditary predisposition; and I may add excessive venery.

The cases (narrated in my paper in the "Lancet" for January 1850) confirm the action of such causes, with the exception of the effects of erysipelas in one case, and some other lepers who were simultaneously attacked with it, and in whom the disease was mitigated by it.

Many of the lepers in the lazaretto thought their disease was aggravated by their imprisonment in the lazaretto on Sheldrake Island. Mental influence with such has probably accelerated tubercular ulceration. *Dr. Bayard.*

Poor diet, want of cleanliness, scanty clothing, and exposure. *Dr. Gordon.*

Suppression of the secretions of the skin from exposure to wet and cold, the use of improper food, inordinate muscular exercise, are circumstances which tend greatly to aggravate the disease after it has once manifested itself. *Dr. Nicholson.*

8. It is certainly hereditary.

The cases I have reported establish the fact that the disease may attack one or two members of a family, while the others remain exempt. Leprous parents suffering for many years under ulcerated tubercles, with destruction of the fingers and toes, have had families in whom the disease had not appeared when I saw them. *Dr. Bayard.*

It does appear to be propagated by hereditary transmission, yet not entirely so; as individuals of different races, living in the same house with the lepers, have become infected and died of the disease.

I have known instances where some members of a family have had the disease and the others have remained free from it. *Dr. Gordon.*

It seems to affect certain families, and only those, and has done so, with few exceptions, since it was first observed here. It can be traced back as far as the grandfather. From these facts, as well as that all now in the lazaret are connexions, most are blood relations, no doubt remains on my mind that it is hereditary.

I have known numerous instances where one member of a family has been affected, while all the others remained quite free from any trace of it. *Dr. Nicholson.*

The disease appears to be altogether hereditary, as it has not extended beyond the French people, except in one case; a Scotchman named Stewart, living 70 miles from Tracadie, had the disease, and his descendants are likewise affected. No cause can be assigned how he got it.

In several cases now in the hospital many of each of their families are apparently well and hearty at their own homes. *Dr. Benson.*

9. I have not any reason to believe or suspect that it is in any way dependent on syphilis. I was at one time disposed to suspect the complication of syphilis with leprosy in some cases, but a thorough inspection of the sores and minute examination removed my suspicions. * * * It would be difficult to reconcile the birth of healthy children, when born, and remaining healthy for months and years, with the phenomena of hereditary syphilis. *Dr. Bayard.*

It is entirely distinct from and unconnected with syphilis, yaws, or any other disease. *Dr. Gordon.*

I believe leprosy is a disease by itself. Syphilis and yaws are unknown in the districts where the disease prevails. *Dr. Nicholson.*

There is no reason to believe that it is in any way connected with syphilis. *Dr. Benson.*

10. I am thoroughly convinced that the disease in Tracadie is not contagious, and that it is not transmissible by sexual intercourse. All the cases I have reported prove its non-contagiousness. Leprous husbands have lived many years with their wives, and vice versâ, without infecting each other. Children have been born of leprous mothers, and have been nursed and handled in infancy by the patients in the lazaretto in all stages of the disease, without manifesting any symptoms of the disease. *Dr. Bayard.*

The answer to interrogatory 8 applies to this and to *a* and *b*.

It does not seem to be transmissible by sexual intercourse. *Dr. Gordon.*

I have never met with an instance of leprosy being communicated to a healthy person by contagion. On the contrary, we have a female who for the last six years has scrubbed the floors of the hospital, washed their clothes, ate, drank, and slept with those affected, and who notwithstanding exhibits no trace of the malady, and at present enjoys good health. Leprous husbands have for years slept with their wives and families, and wives with their husbands, without contracting it. Children have been born of leprous mothers in the last stage of the disease, and have been nursed by lepers, and have now attained adult ages without manifesting any symptoms of the disease. All of which proves it not to be transmissible by sexual intercourse. *Dr. Nicholson.*

Several lepers have cohabited with their wives for years, and no infection was communicated to them. In the case of a leprous man now in the hospital, the wife has continued free, although two of seven children which she has borne to him are affected with the disease; the other five are clean. *Dr. Benson.*

11. Twenty years have elapsed since the Tracadie disease attracted the notice of the provincial government, when the Governor, Sir Wm. Colebrooke, commissioned four medical men to investigate and report upon it. They declared it to be Greek elephantiasis, and to be contagious. Thereupon an act was passed empowering the erection of a lazaretto, and the appointment of commissioners to separate the lepers from society, and confine them within the limits of the establishment. This measure excited the dread and horror of the poor victims, and the cases I have related will convey some idea of its failure or success. Several fled to the forest and secreted themselves to avoid what was considered imprisonment for life; and one, if not more, of the sufferers are believed to have perished in this way. Prior to the establishment of the lazaretto, leprous persons communicated freely with the rest of the community. *Dr. Bayard.*

They are not permitted to communicate freely with the rest of the community; but as soon as the disease has made its appearance, they are confined to the lazaretto.

Dr. Gordon.

Whenever a person is supposed to have the disease, a summons is issued by one or more members of the board of health to have the suspected individual brought before the medical officer for examination, and should it be found that he or she has got the malady, he is at once admitted into the hospital. Many, however, are but too glad to avail themselves of the opportunity of obtaining medical aid, as well as to avoid being an object of horror to those around them, and present themselves at the hospital of their own accord for admittance. *Dr. Nicholson.*

12. The lazaretto, a wooden building, is upon Sheldrake Island in the Miramichi River. The building and establishment admitted of improvements when I saw it in 1847.

Dr. Bayard.

The leprous poor are fed and clothed in the lazaretto, and a medical man attends upon them. *Dr. Gordon.*

The hospital is a wooden building, measuring 60 by 30 feet, comprising four wards, well ventilated, and furnished also with baths and other requisites conducive to recovery. The inmates are daily attended by a resident physician. The building is well adapted for a hospital; it is surrounded by a picket fence 12 feet high. This was deemed necessary at one time, to prevent the escape of the lepers during the night. Outside this fence is the keeper's house, in which their food is prepared; likewise a small prison for the confinement of the refractory. The whole is surrounded by a common fence inclosing an area of six acres, within which inclosure the patients may go about for exercise and amusement.

Dr. Nicholson.

The hospital is supported by a grant from the government of the province. A medical man is specially appointed in them, and they are fed and clothed at the expense of the province. Their food consists of the best animal food that can be procured, potatoes and flour of the best description, and every care is paid to their cleanliness and comfort.

Dr. Benson.

13. At one time there were 37 lepers in the lazaret. The number is, I understand, now reduced by death to 20. *Dr. Gordon.*

The number of leprous persons at present maintained at the public expense is 22. The following is a list. *Dr. Nicholson.*

No.	Names of Males.	Age.	When admitted.	Residence.	Length of Time supposed to have had Disease before being admitted into Hospital.
1	Oliver Gautricau	37	June 1848	County Gloucester, Tracadie.	3 years.
2	James M'Graw	27	Dec. 13, 1857	Do.	1½ years.
3	Charles Muzerall	26	Aug. 13, 1857	Niquac, Northumberland.	2 years.
4	Bellany Savoy	15	Aug. 23, 1857	Tracadie	—
5	John Batise Bredau	63	July 25, 1860	Do.	2 years.
6	Philos Bredeau	29	July 27, 1860	Do.	3 years.
7	Victor Basque	28	Nov. 4, 1860	Do.	2 years.
8	John M'Graw	13	Mar. 30, 1861	Pokemouche	1 year.
9	Stanislaus M'Graw	11	Mar. 30, 1861	Do.	1 year.
10	Jacque Richard	28	June 5, 1862	Tracadie	4 years.
11	Christopher Drysdall	11	June 8, 1862	Do.	2 years.
12	Frederick Savoy	26	June 11, 1862	Do.	3 years.
13	Roma Goold	13	June 24, 1862	Do.	5 years.
14	Eli Brudeau	51	Sept. 15, 1862	Do.	1 year.

No.	Names of Females.	Age.	When admitted.	Residence.	Length of Time supposed to have had Disease before being admitted into Hospital.
15	Judick Arsineau	28	July 13, 1859	Tracadie	3½ years.
*16	Ann Benoit	35	Dec. 13, 1869	Do.	4 years.
17	Mary Savoy	13	Nov. 5, 1860	Do.	3 years.
18	Vaneraunt Arsineau	60	Feb. 18, 1861	Do.	5 years.
19	Catherine Brudeau	18	June 2, 1862	Do.	2 years.
20	Jane Brudeau	25	June 5, 1862	Do.	2 years.
†21	Mary Thibideau	12	July 3, 1862	Do.	3 years.
†22	Mary Commeau	18	July 24, 1862	Do.	—

* Ann Benoit's grandfather died of the disease in the hospital. Father and mother living, perfectly healthy and free from disease.

† Mary Thibideau and Mary Commeau. Their grandfathers died of the disease in the hospital. Their fathers and mothers are still living, perfectly healthy and free from disease.

14. I believe that during the last 10 or 12 years the disease has been on the decrease, owing to the better care and attention taken to remove the lepers into the lazaret. The maximum number of lepers in the lazaretto at one time was 37. *Dr. Gordon.*

There does not appear to be any increase or diminution of the disease in this country. When attention was first directed in 1844 to the disease, 12 cases were counted in the county of Gloucester, and it was supposed that there were 10 or 12 additional cases in the county of Northumberland. In 1848 the lazaret contained 22 cases; in 1850, the number was 31. *Dr. Nicholson.*

15. I am not aware that it has ever undergone a spontaneous cure. The results of medical treatment have been very unsatisfactory. *Dr. Gordon.*

The general health of the patients now in the lazaret is greatly improved, from daily out-door exercise, the use of caustic and sulphuretted baths, and a nutritious and unstimulating diet. The plan of treatment I have adopted is that laid down by Drs. Danielson and Boeck.

There never has been an instance here of a spontaneous cure, nor have there been any of complete recovery. Some cases have partially recovered, but the disease has always returned in a more serious form. *Dr. Nicholson.*

I cannot say that any medical treatment is reported to have any influence on the disease. Cleanliness, animal food, and warm baths appear to have been the only means of prolonging the lives of the lepers. There has been no recorded case of cure, spontaneous, or by treatment. *Dr. Benson.*

16. By the last Census, taken 1861, the population was about 250,000.

There has not been any such registration, although this important requirement has been frequently urged by medical men on the attention of the legislature. *Dr. Bayard.*

There is no registration of births and deaths that I know of. *Dr. Gordon.*

The estimated population of New Brunswick is, according to Census of 1862, 252,047.

There is no such registration. *Dr. Nicholson.*

Dr. Chipman of Nassau, Bahamas, in his reply to interrogatory 16, says, "There are in "New Brunswick and Canada many persons who are the offspring of inhabitants of the "French colonies of Martinique and Guadaloupe, who in times gone by emigrated to Canada, "and spread thence to the adjacent provinces." Dr. Chipman conjectures that the disease now existing in certain districts of New Brunswick may have been imported by the immigrants from the French West India colonies.

17. Dr. Bayard refers to his essay and cases in the Lancet for particulars. It is a transcript of his report to the colonial government of his official visit of examination of the lepers in and out of the lazaretto, along with Dr. Wilson, a member of the legislature, printed in the journal of the House of Assembly for 1848. *Dr. Bayard.*

The districts where the leprosy exists, viz., Tracadie, Pokemoche, and Niquac, comprehend a circle of 25 miles in diameter. The population is 3,978. *Dr. Gordon.*

Leprosy in the province of New Brunswick is only known in three parishes in the county of Gloucester and in one in the county of Northumberland. *Dr. Nicholson.*

Dr. Benson, who was sent in October 1862 by the Lieutenant-Governor to inspect the leper hospital, states in a letter addressed to his Excellency, "From what I can gather from the "old inhabitants of Tracadie, the disease was first noticed about 40 years since, in the case "of one, —— Benoit, daughter of Marie Bredeau; and although no mention is made of the "disease existing previously in the family, it might easily have been so, as the Bredeaus "came from St. Malo in Normandy when young, and might either have been unacquainted "with the fact, had it been so, or unwilling to admit it when discovered. Be that as it may, "it has pursued her descendants with frightful pertinacity, and there is no case now in the "hospital who does not claim some relationship to that unfortunate stock." . . . "If it "is allowed that the disease is hereditary, no material benefit can arise to the province from "the foundation of a lazaret, with the expectation of arresting the malady, as your Excel-"lency will perceive that, in several cases, the patient leaves a family of several children at "home to propagate the disease after his death, and that hundreds of relatives are likely to "be inheritors of the family curse. That it is a most useful institution, when used as an "asylum for the unfortunates, is fully borne out by the manifest improvement in their general "appearance, and by the diminished rate of mortality among them since Dr. Nicholson has "been stationed at Tracadie."

"The hospital was first established at Sheldrake Island in July 1844, and continued there "till July 1849. During this period there were admitted 32 patients, of whom 14 died; "3 escaped from the island, and 15 were transferred to the new hospital at Tracadie, opened "in July 1849. From that period down to October 1st, 1863, 82 patients, including the "above 15, have been received. Of these, 58 have died, 3 were discharged as not diseased, "and 21 remain in the hospital. Unfortunately there is no record of any patient being "discharged cured."

For the dispatch of the Lieutenant Governor of New Brunswick to the Duke of Newcastle of 13th April 1863, vide Appendix, p. i.

No. 2.

BERMUDA.

1. Leprosy, though not common, is seen under two forms, viz., 1, elephantiasis or Barbadoes leg, or the rose, and, 2, lepra tuberculosa or Greek leprosy. They are, I consider, specifically distinct diseases; the so-called Barbadoes leg being only a chronic form of erysipelas, modified by climate, while the leprosy is a truly tuberculous disease. The true leprosy commences with a thickening of the skin, which becomes tuberculated and ulcerated, and is accompanied with a cachectic state of the system, The first appearances, in a case which I watched from its commencement to its fatal termination, were these:—Erythematous patches of a bright red colour on the forehead, nose, and ears, giving the person the appearance of being overheated by exercise, and subsequently on the hands, feet, and scrotum. These patches continued thickening until they became distinctly tuberculous, while at the same time the sensibility in them, and more especially in the hands and feet, became so acute that the least touch occasioned intense pain. The tubercles went on increasing in numbers and thickness until they became general over the whole of the body,

and so distorted the features as to render them scarcely recognisable. On the extremities they vesicated, and bursting, discharged a dark bloody ichor; they slowly and imperfectly healed, leaving an ugly dark scar. At the same time the hair fell off, leaving the head bald, the senses of smelling and hearing became imperfect, the eyes grew dim, and the voice hoarse. The disease extending to the lungs, the patient died of pneumonia. Previously, however, the sensibility, which had been at first acute in the extremities, became completely lost, so that mice and other vermin would nibble and eat away portions of the flesh without the patient being aware of it. The whole duration of the disease was 28 months.

Many persons in Bermuda are subject to an erysipelatous swelling of the leg which, after it has existed for some time, becomes a hard thickening of the skin and subjacent cellular and adipose tissues like the "Barbadoes leg," and is in fact a milder form of that disease, though popularly it is called the "rose," the name of "Barbadoes leg" being applied when it exists in persons who have contracted the disease in countries further south. The "rose" is principally, although not altogether, confined to middle-aged females of sedentary habits, who have been or are suffering from gastric derangements. It is sometimes the result of an acute attack of erysipelas, but usually it is more insidious in its approaches, commencing with an œdematous swelling of the ankle which spreads up the leg. After it has existed for a time, it is only inconvenient from the deformity it occasions; but it is not dangerous, painful, or injurious to the general health; and it occurs principally in elderly females, because they form the sedentary portion of the inhabitants.

2. I have seen or heard of seven cases of true leprosy, all of which occurred in adults; and the first symptoms seem to be the erythematous patches, often mistaken for syphilis, occurring principally and at first about the face.

The "Barbadoes leg," including the so-called "rose," occurs in both early and adult life, but rarely in the former.

3. The seven cases mentioned above occurred in adult life, and three of them that have terminated ran their course in from two to four years.

4. Of the seven cases, five were in males and two in females.

5. Of the seven cases, five were in whites and two in blacks.

6. I cannot say.

7. I am not prepared to say.

8. True leprosy is in many cases hereditary. Of the seven cases, two were in persons who were first cousins; another was a distant relative of these. The disease is regarded to be hereditary in the family. I may also mention that distant connexions are very liable to scrofula.

9. I cannot say. Yaws is unknown in Bermuda.

10. I have not seen a case where the disease appeared to be contagious, nor is it regarded so here. That it cannot be transmitted by sexual intercourse I am inclined to believe, because in one of the cases that came under my observation during the course of the disease the patient became father of a child, which is now about 11 years old, but neither it or the mother have manifested any symptoms of the disease.

11. No restrictions.

12. None.

13. None.

14. I cannot say.

15. I am not prepared to say.

16. At the last Census in 1861 the population was 11,450. The whites were 4,624 and the blacks 6,826. There is no general registration of births and deaths. *Dr. Hinson.*

No. 3.

BAHAMAS.

1. It is known in the Bahamas, in common with all the islands in this archipelago, and is generally known by the name of "leprosy," "cocobey," and "black scurvy."

a. There are several forms of it. The first and chief feature in the most common is characterized by small tubercles, generally of a copper colour in the mulatto and light

coloured descendants of the African races, and of a darker hue in the pure African, appearing on the face, forehead, and extremities. The lobes of the ears and alæ nasi are generally first affected; afterwards ulcerations of an obstinate character are formed chiefly on the extremities.

b. The other form is chiefly known by the digital phalanges of the fingers and toes becoming ulcerated and dropping off, the different phalanges yielding one after another till often the only part left is perhaps a thumb or one finger of the hand.

Dr. Chipman, Physician of the N. P. Asylum, Nassau.

Reference made to a paper on leprosy of the West Indies in the "Medical Times and Gazette" for October or November 1859. *Dr. Sweeting.*

2. The age is very variable. There have been leprous patients at the lazaretto of the N. P. Asylum of about 9 or 10 years, and, generally speaking, the disease has been well marked when first seen by the physician.

By far the majority of leprous persons reside in the out-islands of this government, particularly at Acklin's Island, where I am told whole families are afflicted.

The age at which it first appears may be considered to be from 8 to 20 years.

Dr. Chipman.

At all ages It commences with a general constitutional cachexy, and advances so insidiously that it is common for people to say, "I believe so and so is becoming leprous.

Dr. Sweeting

3. I have often seen it developed fully before puberty, and not unfrequently the patients have died of the disease before the age of twenty. It however proves fatal at various periods; some die early and some not till late in life. *Dr. Chipman.*

It attains its development about the 30th year. *Dr. Sweeting.*

4. Rather more frequent in males than in females, in the proportion of about five to four. *Dr Chipman.*

More frequent in males. *Dr. Sweeting.*

5. The disease is very common, and almost in equal proportion among the black and the coloured classes. It is certainly very rare among the whites of this particular colony. In Antigua I remember only one family affected with it; a gentleman of good property, who died in 1829 or 1830. *Dr. Chipman.*

More frequent among the coloured population. *Dr. Sweeting.*

6. I have not been able to trace it to any particular condition of society, either physical or moral. The dwellings of the people are usually low, close, and ill ventilated. Their diet ordinarily is fish, vegetables, fruits, with more pork flesh than any other. *Dr Chipman.*

a. Low, damp, malarial, and sea-coast.

d. Principally on fish and wheaten flour or potatoes, with but little change,—which I think one of the causes of the disease. *Dr. Sweeting.*

7. I have a strong opinion that the poor diet generally of the lower classes, and the frequent use of fish and pork, increase the tendency to its development in the hereditarily predisposed. *Dr. Chipman.*

Low diet and want of change in diet. *Dr. Sweeting.*

8. I believe it to be exclusively so. I have now a family under my care in the asylum, where the father is affected with one form and the mother with the other form of the disease. Two of the children are already affected; the other three, of the respective ages of 20, 16, and 11, are still exempt. *Dr. Chipman.*

Disease is often hereditary.

Yes. *Dr. Sweeting.*

9. I have not traced any connexion between leprosy and syphilis, yaws, or any other contagious diseases. *Dr. Chipman.*

None whatever. *Dr. Sweeting.*

10. During more than 35 years experience in the West Indies, I have never been able to trace the disease to contagion or infection. In several instances I have known the wife of a leprous person remain exempt. *Dr. Chipman.*

None.

c. No. *Dr. Sweeting.*

11. There is no positive law to prevent lepers from mixing with other persons, although the colony has striven to prevent it by establishing a lazaretto in conjunction with the asylum. The accommodation provided is for only 15 or 20, while there are doubtless a hundred leprous patients in the colony, especially in the out-islands. *Dr. Chipman.*

In Nassau there is a prejudice against intercourse, but there are no restrictions.
Dr. Sweeting.

12. The lepers are admitted into a building in the immediate vicinity of the N. P. Asylum; it is set apart for the exclusive use of this class of patients. There are several wards or rooms in it; each is calculated for two patients; but in the case of a family, four often occupy a room. The building is of stone with a shingle roof. *Dr. Chipman.*

13. The number in the lazaret is generally from 8 to 12. In the absence of a compulsory law, it would be very difficult to induce the friends of leprous patients (in the out-islands) to send them into a lazaret, where they would be subject to discipline and restraint.
Dr. Chipman.

14. From all I can learn, the disease is on the increase in several of the out-islands, particularly "Acklin's," and the islands adjacent to it, viz., Crooked Island and Fortune Island. About 70 years ago, several slave families were removed from Grenada and St. Vincent to this colony; the descendants of these immigrants have extensively propagated the disease. *Dr. Chipman.*

The general opinion is that it is increasing. *Dr. Sweeting.*

15. I have never witnessed any marked benefit from any mode of treatment; nor have I ever seen a case of recovery. *Dr. Chipman.*

No result from treatment. *Dr. Sweeting.*

16. By the Census in 1861 the population of the Bahamas, exclusive of the Turks and Caicos Islands, was about 35,000. There has been a general registration of births and deaths for about ten years. *Dr. Chipman.*

17. In consequence of the prejudice against contact with the disease, post-mortem examinations have not been practised to any extent. It is my intention, however, on suitable occasions, to have recourse to them. *Dr. Chipman.*

The causes which would bring on scrofula in England would in my opinion bring on leprosy in the West Indies. *Dr. Sweeting.*

No. 4.

JAMAICA.

1. It is well known. (Dr. Fiddes refers for a description to his paper in the Edinburgh Medical Journal for June 1857.)

a. There are two distinct forms or varieties of this disease, viz., the tubercular and the anæsthetic.

b. The two forms are probably not specifically distinct diseases. The one has a strong pathological affinity with the other; their difference mainly depending on the localization of the materies morbi.

c. In the tubercular disease the morbid action falls primarily and chiefly on the cutaneous tissue and the gastro-pulmonary mucous membrane, while the cerebro-spinal system is not much implicated, and scarcely shows disorder till an advanced stage of the complaint. In the anæsthetic it is principally manifested on certain portions of the spinal nerves; on those of the upper and lower extremities primarily, and secondarily on the spinal cord itself, and on the cerebral nerves which supply the face, giving rise to anæsthesia and atrophy of the extremities, destruction of the joints, partial paralysis of the limbs, palsy of the facial muscles, with perverted nutrition of all the parts dependent on the cerebro-spinal system for nervous influence. *Dr. Fiddes.*

There are two forms of the disease here, viz., the tubercular, properly called "leprosy," and the anæsthetic, known as "joint-evil," or "coco-bay." This latter form is here generally considered to have been imported from Africa.

b. From my observations, I regard them as varieties of the same morbid condition, the difference between them appearing to depend on the portion of the nervous system primarily or chiefly affected.

In some cases the symptoms of the two forms appear to co-exist, or become more or less blended together. In no case, however, I have seen, have members of the same family been attacked the one by tubercular and another by anæsthetic elephantiasis. Whenever more than one member of a family has suffered, it has been from the same form of the disease.

For several months—from 2 to 12 or 18—before the appearance of any spots or patches on the surface in the tubercular form, there is very generally more or less distinctly marked

malaise experienced,—"an indefinite feeling of something wrong,"—"chills like ague,"—"rheumatic pains about the extremities,"—"creeping pricking sensations of the limbs,"—"stiffness and numbness of parts,"—"a falling asleep of a limb, a hand or a foot, finger or toe." This state, or these sensations, are generally referred back to some sudden exposure to alternations of temperature, to sudden chills when heated, to coming out of doors after a vapour bath, to exposure during a chilly night in the streets while assisting to put out a fire, &c., &c.

The spots, at first mere stains, become raised, often presenting a smooth, swollen, and polished aspect, and acquire a darker hue. Afterwards they lose the polished look, and become rough and tuberculated. The patches and tubercles ultimately ulcerate, forming oval sores of a whitish sluggish look, exuding a glairy discharge. I have seen the whole surface of the body covered with these ulcers, so that there was scarcely an inch of healthy skin. When any of the ulcers heal, they leave white shrivelled cicatrices. There is no particular part of the body on which the disease first appears. As it advances, the eyebrows, nose, cheeks, lips, chin, ears, the hands and fingers, toes, the fauces and trachæa are chiefly affected, causing frightful disfigurement, &c., with the hoarse nasal voice so characteristic of tubercular leprosy. Necrosis of the nasal and palate bones occurs at a late stage.

From the very first appearance of the spots on the skin, the sensibility of the affected parts is found to be diminished, and this symptom becomes more marked with the advance of the disease. I have often excised large tubercles from the face and hands, which, though they bled freely, did not cause the least pain to the patient. Lepers often inflict upon themselves severe burns in cooking their food, &c., without being aware of it.

In anæsthetic leprosy there is also a premonitory stage, indicated by pains shooting along the limbs in the course of the larger nerves, and affecting the use of certain fingers and toes, or of a hand and a foot; not mere numbness, but positive loss of power, along with loss of sensation. The muscles of the affected limb become atrophied, and the whole limb diminishes in size. The fingers and toes become contracted, and flexed on the palms and soles, and gradually become permanently fixed in this position. When stains or discoloured spots appear on the surface, they are usually much larger than in the tubercular form, and are often of a gyrate shape, extending over a whole limb, or a great portion of the trunk. Often the ulnar or the musculo-spiral nerve may be felt in its superficial course to be much larger than natural. The ulceration and subsequent destruction of the fingers and toes are usually preceded by the formation of large vesicles or bullæ which burst, discharge a glairy fluid, and become covered with a crust or scab on the affected part. At this stage the disease may be arrested for years, the patient enjoying very good health, and merely crippled by the loss of his fingers and toes; or a general wasting of the whole body may occur, with paralysis, more or less complete, of the nerves of the face and the upper portion of the cerebro-spinal system. In these cases there is no deformity or destruction of tissues, as in the tubercular disease; no ulceration about the nose, palate, or throat, &c.; but the sufferer is dejected in mind and apathetic.

Dr. Bowerbank.

2. I have not seen any case in either of its forms prior to four years of age. At, and soon after this age, I have met with many examples of the tubercular leprosy; but I have not seen any case of the anæsthetic earlier than the eighth or tenth year, and not later than the meridian of life, while the tubercular occurs not unfrequently at a very advanced age.

Dr. Fiddes.

I have seen elephantiasis tuberculata in a child three years old; but from four or five years, or indeed at any age up to 50 or 60, it may appear. The majority of patients I have seen have been adults from 20 to 40 years of age. I do not remember a case of elephantiasis anæsthetica under 15 or 16 years. *Dr. Bowerbank.*

3. The full development of the disease and its common duration are much influenced by external circumstances. The anæsthetic form is more protracted in duration, and holds out a better hope of recovery than the tubercular, which in its confirmed stage is all but incurable. *Dr. Fiddes.*

I think, as a general rule, the premonitory stage of elephantiasis tuberculata ranges from 2 to 18 months. Sometimes the disease, when once manifested, runs its course very rapidly. In the great majority of cases death ensues from some supervening disease, as dysentery or other bowel complaint, or from laryngeal or pulmonary disease. Without any statistics, I would say it is generally fully developed in two years after its first external manifestation, and that most patients live for 9 or 10 years from the first attack. I have seen three cases apparently run their entire course in about 12 years. I have known a few affected for 18 or 20 years.

The anæsthetic elephantiasis is generally much slower in its progress. After the loss of the toes and fingers, the disease often appears to be arrested. Patients have lived for 30 years and more after the first manifestation. *Dr. Bowerbank.*

4. I believe that females suffer less from leprosy tham males, but cannot supply any statistics on the point. I have been struck with the fact that when the disease attacks the sexes at an early period of life, the effects of it on the development of the body and on the evolution of the genital organs have been less severe in the female than in the male.

Dr. Fiddes.

I have no statistical data to form an opinion, but I believe that males are much more frequently affected with tubercular elephantiasis than females. The same remark applies to the anæsthetic form. Females are, comparatively speaking, seldom attacked.

Dr. Bowerbank.

5. The white European population is comparatively exempt, the coloured and black suffer in nearly equal proportion, and the Jewish inhabitants are probably afflicted most of all.

Dr. Fiddes.

"As the disease occurs in Kingston, the different races composing the population are not attacked in similar proportion. The population is in round numbers 30,000, comprising 16,000 negroes, 10,000 people of colour, 2,500 whites, and 1,500 Jews. The ratio in which these races suffer from leprosy is nearly 1 per cent. in the Hebrew race, about 2 per thousand in the dark races, and so much less is the liability among the white European that I know of five cases only to have occurred among them during 15 years' practice in the city. Of these five cases, three were in natives (creoles), one was born in St. Domingo, and the fifth was an Englishman who had resided in Jamaica for 12 years before his seizure. * * Nearly all the Jewish residents, as well as the black and coloured inhabitants, are natives of the island, or have lived long in it; whereas most of the other class have been either born and reared in Europe, or are descended directly from an ancestry that were so."

Edinburgh Medical Journal, June 1857.

It is decidedly more frequent among the Jews than among any other races or classes. The well-to-do and the poor Jews suffer equally. Next to them come the coloured descendants of Jews, then the coloured races, then the blacks, next the creoles, i.e., the descendants of Europeans, and, last of all, whites from Europe. As to the last named, I have heard only of one case. I am unable to state in what relative frequency the disease occurs. We have no reliable data.

Dr. Bowerbank.

6. It is more common on the sea shore and on the flat inland districts than on the hilly and mountainous regions.

Dr. Fiddes.

The disease appears in all classes; among the well off and those that are not. It ha always appeared to me to be more frequent on the sea coast; but we have no data. In the city and parish of Kingston, which by the Census of 1861 contained 27, 350 persons, only 41 were put down as affected with leprosy, viz., 24 males and 17 females; whereas there is evidence enough to prove that there are at least from two to three hundred lepers in Kingston. The same return states that there were 778 persons affected with leprosy in the whole island.* I do not believe that one half or a quarter of the cases are included in the list, nor do I place any trust in the proportion of the sexes as stated.

a. I think the most malarial districts in the island are St. Thomas-in-the-Vale, St. Thomas-in-the-East, St. Elizabeth, Westmoreland, and St. John's, and that these are the parishes which yield the worst cases of anæmia; but I am not aware that they furnish many cases of leprosy.

b. Persons residing in the best dwellings and in the worst appear to be equally liable.

*

Parishes.	Sex.		Total.	Parishes.	Sex.		Total.
	Male.	Female.			Male.	Female.	
Kingston - - -	24	17	41	St. Ann - - -	13	28	41
St. Andrew's - -	19	30	49	Clarendon - - -	9	7	16
Port Royal - - -	3	8	11	Vere - - -	9	3	12
St. David's - -	8	13	21	Manchester - - -	12	12	24
St. Thomas-in-the-East -	34	35	69	St. Elizabeth - -	42	38	80
Portland - - -	7	5	12	Westmoreland - -	62	47	109
St. George - -	4	4	8	Hanover - - -	28	33	61
Metcalfe - - -	6	8	14	St. James - - -	29	26	55
St. Catherine - -	6	7	13	Trelawny - - -	44	39	83
St. Dorothy - - -	4	6	10				
St. John - - -	11	3	14				
St. Thomas-in-the-Vale -	7	10	17	Total - -	391	387	778
St. Mary - - -	10	8	18				

On reference to a map of the island, the sea board parishes will be readily recognized.

c. The cleanliest and the dirtiest appear to suffer equally. The Jews, who are very cleanly in their habits, appear to suffer most.

d. The Jews and coloured people generally consume a large quantity of fresh as also salted and kippered fish. The lower classes often consume salted food in an offensive state.

e. Persons of all trades and occupations are attacked.

As yet I fear we can say but little as to the circumstances which favour the development of the disease in individuals or in groups of individuals. Many here consider the disease to be hereditary, and to spread alone in this way. *Dr. Bowerbank.*

7. When once the disease has fairly manifested itself, the conditions and circumstances of life seem to be of little or no importance in controlling its progress. *Dr. Fiddes.*

In all cases of elephantiasis tuberculata, the disease once developed has appeared to me to progress steadily; slower sometimes than at other times, and then without any assignable cause. I have known many of the poorer classes affected with it, although exposed to great privations, drag out an existence of about nine years. Independently of their hideous appearance, they seemed to enjoy life.

The elephantiasis anæsthetica often runs a very protracted course. The organic functions appear to be well performed. *Dr. Bowerbank.*

8. It is frequently hereditary, particularly in the third generation. I have known several instances where one member of a family only has suffered; but the instances are more common of several members of a family being afflicted. *Dr. Fiddes.*

"A large proportion of the sick admit a leprous ancestry, or a consanguinity with persons so affected; but in other cases no such source of contamination can be traced, and the disease may arise evidently in other ways. . . The disease in many cases could be attributed only to spontaneous or endemic origin. . . . The influence of hereditary transmission is greater on the maternal than on the paternal side." *Loco cit.*

I believe the disease to be hereditary, although in very many cases it appears to miss one, two, or even more generations. It is very difficult to trace the family history of the coloured classes.

I have known instances where only one member of a family has been affected, all the other members remaining free. I know one family where three members had the disease during childhood, the father and mother being both free; but the maternal grandmother had it at a very advanced age. *Dr. Bowerbank.*

9. I have not. I think it is a disease sui generis. *Dr. Fiddes.*

I believe it to be a disease sui generis. I have little doubt that yaws and leprosy may run their course together; so also leprosy and syphilis. *Dr. Bowerbank.*

Respecting the yaws, Dr. Bowerbank adds, that in 1836, when he first went to Jamaica, there was not an estate or penn that had not its yaw-house or hospital, and which used to be well filled; but after the emancipation, in 1837, these were all done away with, and now many practitioners who have been in practice for years have not seen a dozen cases. I am assured, however, that within the last few years the disease is again on the increase, and most certainly within the last few months I have seen more cases than during 20 years previous. The sudden disappearance of the malady was certainly a striking feature in its history, if it be as contagious as it is generally reputed to be, for the doing away with the hospitals should have increased its dissemination.

By the Census of 1861 I find the number of persons affected with yaws to be 618; but the statement I think to be erroneous, as many diseases are put down as yaws which have no relation to that disease.

I do not think that the importation of Africans of recent years can account for the recent increase of the disease. As regards this disease, something ought certainly to be done, as our prisons and lunatic asylums are subject to have cases sent constantly to them. I find that at Sierra Leone cases are admitted into the hospital there, and I believe that the same might be done here with impunity. Such, however, is not the general opinion. A poor unfortunate with yaws, or having the credit of having it, may die in the streets of Kingston. He or she becomes an outcast, as experience here has proved.

10. I am certain that it is in no way contagious, and that it is not transmissible by sexual intercourse. Numerous cases under my observation confirm this view; in fact, the negative evidence against the contagion of leprosy, in all its forms, is irrefragable. *Dr. Fiddes.*

"The rigid seclusion to which lepers were subjected in former times, and the careful manner in which they are still avoided, arise in great measure from the popular belief in contagion. But this erroneous opinion should be discouraged, as being unjust to the unfortunate sufferers, and tending to deprive them of the sympathy and assistance which they might otherwise obtain." *Loco cit.*

I do not believe it is contagious in any of its stages, nor do I believe it can be transmitted by sexual intercourse. I have known a man to live with his wife for 16 or 18 years after he had elephantiasis tuberculata, and have children by her during the time; he died in an advanced stage of the disease, but she never suffered. Two of the sons, however, were attacked. Again, I have known a man live for years with his wife, who was leprous, without his suffering. *Dr. Bowerbank.*

11. Lepers are permitted in Jamaica to go at large without restriction. *Dr. Fiddes.*

Hitherto, no restriction has been imposed; lepers are permitted to communicate freely with other persons. Latterly, in consequence of the increased number of lepers about the streets of Kingston, and the undoubted increase of the disease throughout the island, alarm has been excited generally, and some restrictions have been called for by the public press, the more so as latterly some lepers have found it to their pecuniary advantage to frequent the thoroughfares, and to place themselves at the doors of the most frequented stores. In some instances they have seized goods, knowing the owners would not have them after they had been touched. In this way they have put all authority at defiance.

Dr. Bowerbank.

12. There has not been hitherto any asylum for lepers in this colony. The legislature has recently passed an Act for such an institution, but it has not yet been established. Lepers are not admitted into any of the general hospitals. This is probably owing, partly to the antiquated notion of its being contagious, and partly to the slow and protracted character of the disease. There can be no doubt, however, of the propriety of establishing a lepers' hospital. *Dr. Fiddes.*

In Kingston, and, I believe, in Falmouth, the leprous poor are allowed a pittance weekly. In Kingston this is 2*s.* to each person, and a miserable wooden hovel of two rooms is provided for them on the sea-beach; but no restraint is maintained over them, spending the day begging about the town, and returning to the hovel at night. One of them, more exacting than the rest, made a treaty with the corporation, to have 10*s.* 6*d.* a week, on condition that he remained at home. This arrangement was kept till he died a few months back. The place provided for them is a disgrace to any civilized community. They have no medical treatment. Lepers are excluded from the public and parochial hospitals. Besides the place in Kingston, I know of no other elsewhere provided for their reception. I believe they live in huts near the town of Falmouth. *Dr. Bowerbank.*

Dr. Bowerbank adds copies of two recent (1859 and 1862) Acts of the Jamaica Legislature respecting the providing of a "Lepers' Home" in Kingston (vide Appendix), and adds, "I fear "there will be great difficulty in providing a place for 'lepers.' The great majority of persons "are loud in their cry for their exclusion from the streets and thoroughfares; but every one "resists the formation of a lepers' house in the district in which he may reside, or near the "spring from which he obtains water, or near the river which flows near his residence. The "consequence is, that if a place is fixed on by the authorities as suitable, it is immediately "bought up, or an outcry is raised."

13. I cannot do so. There are about a dozen lepers in this city (Kingston) maintained at the expense of the corporation, which grants 3*s.* a week to each. They are kept in an old building on the sea-shore, formerly an asylum for the destitute poor of the parish. It is miserably dilapidated, and filthy, and the condition of the inmates deplorable. (Vide Appendix, p. 205.)

I am not aware of the number of lepers maintained by the other country parishes. I believe that several get a pauper allowance, and are left to provide for themselves.

Dr. Fiddes.

I cannot. I believe about 14 or 15 in Kingston receive 2*s.* each per week. Many others beg about the streets. *Dr. Bowerbank.*

14. I have every reason to believe that it has been progressively increasing in this city, and in the island generally, during the last 12 or 15 years. The fact is well known to the public and to the profession, so far as Kingston and other towns are concerned. This increase may probably be due to a variety of causes, of which the hereditary transmission of the disease by the sexual intercourse of lepers may be one of the most important, though, perhaps, the chief exciting and predisponent causes are to be found in the retrogression towards barbarism among the bulk of our population. The decline and fall of social position must always lower the standard of health and increase the liability to disease. The degraded condition of the majority of our people in their dwellings, their food, and mode of life must tend to produce a dyscrasia of the blood, and to foster the development of leprosy. *Dr. Fiddes.*

I have been in active practice in this island during the last 28 years, and I am quite confident that during this period, more especially during the last 15 years or so, the

disease has been on the increase. My attention has been particularly called to the number of young persons attacked—from the age of five up to puberty—with tubercular leprosy. I believe an increase of the disease has been evident elsewhere.

I am not prepared to offer any opinion as to causes which have contributod to its increase.

Dr. Bowerbank.

15. In the majority of cases, treatment is unavailing. In the early stage of the tubercular form, benefit is occasionally derived from hydropathic treatment, and by the application of the tinct. iodinii to the affected parts, and of the iodide of potash internally. Flannel should be worn next the skin, and all hygienic means to improve the general health be strictly observed. I have seen a few, but very few, cases where the disease has undergone a spontaneous cure. *Dr. Fiddes.*

" In tubercular leprosy, the morbid action is very seldom removed, but implicates the " organism more and more ; and in an advanced stage the case is all but hopeless. But in " anæsthetic leprosy, not unfrequently the disease expends itself, when the patient may " live through the ordinary term of life, showing no trace of the disease, except the mutilation " of the extremities and the leprous expression of the countenance." Dr. Fiddes mentions two such cases, both in females. One of these occurred in a negress 55 years of age, and the other in a woman who had reached the age of 80. In the first, " a period of 15 years has " now elapsed since the cessation of the disease, and her health since has continued good. " Both feet have been removed through the metatarsus, and all the fingers, and the thumb " of both hands at the metacarpal joint. She earns a livelihood chiefly as a washerwoman." In the other, where an equally extensive destruction of the extremities had occurred, the patient at the age of 80 was still in good health. . . . . " I have seen in some cases " of recovery that there was not only a reduction of the nerves (the nervous trunks of the " affected extremity) to their natural size, but also a restoration of sensibility in the " mutilated extremity. *Loco cit.*

As far as my experience goes, all treatment has been very unsatisfactory in both forms of the disease.

In only one case did medical treatment seem to keep the disease in check. During 18 or 20 years, the patient, a female, had repeated attacks of apparently intermittent fever, and on each occasion the characteristic spots made their appearance ; she had also anæsthesia and slight enlargement of the eyebrows and lobules of the ears. The use of Fowler's solution always checked the disease. She died of cholera in 1850. I understand a son of hers has since shown unequivocal signs of the malady.

I have never seen a case of spontaneous cure. I have seen protracted cases, but still the disease progressed. In some cases of E. anæsthetica, after the violence of the disease has been expended upon the fingers and toes, there appears sometimes to be an arrest of the malady ; that is to say, there are no other symptoms observable. *Dr. Bowerbank.*

16. The population, according to the Census taken 5th May 1861, consisted of,—

Whites	- -	13,816 = 7,295 males and 6,521 females.
Coloured	- -	81,074 = 38,223 males and 42,842 females.
Blacks	- -	346,374 = 167,277 males and 179,097 females.
		441,264

being an increase of population since 1844 of 63,831.

There is no registration of births and deaths. *Dr. Fiddes.*

Of the total population, according to the Census of 1861, there were 213,521 males and 227,743 females = 441,264.

Dr. Bowerbank remarks, " there is good reason to doubt the correctness of the above " returns in many respects." He adds the following comparative table of the population in 1844 and 1861.

Census Returns 1861 of Jamaica.

Blind - -	1,234	Males - 558 Females 676	Insane - -	461	Males - 204 Females 257
Deaf and Dumb -	640	Males - 281 Females 359	Yaws - - -	1,512	Males - 894 Females 618
Crippled - -	5,986	Males - 2,704 Females 3,282	Leprosy - -	778	Males - 391 Females 387

Comparative View of the Census Return of 1844 and 1861.

	1844.		1861.		
White	- 15,776	-	13,816	Decrease	- 1,960
Brown	- 68,529	-	81,074	Increase	- 12,545
Black	- 293,128	-	346,374	Increase	- 53,246
	377,433	-	441,264		

Total increase in 17 years - 63,831

A few years back, an Act for the registration of births and deaths throughout the island passed the legislature; but, except as regards the payment of the officers appointed, its provisions were not complied with, and, after three or four years, it was repealed. Attempts have subsequently been made to re-enact this important Bill, but I fear the majority of the members of the legislature do not understand the necessity or usefulness of the measure.

Dr. Bowerbank.

17. Whatever would tend to improve the general sanitary condition of our population would also tend to avert the appearance of leprosy; and the best way of dealing with the disease, as it at present exists, would be to gather together the lepers scattered over the country, and place them in one or more institutions, where they would be secluded from the public. By keeping the sexes apart, the further extension of the disease by hereditary transmission would be prevented. I shall be happy to communicate any further observations, if desired to do so, and also to forward any pathological specimens, if these be thought likely to throw any light on the intimate nature of leprosy. *Dr. Fiddes.*

"At whatever point of the skeleton the disease be arrested, whether at a joint or in the middle of a bone, nature always furnishes an ample soft covering for the defence of the asseous surfaces; and so thoroughly is this accomplished, that leprous amputation will always bear comparison with the most finished performance of the surgeon. It is also remarkable that a trace or vestige of the nail often remains on the face of each phalangeal stump; and, even when the disease has removed a portion of the metacarpal bones, the vestiges of these horny appendages are still observable in many cases. In these instances, the skin which forms the nail matrix is not entirely destroyed; a remnant is left, which preserves its secreting action, and is drawn gradually backwards until it comes into contiguity with the second phalanx, or with the first, or with the end of the metacarpal bone; the transposition being effected by the shrinking of the intervening skin."

* * * * *

"The morbid element of joint-leprosy is a viscous glairy exudation of a yellowish-white colour, and not so opaque and granular as the matter of the tubercular variety. It is effused within the neurolemal sheath, and occupies the meshes of the cellular membrane which surrounds and accompanies the several nerve fasciculi. Being confined within the common sheath, the deposition is injected minutely along the nerve branch, increasing the diameter of the tube and interrupting the transmission of its electric current. The nerve then swells and increases in thickness, but without much change in its shape or form, and the deposition may be in sufficient quantity to enlarge it to double or triple its natural diameter. Thus I have found the great nerve branches of the arm as large as the little finger, and this abnormal condition may be ascertained, sometimes during life, as applying to all the main branches; but the ulnar nerve is that which, from its superficial and isolated position, is most readily examined in the living body. All the nerve branches of the limb are not invaded simultaneously by the morbid deposition, and the position and extent of the anæsthetic patches indicate the particular ramifications which are primarily involved. Thus, where the insensibility is limited to the ring and little fingers and a corresponding division of the hand, the ulnar nerve is affected chiefly; and where the anæsthesia is circumscribed in the thumb or radial side of the hand, the museulo-spiral branch is the principal seat of the effusion." *Loco cit.*

Dr. Bowerbank remarks, "a few years ago Dr. Scheida, from Bavaria, arrived here, and "was engaged in researches on the infusoria. He examined the blood of several patients "suffering from both forms of elephantiasis, and found it deficient in the red corpuscles."

No. 5.

TORTOLA. (Virgin Islands.)

1. Leprosy is rare in the Virgin Islands.

I have seen one case in a white young woman, and two in black women, all in a mild form.

2. I have never seen the disease except in adults; one was 20 years of age, and the other two 50 years.

At what age it made its appearance I cannot say.

3. I cannot say. The patients are living, and apparently otherwise in good health.

4. The cases I have seen are in females.

5. No information.

6. It occurs in the lowest class.

7. No information.

8. I have had no opportunity of judging.

9. In my opinion, it is a disease by itself.

10. The patients I have seen intermix with other persons. I have heard of no instance where the disease has been communicated.

11. There is no restriction.

12. No public provision is made. There have been none admitted into the hospital, gaol, or poorhouse, during the eight years I have been here.

13. No information.

14. No information.

15. No information.

16. By the last Census, on April 1st, 1861, the population of the Virgin Islands was estimated at 4,018 blacks, 1,557 coloured, and 476 whites; total 6,051.

There is the registration mentioned above. It commenced on the 1st of January 1859, and has existed up to the present time.

Dr. King.

No. 6.

ST. KITTS.

1. It has been long known in St. Kitts.

It exists under two forms; the first is distinguished by circular livid shining spots in various parts of the body, particularly the extremities, also by a shrinking of the extremities and stiffness of the joints, the fingers and toes especially, and ultimately a gradual loss of these members. As the disease advances, the voice becomes nasal.

The second form is the tubercular; appears generally at first in the face and forehead, with purple and swollen ears. The tubercles become scaly and often ulcerate.

These two forms are regarded here as varieties of the same disease.

2. All ages are liable; the disease seldom occurs in early childhood, but generally about 10 years of age and upwards.

The gradual and slow formation of the tuberculous elevations, with occasional discolouration of the surface, and general impairment of health, mark the first invasion.

3. About 30 years of age. The tubercular form is the more rapidly fatal. Some patients live many years.

4. A larger proportion of males appear to be attacked.

5. We have no data to answer this satisfactorily.

6. Among those exposed to vicissitudes of weather, checked perspiration, and especially in those of a tubercular diathesis.

a. It has been found to occur most in damp localities, irrespective of hills or plains, country or town.

c. Habits of life possibly exercise an influence, but it sometimes attacks those scrupulously clean and moral.

d. Not much influenced by diet or general way of living.

7. Cannot say.

8. The disease has an hereditary tendency. Cases occur where this is clearly traceable.

9. No.

10. No instance has been known where the disease was communicated by direct contact; but it is probable that it is transmissible by inoculation.

c. There appears to be no risk from sexual intercourse, provided there is no abrasion of the parts.

11. Lepers communicate freely with the rest of the community. There is no restriction imposed on them, and they may locate themselves where they please.

12. There is no building provided for their reception, neither are there any enactments relating to the leprous poor.

A weekly allowance, from one to two shillings, is made to each by the Board of Guardians of the hospital, on the report of the district medical officer.

13. The number that receive relief is 47.

14. It is not considered to be increasing.

Medical men are of opinion that a more favourable state of things might exist if public provision were made for the treatment of lepers.

15. We are not aware of any case of spontaneous cure; neither have we witnessed any marked improvement in the condition of lepers from medical or other treatment.

No leper is treated at the expense of the colony.

16. The population, according to the Census in 1861, was 24,440.

Within the last four years a system of registration has been established for births and deaths, including the causes of death; but, in consequence of there being no provision for compulsory medical certification of the cause of death, the registry is full of errors, and is worthless as a record.

17. The island is divided into the following parishes—

	Population.	No. of Lepers.
St. George	7,308	10
St. Peter	2,052	2
St. Mary	1,780	5
Christchurch	2,266	9
St. John	2,389	9
St. Paul	1,661	4
St. Anne	3,392	6
St. Thomas	2,370	1
Trinity	1,085	1
	24,303	47

Dr. Swanston.
Dr. Semper.
Dr. Boon.

No. 7.

NEVIS.

It is endemic in this colony.

There are two varieties of the disease.

a. Tuberculous leprosy, characterised by grey or bronze-coloured spots, which are insensible to the touch, except in some rare cases where they are extremely sensitive and irritable. The spots affect generally the forehead, eyes, nose, ears, and the limbs. Frequently they remain indolent for years, when they pass into the tuberculous state; the tubercles or tumours vary much in size, some being as large as a filbert or walnut, or even larger. A suppuration, which dries up in thick and dark scales, attacks them, either partially or wholly. The ears and nose swell enormously, and have a misshapen and hideous appearance. The interior of the nostrils and the palate is also frequently affected. The features become deformed, the nostrils dilate, the lips thicken, the ears become monstrous, the hair of the head falls off, the eyebrows and lashes drop off, and the face assumes a revolting appearance, which is increased by the general bronze hue of the skin. The sufferer always looks much older than his real age. The extinction of the voice, the obtuseness of the senses, the weakened eyesight, &c., adds to the wretchedness of the sufferer. The cellular tissue of the upper and lower extremities becomes engorged, the skin is shining and wrinkled, especially on the back of the hands and feet, while the soles of the feet swell considerably and develope flat tubercles. The tubercles on the fingers and toes frequently suppurate and ulcerate.

b. Red leprosy is characterised by spots of a greyish red appearance, irregular in form, and more than two inches in size, on the forehead, face, neck, and breast and body. The spots usually remain indolent. Tubercles form equally on the fingers and toes, and disorganise the extremities as in the first variety of the disease.

2. The age is quite uncertain. Th first appearance is generally that of spots on the forehead, eyes, nose, and ears, but sometimes tubercles form without any antecedent spots.

3. These periods are very uncertain. If a child, while nursing, is attacked, it will seldom attain 17 years of age. The duration of the disease may be prolonged to 18 or 20 years.

4. It is not more frequent in one sex than in the other.

5. Though more common in the black and coloured population, it also attacks the whites, of whom there are only 270 in the colony.

6. The disease is most frequent in damp localities, or where the dwellings are close and badly ventilated, quite irrespective of urban or rural districts.

The sanitary condition of the dwelling and its immediate neighbourhood materially affects the progress of the disease.

Where the patient is dirty, and where meat is exclusively used for diet, or, in the case of negroes, whose lymphatic system is affected by their food, which consists of vegetables and saltfish, the disease gains ground rapidly.

7. Stated above.

8. The disease is hereditary. In several families, white as well as black, certain members have become lepers, while the other members remained free from any trace of it. The leprosy sometimes passes over one generation.

9. In the case of children who have inherited leprosy from their parents or wet nurses, the same appearance is presented as in venereal affections.

When yaws are neglected they become constitutional, and in the case of careless dirty negroes present the appearance of leprosy.

10. Has never met with a case where the disease appeared to be contagious. Has known a healthy man married to a leprous wife remain exempt, while the children inherited the disease.

11. There is no restriction on lepers in Nevis.

12. There is no public provision. Lepers are admitted into the "asylum," which is an ordinary building. No provision is made for regular medical attendance.

13. There are five lepers maintained in the asylum.

14. It is not on the increase.

15. Good nourishment and alterative medicines may mitigate sometimes the symptoms; but the disease is generally incurable. It never undergoes a spontaneous cure. None of the lepers in the asylum recover, wholly or even partially.

16. By the Census in 1861 the population was 9,800.

There is a general registration of births and deaths established since 1860.

Dr. Augustin.

17. It is confined to no one district. *Sir. A. Rumbold*, President of Nevis.

No. 8.

MONTSERRAT.

1. Yes.

There are two varieties, known popularly and respectively as "leuta" and "the leprosy." They are in my opinion merely stages of the same disease.

The first change in leuta I have observed is that of an alteration in the cutaneous pigment. Patches of integument, from which the pigment has for a variable time been lost, become studded with tubercles which subsequently ulcerate. When the phalanges (lines and flexures) of the fingers and toes are the seat of the disease, the joints slowly, and, in most cases, painlessly sphacelate through, leaving the carpus and metacarpus only remaining. Anæsthesia of the patches is marked, and this condition extends more or less over the whole body. The hair is lost.

2. Infancy and the period of life when vital power begins to wane (this in the mixed race here is frequently at 30 years of age) appear to be especially favourable to the invasion of the disease.

A cachexia generally precedes the local manifestations.

3. I have seen mutilation of the fingers and toes complete at the age of eight or nine years; and I know of instances where the disease has remained stationary at the pigmental (so to call it) and the tubercular stages respectively for from 12 to 20 years.

The disease, *per se*, does not materially affect the duration of life; but the subjects of it succumb readily to other diseases, such as intermittent and remittent fevers.

4. Males are much more frequently affected than females.

5. The mixed race, the coloured, is by far the most liable to the disease.

6. It is confined to the poorer classes.

a. It exists indifferently in various districts of the island. Situation seems to have little influence.

b. The sanitary condition of the dwellings of the lepers and of their immediate neighbourhood is defective.

c. Little attention paid to personal cleanliness.

d. Diet almost exclusively vegetable, and the way of living poor.

e. The majority of the persons affected are of the agricultural class.

7. Poverty and its attendant miseries.

8. Yes, in by far the majority of instances.

I know of one instance in which one member only of the family is affected; he is between 40 and 50 years of age.

9. I have no reason to think so.

10. No.

c. No.

11. There is no restriction imposed by law.

Lepers may communicate with other persons; but practically they are segregated, as they appear to prefer dwelling altogether apart from their fellows.

12. A small building, called the "lazaretto," and capable of containing six persons in separate apartments, is provided by the colony for lepers; it is a detached part of the establishment for the reception of the sick and infirm poor. It is a wooden structure, with six small apartments, each for one inmate.

The inmates are visited by the public medical attendant of the colony.

13. The six in the lazaretto are wholly provided for, and a small money allowance is granted to two or three others as out-door relief.

14. Unable to say.

15. Cleanliness, and a regular supply of mixed food, seem to have a beneficial influence, in arresting the progress of the ulcerative stage. Tonic medicines also appear to do good.

In some instances the disease does not advance after the cicatrisation, which sometimes takes place, of the remnants of the hands and feet.

16. By the Census of 1861 the population consisted of—

Males - - - - - -	3,447
Females - - - - - -	4,198
	7,645

A systematic registration of births and deaths, including the cause of death in such cases as have been attended by a qualified practitioner, has been in operation since October 1861.

17. My opinion is that leprosy is a manifestation of the scrofulous diathesis, and that it is to the adoption of the general measures acknowledged to be mitigatory of this diathesis that we must look for the prevention of the development of the disease.

Dr. Steventon, Public Medical Attendant.

No. 9.

ANTIGUA.

1. The leprosy (elephantiasis Græcorum) is known in Antigua under two forms, the *tubercular* and the *anæsthetic*. In my opinion they are only varieties of the same disease, as I have seen the two forms in the same family.

a. The *tubercular* form begins with reddish blotches, somewhat resembling urticaria, but permanent, occupying chiefly the lobes of the ears, the alæ nasi, eyelids, chin, and upper part

of the cheeks, also the fingers, the outer surface of the elbow joint and forearm. The skin of the buttock also shows large discoloured patches resembling psoriasis. The toes are swollen, and subject to ulceration. The symptoms continue for years, the tubercles increasing in size and number. At length the mucous membrane of the mouth, fauces, and larynx becomes affected, and the patient is exhausted by disease of the respiratory or digestive organs.

b. The *anæsthetic* form is not characterized by tubercles, but by patches of discoloured cuticle resembling *pityriasis versicolor* on various parts of the body, in which sensibility is nearly lost. When the patches affect the forearm or front of the leg, the extensor muscles are paralyzed. The fingers are permanently contracted, and progression is effected by throwing the feet forward by the action of the muscles of the thigh. Vesications occur on the joints of the fingers and toes, followed by deep ulcers, which terminate in spontaneous amputation of the affected member. The plantar surface of the foot is often affected with a deep callous ulcer like a hole made with an auger, and which discharges an offensive ichor. The features are not disfigured by this form of the disease, except when the eyelids are affected, and ectropium is the result.

2. I have known the disease in children of five years, and I have seen it manifest itself for the first time at the age of fifty.

When it attacks in infancy, there is sometimes a complete arrest of development. I knew a fine youth in whom it appeared at eight years of age, and although he lived to the age of 24, he did not increase in stature, and the genital organs were not developed.

3. I have seen it fully developed at all ages. If the patient is not affected with any other intercurrent disease, it is many years before it proves fatal. The tubercular form is most fatal, terminating usually in disease of the mucous membrane of the air passages and digestive organs.

4. The disease does not appear to be more frequent in one sex than in the other. In our lazaretto there are 22 patients, 11 of each sex. In a family of six children, two sons and two daughters were affected; one of each sex with the tubercular form, and the others with the anæsthetic.

5. In my experience it does not affect one race more than another. The number of cases which I have attended among the whites is as great as that of the blacks, in proportion to the population. It is more prevalent in the white race whose ancestors for three or four generations have resided in the tropics than in Europeans.

6. My experience of the disease being confined to the small island of Antigua, which does not offer much variety of topographical characters, and having met with cases in persons well fed and clothed, and accustomed to the modes of living of the best society, as well as in the humble labourer and his offspring, who subsist chiefly on farinaceous food and salt-fish, I am not prepared to state what outward circumstances are most favourable to the development of the disease.

7. I am not aware of any circumstances which seem to accelerate or aggravate the disease.

8. It appears to be hereditary, but I have known five instances of white families, consisting of several individuals, of whom one member only was attacked, while the other brothers and sisters continued free.

9. No. One instance only has come to my knowledge where such a suspicion was entertained, and treated with mercury and sarsaparilla at first, but without success. It was that of a young Scotchman who came to the West Indies in perfect health. After 15 years residence in the tropics, he married a Scotch lady by whom he had two healthy children. Soon after his marriage the tubercular form of the disease appeared in him; and as he had led a licentious life prior to marriage, he suspected that the symptoms were due to secondary syphilis. It is rather remarkable that the female with whom he cohabited before marriage was attacked with the same disease, while his widow and children up to this time remain perfectly healthy. The disease proceeded to its usual fatal termination with him, in spite of all treatment.

10. I have not met with any case which I could attribute directly to contagion. I have met with several where more than one member of the same family had the disease, but this might be ascribed to hereditary contamination. I have known several instances where the wife has cohabited with the diseased husband without being affected herself; and in one instance all their offspring were affected with it.

11. We have had a lepers' hospital for the last 25 years, for the relief of destitute lepers, to prevent them from becoming vagrants and mendicants; but segregation is not enforced, nor any restrictions imposed.

12. The leper hospital is under the superintendance of the poor law guardians, and is attended by their medical officer. It consists of twelve rooms, six on the two opposite sides of a parallelogram, with a house for the superintendent, and a chapel at one end. The rooms are capable of accommodating three or four patients each, but at present there are only 22 inmates, It is situated in the leeward suburbs of the city, not far from the sea, where the lepers may bathe when they please.

13. At present there are 22.

14. After emancipation, in 1834, it appeared to be on the increase among the lower orders; but I believe this was owing to cases coming more prominently before the public, which formerly were kept on the estates and supported by their masters.

15. Arsenic is the only remedy which in my practice has had any effect in arresting the disease, and that only for a time. I have seen the tubercles disappear under its use, sensation restored to fingers that were incapable of feeling and using a needle, so that the patient was enabled to sew; yet the disease returned, and proved fatal.

I have never met with a case of spontaneous cure, but one which was attributed to a popular remedy, viz., soup made of the common lizard. The tubercles had certainly disappeared; but the patient had lost her sight by the disease, and the skin had an unhealthy anœmic appearance, with white cicatrices where the tubercles had existed.

16. By the last Census, taken on 8th April 1861, the population was 36,412.

For the last six years there has been a uniform registration of births and deaths, including in some cases the causes of death. The classification is that adopted by the Registrar General of England, but it does not specify leprosy. *Dr. W. Nicholson.*

No. 10.

DOMINICA.

1. The disease is known, but not very common. During a residence of 30 years few cases have come under my notice. I have seen only one form of the disease, for I consider elephantiasis as a malady of a different nature.

Among the early symptoms the patient experiences an unusual numbness in his fingers; he cannot feel or grasp any object as formerly; the alæ nasi swell, and there is puffiness of the upper lip; on the forehead appear slight protuberances, generally of a dark livid colour in white persons. These tubercles increase in size, and extend to the cheek; and there is a snuffling or stuffing in the nostrils, as from catarrh. The extremities of the fingers swell, and ulcerations form about the nails, and ultimately the joints drop off one by one. The protuberances and blotches increase in size, and extend to other parts of the body, and the face sometimes becomes greatly disfigured. The voice is sometimes almost lost. The patient sinks into a helpless and pitiable state, and at length dies exhausted. The absence of local pain when ulceration exists is a point specially to be noticed.

2. It may manifest itself as early as 7 or 8 years of age. I have also known individuals far advanced in life affected with leprosy.

3. The malady is slow in progress, and may extend over many years. I know a woman about 25 years of age, who has been afflicted with leprosy, according to her mother's account, for 12 years. She still is able to walk about, but her hands are almost useless, from the ulceration and loss of the fingers; the blotches and protuberances are spreading on one arm, and will probably soon attack the other. The face is swelled and disfigured, but not so much as in many other cases.

4. The sexes appear to be equally subject.

5. In proportion to the numbers, I am inclined to believe the disease occurs as often among one class of the population as another.

6. I am not aware that in this island the disease occurs oftener in one locality than another; nor do I know that diet and mode of living or occupation form elements in the generation of the malady. Want of cleanliness and habits of dissipation will, I believe, tend to develope the disease when a predisposition exists, and probably accelerate its course.

7. Want of care and cleanliness, scanty diet, bad lodging, and a constitution broken by dissipation, would, I believe, tend to accelerate and aggravate the disease.

8. My belief is that leprosy is hereditary, though I am not prepared to assert that the disease may not occur from causes independent of hereditary predisposition.

It is difficult to answer the second query with certainty. I have known instances where only one member of a family has been affected while the others remained free at the *time*. But as I believe that the disease may appear at any age, it would be necessary to carry the period of observation over the lives of each individual member of a family, in order to determine the point with precision.

9. No. I consider the symptoms and course of leprosy to be peculiar to itself. I had occasion formerly to see much of the disease called yaws; it is unnecessary here to detail the symptoms, but I hold that disease to be different in its nature to leprosy.

10. The disease is considered contagious among the people of the colony generally; but I never have met with any case where it had been communicated by contact, or at least so ascertained; nor have I ever heard of any well authenticated instance of the kind.

In general, patients are unable to give any very distinct account of the origin or course of the malady under which they labour.

11. No restrictions are imposed, unless the lepers are receiving relief from the colonial funds.

12. Leprous persons are not admitted into the general hospital. There are no separate infirmaries provided for them. When application is made to the poor law guardians to take charge of lepers, a dwelling, if possible, is procured at some distance from other habitations; if not, a small building is erected, and communication prevented as much as possible. A certain sum per week is allowed from the public funds for the maintenance of the patient, and he is placed under the care of a nurse.

13. I am aware of two maintained at the public expense in the neighbourhood of Roseau. In the out-districts I cannot at present precisely state the numbers, but I do not believe that there are more than two or three, if so many.

14. I am not of opinion that the disease has been increasing in this colony (Dominica) during the last 15 or 20 years.

15. The disease is generally considered incurable. I have never known an instance of cure, either spontaneously or from treatment. The preparations of iodine *appear* to be sometimes of partial benefit.

16. The population of Dominica was, according to the Census of 2d April 1860, estimated at 25,527 souls.

There is a general and uniform registration of births and deaths. The alleged causes of death are reported, but they cannot be relied upon, and the information afforded is comparatively of little scientific value. The following passage occurs in the Registrar General's report of 1861 :—"Another source of complaint arising from the want of medical "attendance is the inability to ascertain the cause of death in the majority of cases, which "precludes the preparing the regular table under that head." The Act for the registration of births, marriages, and deaths came into operation on the 1st of April 1860.

Dr. Imray.

No. 11.

St. LUCIA.

1. Leprosy is known in St. Lucia, but is less common than in some other West Indian islands.

The first appearance is that of change in the cuticle, generally of the hands, feet, or head; the skin becomes thickened, rough, and scaly. The ends of the fingers suffer most; the nail becomes bent, and pushed out of its proper place; and white patches and streaks are seen on the fingers and hands which in the black contrast oddly with the surrounding colour. The fingers become nodular; the skin loses all its ordinary appearance, is hard and leathery, and the hands lose their usefulness, from being so tightly encased. Gradually the fingers drop off. About this time hard tubercles appear on the face, trunk, and extremities; they result in open sores, which after a while heal up, leaving the most unsightly appearances. The mouth is often dragged to one side by them. The voice is lost; but, with all this, the poor disfigured wretch will eat and sleep well, and often appear strong.

Dr. Gardiner, Staff Surgeon.

Leprosy is little known in St. Lucia. During a residence of 27 years I have only seen two cases. One was in a mulatto woman, mother of a large family, none of whom have been affected. The other is in a negro man, the son of a confirmed leper. I have seen about 12 cases of elephantiasis, but I do not consider it to be any form of leprosy. *Dr. Bennett.*

2. It generally shows itself shortly before or after puberty. In the case of the offspring of lepers, it may appear at birth, and often does, in various forms of malformation. Others, again, may not present any appearance of it until 18, 20, or 25 years of age.
The earliest symptoms are thickening, roughness, and scalyness of the skin, generally of the hands, feet, or face. At first it is not unlike an old case of psoriasis. In this early stage the disease appears to be entirely local. *Dr. Gardiner.*

3. It usually becomes fully developed between 25 and 35. I think that from 8 to 12 years is the general term the disease requires to attain maturity.
It generally proves fatal between 40 and 50 years of age. *Dr. Gardiner.*

4. By far the greatest number of cases I have seen have been in women. *Dr. Gardiner.*

5. It is most frequent among the blacks, next among the coloured, and least among the whites. The whites who are attacked are generally old creoles.
The proportion of blacks affected is to whites about 12 to 1, and of coloured to whites about 6 to 1. *Dr. Gardiner.*

6. Leprosy is most frequently observed in low, damp, and swampy localities, either on the seacoast or inland.
The sanitary condition of the dwellings of poor lepers is generally as bad as it can be. The habits of the people are not conducive to healthy existence. Their diet is mostly vegetable; salt fish is the most general animal food they have.
I am not aware of a single case of leprosy occurring among the more comfortable class of the population. The patients are all of the lowest and poorest of the people.
Dr. Gardiner.

7. Bad feeding, intemperance, uncleanliness, and residence in low swampy localities.
Dr. Gardiner.

8. It appears to be always inherited. I have never known of only one case in a family affected with this disease and the rest healthy or free from it. *Dr. Gardiner.*

9. I consider it to be entirely a distinct disease, the result of a long course of vitiation of the constitution. *Dr. Gardiner.*

10. I have never met with an instance of it appearing to be contagious. It is commonly believed among the lower orders to be so; but the belief is confined to them. I have never known a case of it being contracted by sexual intercourse. I have seen the leprous offspring of a perfectly healthy mother but tainted father, and vice versâ of healthy father and diseased mother, but never observed the healthy parent suffer in the case. *Dr. Gardiner.*

11. There is no restriction imposed. *J. M. Grant*, Esq.,
Administrator of the Government.

12. There is no public provision made. They are not admitted into the general hospital; but I am informed that there is a leper in the building used as a yaws' hospital.
J. M. Grant, Esq.

13. None, except the one referred to in interrogatory 12. *J. M. Grant*, Esq.

14. No information.

15. I think I have seen cases improved by removal to good air and by nourishing food. I cannot say anything in favour of medical treatment. Never in my experience has leprosy undergone a spontaneous cure. *Dr. Gardiner.*

16. The estimated population of St. Lucia is 26,675 souls.
There is no such general registration. *J. M. Grant*, Esq.

Drs. Cavalier, Boucher, and Godineau, all of whom have been long resident in St. Lucia, informed the Administrator that having seen not more than one or two cases of the disease, which they state to be very rare in the colony, they were unable to give any satisfactory particulars respecting it.

No. 12.

ST. VINCENT.

1. Known in St. Vincent under two forms, the humid and the dry. They are distinct diseases, yet having an affinity with each other, as tabes mesenterica has with phthisis.

Humid leprosy is characterised by the swollen, knobbed, and ridgy appearance of the skin, especially of the face, the lips, and alæ nasi being much thickened, the tarsi thickened and inflamed, and the elevated portions of the skin being generally polished and shining.

Dry leprosy is known by the enlargement of the ends of the joints, beginning with the small ones of the hands and feet, but invading the wrists and ankles in its progress. The joints become anchylosed in a state of extreme flexion, and the disease is generally arrested at this point.

Dry leprosy differs in nothing from ordinary scrofulous disease of the joints, except in the locality which it invades. I therefore omit all consideration of it in the following remarks. In the humid leprosy, in its latter stages, there is also enlargement of the joints, with flexion and anchylosis. *Dr. Checkley.*

It occurs in two forms, the tubercular and the anæsthetic. They are only varieties of one morbid state.

The tubercular form is indicated by indolent tubercles on the face and extremities, tumefaction of the skin, and tendency to ulceration about the feet and toes.

The anæsthetic form, by the atrophy of one or both hands, and the flexion and contraction of the median and distal phalanges, and the permanent extension of the proximal phalanges. The feet are affected in a minor degree. *Dr. Sprott.*

a. and *b.* In my opinion there is only one common morbid condition, in a more or less aggravated development. In some cases there is much ulceration of the face, with frightful disfigurement, loss of sight, nasal snorting breathing, destruction of the fingers, &c. In other cases there is no ulceration, but merely contraction or loss of the fingers and toes. The disease appears to be invariably attended, even in the milder cases, with a loss of sensation in the extremities. *Dr. Arnott.*

2. At every age. I have seen it at all periods between 10 and 50 years.

Its approach is indicated by a bloated look of the face, and by the appearance of shining patches on the forehead and cheeks; these soon become elevated, and the lips thicken. *Dr. Checkley.*

I have never seen it in infancy, but I have in children, adults, and aged persons. A medical man has seldom an opportunity of observing it in its earliest stage; parents and relatives seclude the case as much as possible from observation. I know of one case in respectable life, where no medical man saw the case until within a few years of death.

In one case, an adult, the earliest appearance was a tubercle on the upper lip, which went on for months, progressively enlarging until the eruption became general over the body, with most excruciating sensibility of the skin. I recently saw a girl, seven years old, whose right arm dangled by her side; the hand was slightly swollen, though not œdematous; the fingers also were slightly swollen, incurved, and as it were separated from one another. There was a leprous taint on the mother's side. *Dr. Sprott.*

I have seen the disease in a boy nine years of age. He had large protruding ears, discoloured skin, voice nasal, gait unsteady, fingers swollen, a drooping of the forearms, with inclination to hang backwards behind the body.

Another patient was 26 years of age when first attacked. *Dr. Arnott.*

3. At all ages above 10 years. It runs its course from three to six years, and is usually fully developed in about two years after the appearance of the first symptoms. *Dr. Checkley.*

Neither form is so rapidly fatal as is generally supposed, unless ulceration of the extremities supervenes. The anæsthetic form without ulceration does not materially shorten life. The tubercular form, in its aggravated stage, will destroy life in a few years, partly by asthenia, partly by internal complications. *Dr. Sprott.*

4. No; the sexes are equally affected. *Dr. Checkley.*

It is most frequently seen among males; but the number of cases under observation is no criterion of the extent or prevalence of the disease. Every precaution is frequently taken to prevent its existence being known, and it may be that seclusion is more often and successfully carried out in the case of females.

There is strong reason to believe that it prevails to a great extent here. *Dr. Arnott.*

5. Most frequent among the blacks; in the proportion of five among the blacks, three among the coloured, and one among the white. *Dr. Checkley.*

I have seen many cases in coloured and in black persons. I have also heard of cases in families claiming to be of exclusively European descent. In the latter circumstances, every effort is made to seclude the case as much as possible.

It is well known that the Hebrew race, who can boast of purity of blood, are unusually liable to leprosy. *Dr. Sprott.*

It occurs, according to my experience, more frequently among the mixed race, especially in those approaching most nearly to the white, and in the pure black population, than among the pure white and the mulattos (properly so called) in the first degree. In a small community, intermarriage must influence the spread of the disease. *Dr. Arnott.*

6. Amongst the poor. I believe it to be more frequent among the town than the rural population. *Dr. Checkley.*

More cases are seen in the towns than in the rural districts, because they come to the former for charity.

b. Some live under the public galleries on heaps of rags, protected from the wind by the skins of oxen; others in wooden hovels on the beach. A few anæsthetic cases are provided for in the almshouse in connexion with the Colonial Hospital.

d. Living on charity, they must take what they can get.

e. None, unless practising on the superstitious fears of the ignorant by obeah arts.
Dr. Sprott.

I consider the ordinary diet of the population (consisting chiefly of salt fish, vegetables, corn meal, fresh fish, with a very insufficient proportion of fresh meat and bread,) to be unfavourable to the preservation of good health generally. *Dr. Arnott.*

7. I am firmly of opinion that the development of the disease is encouraged and accelerated by poor diet and indulgence in ardent spirits. *Dr. Arnott.*

8. Yes.
No. *Dr. Checkley*
It is hereditary. *Dr. Sprott.*
Yes, in my opinion.
Yes. *Dr. Arnott.*

9. I think it is connected with scrofula, but not with any other disease. I look upon leprosy as a form of scrofulous disease of the sudoriferous and labial glands, and of the sebaceous and meibomian follicles, proceeding to scrofulous infiltration of the subcutaneous cellular tissue, implication of the ends of the bones, and ultimately of internal organs.
Dr. Checkley.

When I took charge of the Colonial Hospital, a few years ago, I found in the almshouse a Portuguese affected with yaws, and as it was contrary to the rules to have him there, he was forthwith discharged. Many months afterwards, a Portuguese boy, whom I had successfully treated for leprous ulcerations of the hands and inferior extremities on two former occasions, was admitted. While attending him the old yaw patient came in, and, on stripping them both, I was struck with the remarkable resemblance between the cicatrices on the lower extremities. The man died of ulcerated legs and diarrhœa; the boy is now an incurable leper. *Dr. Sprott.*

10. I have met with one case where the disease was said to have been communicated to a child, not hereditarily predisposed to it, by contact with a leper in whom there was ulceration with discharge. I believe leprosy to be communicable in this way, and in this way only. In the scrofulous disease of the sudoriferous glands, known here as 'letterworm,' I have observed it to extend in the direction in which the discharge flowed. *Dr. Checkley.*

I cannot regard it to be contagious. I have heard it stated to be so by others.
Dr. Sprott.

I believe that it is not contagious. I have known a man live with his wife who was a leper, for many years, without contracting the disease. *Dr. Arnott.*

11. No restrictions. They are not avoided by the negro population. *Dr. Checkley.*

Segregation and legal provision were attempted here, but the attempt failed.
Dr. Sprott.

There is no restriction. . . . I consider that isolation is an imperative necessity, and should be made compulsory. *Dr. Arnott.*

12. None. *Dr. Checkley.*

I understand some lepers are maintained at the public expence, and others by a small fund principally contributed by successive grand juries.

Some cases of anæsthetic leprosy are and have been admitted into the alms house.
Dr. Sprott.

No special provision is made. A leper would not be admitted into the general hospital. Many of these unfortunate beings beg in the streets. *Dr. Arnott.*

13. One or two receive aid from the town; the rest are supported by their families or by private charity. There are eight lepers in Kingstown. *Dr. Checkley.*

I believe there are eight; four males and four females. *Dr. Sprott.*

14. No. *Dr. Checkley.*

I have no reason to believe that the number is increased or diminished. An attempt was made by the assessors during the last Census in 1861 to ascertain the number of lepers in Kingstown alone, but the return was not satisfactory. *Dr. Sprott.*

15. The only remedies that I have seen at all efficacious in arresting the progress of leprosy are Donovan's solution and the liquor. potass. arsenitis. *Dr. Sprott.*

16. By the last Census in 1862 (1861?) the population was estimated at 31,755. There is no such registration. *Dr. Checkley.*

There is a registration of births and deaths in the principal towns, but in the large and populous villages in the interior there is nothing of the sort. *Dr. Sprott.*

No complete register of births and deaths exists here. *Dr. Arnott.*

17. I believe that lepers are in a much larger proportion to the entire population in Kingstown than in the country districts. *Dr. Checkley.*

It is extremely difficult to obtain any information about leprous patients. Should any respectable family have a relative afflicted, the sufferer will be strictly concealed, and a medical man may be in attendance on the family for years and not know that there is such an unfortunate being in the house.

I send the photographic portrait of a negro boy, who says he is 17 years of age, and who is permitted to go about begging. *Dr. Arnott.*

No. 13.

BARBADOES.

1. It is well known in Barbadoes.

a. I know of only one distinct form of leprosy, the characters of which, in the white subject, are these—firstly a pinky rose colour of the cheeks and lips, which slowly assumes a dark hue; the cuticle becomes thickened and ultimately tuberculated. At the same time, the alæ nasi and the cartilages of the ear become thickened and darker, the voice hoarse and and unnatural, and the lips thick and tender at the edges. The phalanges of the fingers and toes are swollen and indurated. In this way the disease progresses for years. The general health is somewhat impaired, and locomotion is slow and sluggish. In the last stage, in some cases, the phalanges gradually slough off from the last joint to those at the base of the fingers or toes. Generally, after the first phalanx has separated, the wound becomes cicatrised before the next is attacked by gangrene. In the negro the same symptoms accompany the disease throughout its course, but they are less evident in the first stage. *Dr. Carrington.*

It occurs under different forms, viz., lepra tuberculosa, nigricans, vulgaris, and syphilitica. 1. Tuberculous leprosy is characterised by the body being covered with livid elevated spots of variable size and irregular shape. The skin and adjacent tissues become thickened and tuberculated, especially the alæ nasi, eyebrows, lobes of the ears, and joints of the fingers and toes. Subsequently the face and joints become swollen, and ultimately attain about twice their natural size. 2. L. nigricans is attended with gangrenous ulceration, destroying the fingers and toes, and is known as the "joint evil." The ulcers discharge an offensive sanies, and never heal. Paralysis of the extensors is a frequent concomitant; the 3d pair of nerves are sometimes involved, causing a falling of the lower eyelids, and great distorsion of the countenance. 3. L. vulgaris is rare in Barbadoes; and, 4. L. syphilitica is a distinct disease. *Mr. Rogers.*

The tubercular form of leprosy is the only leprosy here, and if there be any apparent outward manifestations showing a difference, these are only different stages of the one common morbid state. By some authors the disease has been divided into two forms, viz., lepra tuberculosa and l. anæsthetica; but they appear to me to be one and the same disease, never having seen a case in which they were not more or less combined, the anæsthesia or loss of sensasion being very often the early and prominent symptom, *Dr. Clarke.*

The skin becomes thick, livid, rugose, tuberculated, and insensible, eyes fierce and staring, perspiration highly offensive, voice hoarse and nasal, falling off of the hair, particularly of

the eyelids and brows, vertigo with burning lancinating pain in the head, tension of the skin, sometimes ulceration of the joints of the fingers and toes, which, as the disease advances, slough off.

In my opinion there is only one form of leprosy, passing through different stages, and producing different appearances in different constitutions. *Mr. Moore.*

a and *b*. I have observed four forms, three of which are probably only varieties of one common morbid state, and the fourth may be distinct disease; but they all exhibit one common bond of affinity, viz., the anæsthesia, which strongly characterizes the whole group.

c. By far the most prevalent form is "elephantiasis tuberculosum" (well described by Hillary, in his work on the Diseases of Barbadoes), of which the symptoms are,—tumid, irregularly shaped, discoloured elevations of the skin, insensible, and giving the features a swollen, bloated, and deformed appearance. The alæ nasi, ears, and chin are usually specially affected. The skin around the tubercles has a dirty yellowish or more or less brown appearance, very appreciable in white persons. The hair drops off from the eyebrows and eyelids. Subsequently, the fingers and toes, which are swollen and have little or no sensibility, become the seat of ulcerations, with a fœtid ichorous discharge. The nasal cavities and bronchial passages are also implicated, and the voice becomes hoarse and snuffling. Death is not unfrequently caused by the diseased state of the air passages.

The second form exhibits, besides the features described, the additional one that the tubercles on the face are covered with thick incrustations or scabs, produced by the ulcerated surfaces of the tubercles beneath.

The third form, very rare, is distinguished by the tumefactions not being so much raised as in the other two, and by the formation of a thin scaly desquamation on the surface of the tubercles.

The fourth form seldom exhibits well marked tubercles, but the skin is here and there disfigured by yellowish and brownish spots. The fingers and toes are flexed, and incapable of extension, and there is a total loss of sensibility in and above the members affected; the phalanges of the fingers and toes drop off, one after the other, until the process reaches the metacarpo and metatarso-phalangeal articulations, where the destructive action ceases. These patients are liable to sores in other parts of the body, but in other respects they seem in good health. I have seen this form only in the blacks. It is to be noted that the stiffness and permanent contraction of the fingers frequently attend the first and other forms of leprosy.

There is no other vernacular term for the disease than that of leprosy, but persons are said to be "afflicted" who have it. *Dr. Goding.*

There are two diseases, confounded one with the other by most authors as leprosy, under the terms of elephantiasis Græcorum, lepra tuberculosa, the jerzam of the Arabians, and of lepra anæsthetica, the djuzam of the Arabians. They are popularly named in Barbadoes "leprosy" and "joint evil."

The Barbadoes leg, or glandular disease of Barbadoes, is of frequent occurrence in the island. Some writers have confounded it with the two forms, under the inappropriate terms of elephantia, elephantiasis Arabum, and elephantiasis tuberosa. It is popularly called in the island "fever and ague," and is totally unlike and distinct from leprosy or the joint evil.

Leprosy and joint evil have in their very commencement some symptoms in common, which may cause them to be confounded one with the other; but, when they are fully developed, they show themselves distinct diseases, both physically and constitutionally.

i. Leprosy, when developed, is characterised by a dusky black or dirty yellow complexion in the negro and mulatto, as if the skin was covered with a thin film of dirt, and by a livid or dirty brown or red colour in the white. The skin of the forehead, particularly of the eyebrows, and of the cheek bones, alæ nasi, lips, chin, and ears, are tuberculated and shining, as if covered with varnish, and the lobes are pendulous. The lips are swollen and everted, partially showing the teeth, and frequently fissured and sore. The hair of the scalp is thin and lank, and the beard is scanty or wanting; the hair on the axillæ, on the pubes, &c., is also deficient. The mucous membranes of the mouth, fauces, pharynx, larynx, and nasal passages, and covering the tongue and uvula, are studded with tubercles; the pituitary membrane discharges a fœtid secretion, and the sense of smell is impaired; the whole causing a frightful deformity of countenance. There is a general wasting of the muscular system, and nowhere any visible fatness. The skin of the body, arms, and thighs is meagre and loose, of a dusky, dirty, or livid yellow or red colour, and spotted about with patches of *vitiligo*, particularly on the nates, arms, and legs (that on the nates being tuberculated). These blotches are mostly insensible to the touch, or have an indistinct feeling of soreness accompanied with numbness, when pinched between the finger and thumb. From about

midway of the legs to the phalanges of the toes, there is serous infiltration of the cellular tissue of the parts, and the ends of the toes are livid and rather atrophied; the skin of the feet and legs is chapped, and discharges an offensive ichor. The backs of the hands and fingers are swollen, and the fingers stiff and painful on being bent. The inguinal glands are enlarged, and the skin covering them pendulous. The genital organs are either not properly developed, or become atrophied, according as the disease began before or after puberty; and the sexual desire either never existed, or is lost when the disease is fully developed, nor do I know of procreation having taken place in any such state of the body and constitution.

ii. The lepra anæsthetica or joint evil is characterized by paralysis of the muscles of the face, numbness of the skin, inability to close the eyelids, eversion of the under lids, and sometimes fistula lacrymalis, deficiency of the cilia and scantiness of the eyebrows, chiefly on one side, but sometimes on both; the lips are thick and chapped, and the under one everted and hanging down, partially showing the teeth. The complexion is dusky in the white, but not much altered in the black or mulatto. The muscular wasting is less than in true leprosy. There is a peculiar halt in the gait, either of one or both sides, not like the dragging of the foot in ordinary paralysis, but a lifting of the leg at the knee, with an inward and forward progression of the foot. The skin, particularly on the arms and legs, is of a dingy or dirty colour, and is spotted with brown blotches, which are somewhat thickened and insensible to the touch. The muscles of the hands and feet are wasted, the phalanges of the fingers and thumbs, and of the toes, frequently the two distal ones only, are removed by ulceration. *Dr. Young.*

There are two forms of the disease, according to my observations, and they are commonly known as "leprosy" and "joint evil." They are varieties of one disease. In the leprosy, the skin of the face, ears, chin, and nose is tuberculated, or these parts are tumified and puffy. The skin of the arms and thighs is seldom tuberculated, but thickened, wrinkled, and discoloured, sometimes scaly or scurfy, but not ulcerating; the skin of the legs is generally ulcerated.

The "joint evil," or anæsthetic form of the disease, commences with white spots on the skin of the body, hips, and arms, subsequently numbness and loss of feeling in the extremities, followed by gradual contraction of the flexor tendons, and afterwards by loss of the phalanges of the fingers and toes, and occasionally of the entire hands, and of the greater portion of the feet, by absorption, without ulceration, the nails and toes being often found on the knuckles or remaining stumps. The gait of the patient is often peculiar; he lifts his knee high, and drops the foot flatly in progression.

Cases occur partaking of the characters of both forms of the disease, such as contraction of a finger or two, with numbness in the tuberculous form, and slight tumefaction of the lips, &c., in the anæsthetic form. Of 45 patients in the lazaretto, 26 present the tubercular form, and 19 the anæsthetic. *Dr. Browne*, Physician to the Lazaretto.

It generally appears with a thickening of the integuments of the ears, nose, and fingers, and with small purplish spots (in the white) and yellowish (in the black) about the body. There are two forms, called "true leprosy" and "joint evil." I believe them only modifications of the same disease. The "joint evil" is chiefly confined to the fingers and toes, the phalanges of which become much contracted, and generally fall off. *Dr. Stevenson.*

2. When the disease is hereditary it commences from the earliest age, as a general rule; but sometimes it first shows itself at a more advanced age. *Dr. Carrington.*

In children born of leprous patients it appears to remain latent to seven, eight, or nine years of age, and then manifests itself by cutaneous appearances. A cachectic state of constitution precedes these appearances. *Mr. Rogers.*

I have seen the disease appear at almost every period of life, but most commonly, so far as I have observed, just before or about puberty. The earliest symptoms observable are spots on the face, followed by thickening of the alæ nasi, lips, and ears, and anæsthesia of the extremities. *Dr. Clarke.*

At puberty. The skin of the face has a shining appearance, with usually a yellowish spot in the centre of the forehead, extending down on each side of the nose. These appearances are soon followed by similar spots about the body. The lobules of the ears become bright, and seem as if œdematous. The alæ nasi are thickened. Then follows in some cases a straining or tightening of the skin, well marked about the lower lids, and producing a staring of the eyes, ulceration and sloughing of the phalangeal articulations, hoarseness of voice, and falling off of the hair. In other cases the whole face becomes rugose and tuberculated, without any ulcerations. I have seen this difference in two children of the same parents. *Mr. Moore.*

The age of 45 is the latest period I have known a person to be attacked, and I have once seen it unmistakeably developed in an infant soon after birth. The intermediate periods between six and twenty years of age are those most liable to its attacks.

The earliest symptoms are the appearances of "yellow spots," and insensibility of the skin to external stimuli. Thus melted loaf sugar accidentally dropped on the fingers without producing any sensation gave rise, in a young white female, to suspicion, which was shortly afterwards confirmed by leprosy manifesting itself more decidedly. The "yellow spots" alone do not necessarily constitute leprosy, or are followed by it. They must co-exist with a rough elevated or swollen condition of the parts; and if anæsthesia be also present, the diagnosis is the more certain. Generally the earliest indications are found in the elbows and knees; and I have always made it a point, when the facial signs admitted of a doubt, to examine those parts, and if the symptoms were present there at once to declare the nature of the disease. *Dr. Goding.*

It occurs at any age between 10 and 40. I have known it as early as the seventh year.

Spots of *vitiligo* on the arms and legs, and here and there on the body, first attract notice. They are of a dirty yellow or brown colour, scarcely sensible to the touch, but if pinched are slightly painful and thicker than the surrounding skin. . . . The integuments of the ears, brows, and alæ nasi, on careful manipulation, will also be found slightly thickened. Then follow the tuberculated condition of the features, and the other changes already described.

Joint evil does not, I believe, occur before puberty, nor much after that period. The earliest symptoms are spots of ephelis on the face, arms, and legs, and here and there about the body, insensible to the touch. There is a slight halt in the gait on one side, thinness of the hands from wasting of the muscles of the thumbs and little fingers, and of such as lie in the palms of the hands and between the metacarpal bones, and the thumb being forcibly drawn against the under finger; there is no bulging up of the adductor pollicis between the metacarpal bone of the one and the other; no power to compress the eyelids forcibly together, perhaps on one side only, with a slight opening between them; and on that side there is perhaps just a perceptible numbness of the skin, and weakness of action in the muscles. These symptoms slowly and gradually increase, and then the third and second phalanges of the finger and the second of the thumbs become contracted, and ulcers appear around and under the nails, and the phalanges drop off, and the skin cicatrises.

The progress of joint evil is slower than that of leprosy.

Persons labouring under these disorders usually die of inflammatory or chronic affections of the lungs and air passages, or of diarrhœa and other abdominal diseases, attended always with typhoid symptoms. *Dr. Young.*

Early in life. The earliest symptoms in the tuberculous form are small disseminated tubercles in the face; in the other form, white spots on the body, generally large, and caused by want of the usual pigmentary secretion.

Of 42 inmates of the lazaretto, the disease commenced in 29 before 16 years of age; in 7 between that age and 26, and in 6 between 31 and 54. *Dr. Browne.*

About puberty. The earliest symptoms are those already mentioned. To these I may add an alteration in the voice, a sort of snuffling, and very frequently (particularly in the worst cases) a numbness along the course of the *ulnar nerve*, with a slight discolouration and swelling of one or two fingers. *Dr. Stevenson.*

3. When the disease is hereditary it usually manifests itself at an early age, and runs its course before the adult period; but when it appears at a more advanced period, it usually terminates in death about the age of 50; occasionally, but rarely, it commences at a still later period of life. *Dr. Carrington.*

It generally attains its full development about the age of puberty. Persons so affected usually die about 35 or 40 years of age. *Mr. Rogers.*

It is not unfrequently very slow in its progress, and is often for a long time unrecognized either by patient or friends. Gradually developing itself, the patient may live for many years, nay even to old age. *Dr. Clarke.*

The periods of its full development, and also its duration, vary very much. A person may live for many years, for 10 or 15 or more years, with leprosy, before it proves fatal, while others will succumb quickly. It is not, however, a disease that generally kills quickly. *Dr. Goding.*

If the disease appears before puberty, it will be a year or two before it is fully developed, and from six to ten years, or even longer, before it proves fatal. Occurring after puberty, its development and fatal termination will be shorter and shorter as the patients advance in years. In joint evil life is protracted longer than under leprosy. *Dr. Young.*

3. Judging from the cases admitted into the lazaretto, the time of its full development appears to be at puberty or a little after. Of 17 deaths in the lazaret, five occurred before

16 years of age; six between that age and 26; and six between that and 60. The duration of the disease in forty of the present inmates is as follows:

In 6	-	Two years	In 4	-	Seven years	In 3	- Thirty years
„ 3	-	Three „	„ 5	-	Eight „	„ 1	- Thirty-one „
„ 6	-	Four „	„ 2	-	Ten „	„ 1	- Thirty-two „
„ 2	-	Five „	„ 2	-	Twelve „	„ 1	- Forty „
„ 2	-	Six „	„ 1	-	Twenty-nine „		*Dr. Browne.*

Sometimes the spots before mentioned will continue for years before the other characteristic symptoms appear. It does not seem materially to shorten life *per se*, but it greatly aggravates and renders more fatal all inflammatory diseases. Patients are generally at last carried off by gastro-enteritis or chronic laryngitis. The "joint evil" does not affect the general health as much as the tubercular form. Leprous persons seldom live to be old; some disease, aggravated by their state of health, generally carries them off prematurely. *Dr. Stevenson.*

4. I think I have seen the disease as often attack the male as the female. *Dr. Carrington.*

It is more frequent in the male sex, in proportion of about three to one. *Mr. Rogers.*

Not in my opinion. *Mr. Moore.*

I think not. *Dr. Goding.*

Not more frequent in one sex than in the other. *Dr. Young.*

There is no reason to believe that one sex is more liable than the other. Of the 45 patients in the lazaretto, 24 are males and 21 are females; 15 of the former and 11 of the latter being affected with the tubercular form, and 9 of the former and 11 of the latter with the anæsthetic form of the disease. *Dr. Browne.*

In the male sex, as far as I have observed, in the ratio of five to three. *Dr. Stevenson.*

5. There are more cases among the black population than among the white or coloured, not because the blacks are more predisposed to the disease, but owing to there being about three blacks to one white, and two blacks to one coloured, in the island. *Dr. Carrington.*

It is most frequent among the blacks, in the proportion of about ten blacks to one coloured, and is comparatively rare in the white. *Mr. Rogers.*

I should say it was most frequent among the blacks; next among the whites; and less among the coloured; but I have no data as to the relative proportions. *Dr. Clarke.*

It is not more frequent among one race than another. *Mr. Moore.*

The black population, being numerically the largest, it might seem that it is more frequent among them than among the coloured or white; but my opinion, reservedly given, is, that it is really not so. The fourth form of the disease I believe to be confined to the blacks. *Dr. Goding.*

We see more cases in the black and coloured than in the white inhabitants, but not greater than in proportion to the relative population of the races. *Dr. Young.*

There are no reliable observations to show that the disease is more prevalent in one race than the other. In the lazaret, 27 are black, 18 coloured, and 1 white. But I am confident that it is far more prevalent among the whites than the above number indicates, the aversion to accept the charities of the institution being much greater in that race than in the others. The number, 18, among the coloured, would seem to point to a greater prevalence among them than among the black, the relative proportion (according to the last Census) being 9 coloured to 25 black, and the proportion among the inmates of the lazaret being 9 to 13. *Dr. Browne.*

In the white and coloured less frequent than in the black, but I cannot say in what proportion. *Dr. Stevenson.*

6. It attacks unsparingly the higher and the lower classes. It shows itself in all parts of the island; in towns, rural districts, on the seacoast, and inland; in low damp situations and on dry hills. It developes itself in the best dwelling as well as in the most humble cottage. There can scarcely be a doubt but that cleanliness must retard the spread of leprosy. I do not think it is influenced by diet. *Dr. Carrington.*

a. It is most frequent in the lower orders of society, who live near the seacoast in low, damp, and malarial districts, in small wooden houses, with little personal cleanliness, and are irregular in their diet and general mode of living. *Mr. Rogers.*

It is most frequent among the blacks or labouring population; and though I believe it is most frequently seen in the town districts bordering on the seacoast, and rarely in the interior or high lands, yet it does not appear to be attached to any particular locality; nor am I aware of any particular circumstances which seem to favour its development. *Dr. Clarke.*

It is seen in all conditions of society, and from my observation is not more frequent in one than in another. *Mr. Moore.*

No condition of society is exempt; nevertheless, the disease is comparatively rare among the wealthy. I have ever been at a loss to ascribe its development to those conditions or circumstances referred to, nor have I observed that it is more frequent in one locality than another. Although want of cleanliness may occasionally aggravate the disease, I could never directly trace it to that cause alone. *Dr. Goding.*

It is most frequent among the poorer classes. It occurs chiefly in low-lying, dry, and hot districts, and along the seacoast. The dwellings are small and generally densely inhabited; the personal habits of the people not cleanly. The ordinary diet is scanty, and consists chiefly of salted and fresh fish, with vegetable matters.

The disease, however, very often occurs among the rich, surrounded by and enjoying every comfort, and living in the healthiest situations; but I never saw a case of "joint evil" in that class of persons; and when this occurs in the poorer class it is most frequently found in the colder and damper districts. *Dr. Young.*

The general opinion here is, that it is seen more on the coast than in the interior, and chiefly among the lower and poor classes. *Dr. Browne.*

It is more common among the lower orders. *a.* It is met with in every locality in the island. I think, however, that the greater number of cases will be found on the seacoast and in the towns. *b.* The dwellings of the lower classes are generally low and hot. *c.* Their habits are not cleanly. *d.* Their food is wholesome, but coarse. I cannot say, however, that I have observed any of the above-mentioned states sensibly to favour its development. *Dr. Stevenson.*

7. Intemperance in diet, and the free use of ardent spirits. *Dr. Carrington.*

Want of proper nourishment, and exposure to the vicissitudes of climate. *Mr. Rogers.*

It is doubtless accelerated and aggravated by whatever tends to lower the vital powers. When it appears in one who has the ordinary necessaries and comforts of life, it may not only be protracted for many years, but he may even be able to exercise some useful employment. *Dr. Clarke.*

Probably poverty, and a want of cleanliness and wholesome food. *Dr. Goding.*

Poor diet, intemperance, bad clothing, crowded habitations, and a want of cleanliness. *Dr. Young.*

A rich heating diet, or a want of sufficient quantity of good wholesome food, will alike aggravate the disease, as will also exposure to the sun; but chief among the sources of aggravation are dissipation and debauchery. *Dr. Stevenson.*

Want of good diet and of medical and other care. *Dr. Browne.*

8. Without doubt, it is hereditary. I have known many instances in which it attacked one member of a family, whilst all the others escaped. I have also known it to pass over one or more generations, and to appear in the second or third degree. *Dr. Carrington.*

It is often hereditary. I know two instances where one member only of each family was affected, while all the other members remained free from any trace of the disease.

I know an instance of three children, the offspring of a leprous father, becoming, each of them, affected with the disease at seven or eight years of age. The malady was apparently latent in the mother. *Mr. Rogers.*

It should be classed among the purely hereditary diseases; nor is this disproved by the fact of one member only of a family being affected, while all the other members remain free from any trace of it, instances of which may be adduced. *Dr. Clarke.*

Always, in my opinion. *Mr. Moore.*

I believe the disease partakes of an hereditary character. I have known instances of one member of a large family being affected, while all the rest remained free. *Dr. Goding.*

Leprosy and joint evil are both hereditary. I have seen only one case of leprosy where this could not be traced out. I have known several instances where only one member of the family has suffered; indeed I do not recollect ever to have seen more than one of the same family affected. *Dr. Young.*

It does appear to be hereditary, but I cannot say often so. There are many in the lazaret who have father and mother free from the disease; and I know a white person in middle life, a mother of a numerous family, affected with the anæsthetic form of the disease, in whom it manifested itself at the cessation of child-bearing, whose entire family remains free, and whose father and mother were not affected. *Dr. Browne.*

There can be no doubt of its being hereditary. Frequently, however, one member will be attacked and the others escape; but very commonly the offspring of those members who escaped will be attacked with it in its worst form. *Dr. Stevenson.*

9. I have not. *Dr. Carrington.*

In my opinion, leprosy is a distinct disease. *Mr. Rogers.*

I believe leprosy to be a disease *sui generis*, differing from all others in its character, progress, duration, and in the inefficacy, above all, of any medical treatment in effecting a cure. *Dr. Clarke.*

I have no reason to believe so. *Mr. Moore.*

I believe it is a disease *sui generis*. The yaws, once so prevalent in the West Indies, are fast disappearing from Barbadoes. *Dr. Goding.*

I have not. *Dr. Young.*

I have not. *Dr. Browne.*

I will not say that syphilis can produce *true* leprosy, but that it can produce a disease so closely resembling it as to deceive the most careful observer I fully believe. It is most common in the offspring of syphilitic patients. There are, however, one or two signs by which syphilitic leprosy (if I may use the term) may be distinguished from true leprosy, viz., the spots are generally more copper coloured and scattered over the whole body; swelling of the tonsils and uvula is more constant; the shafts of the long bones commonly nodulated; pains in the joints, with thickening round the heads of the bones. If not capable of cure, it can be much ameliorated by regimen and medical treatment; whereas true leprosy runs its course in defiance of all treatment. *Dr. Stevenson.*

10. No. I have known a leper to remain in the same dwelling, and have free communication with the other inmates, without any other being attacked. It is not, I think, transmissible by sexual intercourse. *Dr. Carrington.*

I know of two instances where the disease was communicated to two healthy young men by proximity (and perhaps direct contact). In both cases there were ulcerations with a discharge. The young men ultimately suffered from the same form of the disease. *Mr. Rogers.*

I believe it cannot be communicated by direct contact, and is therefore not contagious.

I have known instances of man and wife living together for years, the one a leper and the other sound, without the disease being communicated by contact or sexual intercourse. In one case the disease early appeared in some of the children, while the others remained apparently healthy. *Dr. Clarke.*

I have not met with any instances, nor do I believe it to be contagious. *Mr. Moore.*

I cannot speak decidedly to this point. In two instances, contagion appeared to be the influencing cause. In one instance of two sisters (one leprous) living together, and avoiding all intercourse with other people, the second sister, who had for many years waited upon her leprous sister, eventually became affected. No medical man being permitted to see the first sufferer, no information was obtained as to the manner in which the supposed contagion was communicated.

No instance of the communication of the disease by sexual intercourse has come to my knowledge. *Dr. Goding.*

I have never seen a case either of leprosy or of joint evil propagated by contagion or infection; nor do I believe that they are transmitted by sexual intercourse, or by any other way than by hereditary taint. *Dr. Young.*

I have not met with any cases of contagion. None of those in attendance, during the last nine years, upon the inmates of the lazaretto have contracted the disease; and I, after receiving a wound from a knife, moistened with the fluids of an inmate, have escaped, although the wound was followed by great constitutional irritation and loss of the finger. From what I have heard, I do not believe it communicable by sexual intercourse. *Dr. Browne.*

I do not think it infectious, but I think it may be communicated by direct contact.

a. In the latter stage, when there are ulcerations with an unhealthy discharge.

b. One was that of an individual who occasionally slept in a bed soiled with the discharge from a leper; the other was in a servant who dressed the ulcers of a leprous patient; both became leprous, although not related to the patients, nor was there any hereditary taint.

c. I am not aware of any case that could be directly ascribed to such a source of transmission. *Dr. Stevenson.*

11. In some instances, free communication is permitted. By a recent enactment, a lazaretto has been erected for such persons as shall avail themselves of the institution, and for vagrant lepers. *Dr. Carrington.*

The lower orders are received and supported in the public lazaret; the higher prefer living a secluded life in their own dwellings. *Mr. Rogers.*

Lepers may and do communicate freely with the rest of the community, without restriction or legal segregation. *Dr. Clarke.*

Communication with the rest of the community is permitted. *Mr. Moore.*

Among the independent classes, they sedulously exclude themselves from society. All from the highest to the lowest have such a dread of the disease being known in their families that they keep them out of sight as much as possible. The destitute are sent to the lazaretto, or go about begging. In times of slavery they were never seen begging, but were kept by their masters in cottages set apart for them on the plantation. *Dr. Young.*

Lepers are not prevented free intercourse with other persons, and are only liable to be sent to the lazaret by magistrates' order upon proof of their begging in the streets. Five only have been thus committed, during nine years, out of 73 admissions. *Dr. Browne.*

Lepers go at large in the island, but are avoided as much as possible. *Dr. Stevenson.*

12. There is a public lazaret for the leprous poor, but they are not strictly excluded from the general hospital. *Mr. Rogers.*

All leprous persons found vagrant in the streets may be sent to the lazaret by a magistrate's order. There could be no difficulty in their obtaining admission to the general hospital, if labouring under other diseases. *Dr. Clarke.*

The lazaretto was established in 1853. It is situated about half a mile from the shore, at a distance of three miles from the town; a stone wall structure, divided into six rooms, 18 feet by 15, which open into a gallery with jalousies extending the whole frontage. Three of the rooms are appropriated to males, and three to females. A stone wall privy, and two strong refractory cells of wood on each side, conclude the accommodation for inmates. There is a tank for rain water, and a well about 70 feet deep. The roof is shingled; the floors of the rooms and gallery are of pine, and painted. The walls within are painted to four feet high; the remainder being plastered and white. There is an open gallery, about five feet broad, extending along the whole back of the building. The staff consists of two female nurses, one male attendant, and two cooks. A physician is appointed to give medical care. The dietary is as follows:—

Breakfast, 7 ozs. of rice, or 7 oz. of corn-meal, or 1½ lbs. of sweet potatoe or other roots (eddoes, yams), with 2 ozs. of salt-fish. A gill of molasses with 3 ozs. of milk for tea *four times weekly.*

12 ozs. of bread and 2 ozs. of salt-fish, with a pint of chocolate or coffee containing 1½ ozs. of sugar and three ozs. of milk, *three times weekly.*

Dinner, 8 ozs. (with bone) of fresh meat, and 8 ozs. of bread, or 1 lb. of potatoes or roots, *three times weekly.* One pint of grain soup containing a gill of dry grains (either pigeon peas, english peas, or black eyes), and 3 ozs. of salt pork, with 1½ lb. of potatoes or roots, *four times weekly.*

Supper, one oz. of sugar and 3 ozs. of milk in tea.

The above quantities for an adult, ¾ for those under 16, and one-half for those under 10 years. *Dr. Browne.*

13. The number at present maintained by the public in the lazaretto is 46. *Dr. Browne.*

14. I think there are fewer cases of leprosy now than there were 15 or 20 years ago. I should certainly consider that the improved condition of the peasantry in domestic comforts since emancipation has mainly contributed to this end. *Dr. Carrington.*

I do not think the disease is on the increase or otherwise. *Mr. Rogers.*

There are no statistics to guide me, but my belief is that it has not increased of late years; and though more lepers may be seen about the streets than formerly, these would seem to be attracted there by the greater chance of obtaining alms, most of them being poor and unfit for labour. *Dr. Clarke.*

I have no reason to believe that it is on the increase. *Mr. Moore.*

It has, I think, rather increased of late years, from observing more of it than I formerly did. I can attribute this to no other cause than the greater facilities of inter-communication of the emancipated people, both between themselves and the neighbouring colonies. *Dr. Goding.*

I do not believe that leprosy has been on the increase in Barbadoes during the last 15 or 20 years. As to its diminution I cannot speak confidently. *Dr. Young.*

I do not know whether it has or not; but it has been brought more under public notice since emancipation in 1838. *Dr. Browne.*

I think that it has increased of late years, but I cannot ascribe this to any particular course. *Dr. Stevenson.*

15. I have never known a spontaneous cure, nor have I seen decided benefit from any medicinal treatment. *Dr. Carrington.*

In my opinion leprosy is incurable. I have never seen a cure, spontaneous or otherwise. *Mr. Rogers.*

I believe it is an incurable disease. I know of no case of spontaneous cure. Good hygienic and dietetic treatment may probably prolong life. *Dr. Clarke.*

I have not seen any satisfactory results from any treatment. I do not believe that it ever undergoes a cure, spontaneous or otherwise. *Mr. Moore.*

The results of treatment have been very unfavourable, and the general opinion in Barbadoes is that leprosy, once fully developed, is incurable. *Dr. Goding.*

I have experienced very few beneficial results from treatment of the disease (leprosy). It never undergoes a spontaneous cure; indeed it never fails to prove fatal when once it is confirmed. Life may be prolonged by strict attention to all hygienic rules for maintaining the general health, if adopted in the early stage of the disease, and by the use of some alterative medicines, as of the acetate of potash, the iodide of arsenic, and sarsaparilla. The petroleum Barbadense has occasionally seemed to do good; it is a popular remedy among the lower classes, and is used both internally and externally. For external applications, iodine and some of its compounds are used.

A course of treatment as the above,—hygienic, dietetic, and medicinal,—will arrest "joint evil," prevent some of the worst symptoms, and greatly prolong life. *Dr. Young.*

None of the leprous poor in the lazaretto have recovered, wholly or partially, during the nine years I have had charge of it; nor have I ever heard of a spontaneous cure of the disease. *Dr. Browne.*

I never saw a spontaneous cure of true leprosy. It can, however, be modified by hygienic regime and medical treatment, at least in its very earliest stages. When it is fully developed, all treatment seems useless. *Dr. Stevenson.*

16. The estimated population at the Census of 1861 was, males 70,799, and females 81,928, making a total of 152,727, and composed of 16,594 whites, 36,138 coloured, and 100,005 blacks, equal to a total increase of 16,788, notwithstanding the large number, about 20,000, taken off by the cholera in 1854. *Dr. Carrington.*

There is a registration of births and deaths, but no register as to the causes of death. *Mr. Rogers.*

It is much to be regretted that there is no registration of births and deaths, and no means of ascertaining the causes of death. There is no doubt that a proper registration return, annually published, showing the causes of death, &c., would show this colony to be one of the most healthy under the sun. *Dr. Clarke.*

There is a monthly return by all the ministers of the Established Church of the baptisms, marriages, and burials in their respective parishes. *Dr. Browne.*

There is no registration of the causes of deaths. It is much to be desired, as numbers die without any medical treatment; and, from the want of registration of the causes of death, the clergymen have no alternative but to bury them when requested, without further inquiry. *Dr. Stevenson.*

17. Besides the general improvement in the food and sanitary condition of the dwellings of the poor, the only means, in my opinion, likely to prove preventive of the disease is the establishment of lazarettos for the reception of the afflicted. These, while affording relief to them from the sufferings of poverty, might induce them to end their days there, and, through a proper separation of the sexes, provide for the non-extension of the disease by hereditary transmission.

I have not made any post-mortem examinations of persons dying of the disease. *Dr. Browne.*

I think that the sanitary condition of the labouring classes requires attention. If the lepers were made to remain in the lazaretto, the continual sexual intercourse between the healthy and the diseased would be avoided, and thereby a contaminated offspring be prevented. *Dr. Stevenson.*

No. 14.

GRENADA.

1. It is known, but not common.

It shows itself by red irregular patches on the face, extremities, or the body; by more or less distortion of the features; the nose becomes flattened, partly by the absorption of the cartilages, and partly by the swelling of the surrounding parts, where tubercles form in the cellular tissue; from the same cause the eyes appear sunk in the orbits; the voice becomes hoarse; the ears are tuberculated; the extremities become deformed; the fingers and toes are contracted, ulcerate, phalanges or whole fingers drop off; other ulcerations form about

the hands, arms, feet, or legs, but not often on the body. From the beginning there is generally diminished feeling in the affected parts, and sometimes of the taste and smell. The general health remains pretty good, and patients may live may years if well provided for.

The form now described is the "tubercular leprosy." There is another form, of a milder character, which may be called "simple leprosy." The features are much less deformed. The red patches are generally present, with diminution or abolition of feeling in the parts affected. The deformity of the hands and feet is much less considerable; ulcerations, if they exist, are less deep, and the dropping off of the phalanges is not so common.

The two forms are, I believe, varieties of the same disease. *Dr. Aquart.*

During a residence of five years, I have seen but one case, and that was of the "lepra nigricans." It occured in small scaly dark livid patches, first about the legs and arms; the scales peel off readily, leaving an excoriated surface, discharging a thick bloody looking fluid. *Dr. Orgias.*

The cases I have seen are but three, and they were all of the "lepra tuberculosa," and in an advanced stage of the disease, with enlargement of all the joints, ulceration, and dropping off of the toes; a thickened, elevated, and greasy shining appearance of the skin. In two of the cases, the prominences were white, and in the other of a dusky livid hue. The general health was debilitated; there was emaciation, and a peculiar loathsome and ghastly appearance characteristic of the disease. *Dr. M'Intyre.*

2. I have never seen leprosy in children. The earliest age was about 14 years; I would say between 14 or 15 and 40; but in youth principally.

The earliest symptoms are the alteration of the features and the red patches. *Dr. Aquart.*

In two of the three cases, the disease appeared about 10 years of age; they were males. The other case was in a female, about 15 years old. In each of the cases I was informed that, after a smart attack of intermittent fever, thickened and slightly discoloured patches appeared on the skin of the face and on the joints, especially of the hand. This was soon followed by enlargement of the joints, unaccompanied with pain. After this, the disease took its usual course. *Dr. M'Intyre.*

3. At whatever age the disease begins, it comparatively shows more active progress as the subject is younger.

I have never heard of it proving fatal. The sufferers have generally been cut off by some acute attack supervening on a weakened constitution. *Dr. Aquart.*

In the three cases under my observation, the disease attained its maximum in three years. One of the males died after being affected seven years. The other is now in a lingering state from dysentery, and has been affected nine years. The third patient, a female, has been affected six years, and is now in middling health. *Dr. M'Intyre.*

4. It affects both sexes equally. *Dr. Aquart.*

5. I have seen more coloured persons affected with it than black. I have seen only one white person affected. *Dr. Aquart.*

My three cases may be thus set down:—

Two males, brothers, octeroons.

One female, a relation of the above, quadroon. *Dr. M'Intyre.*

6. I have not sufficient data to answer this question.

In all the situations above mentioned I have observed some cases. I have seen the disease in comfortable and healthy dwellings as well as in dens. Cases have occurred in persons with good and cleanly habits; but they are certainly more common when the reverse is the case. A bad diet and improper habits will render the constitution more liable. *Dr. Aquart.*

My three patients lived in a healthy, inland, hilly situation, in comfortable wooden houses. They lived principally on a vegetable and fish diet, and were on the whole in comfortable circumstances. *Dr. M'Intyre.*

7. In the lower and indigent class, with everything dirty around, I have certainly seen the disease make more rapid progress. *Dr. Aquart.*

8. I have seen two cases where the disease was certainly due to heredity; but I have known also many healthy offsprings from a mother or father affected with it, who never presented any symptoms of the malady in after life. *Dr. Aquart.*

Distinctly so, in my cases.

The female patient is the only one affected of a family of five. *Dr. M'Intyre.*

9. No. I can trace no affinity. *Dr. Aquart.*

No. I believe it to be a disease *sui generis*. *Dr. M'Intyre.*

10. I have seen a few persons amongst those affected where contagion appeared evident.

b. A young girl about 12 or 14 years of age slept in the same bed with a young woman who had symptoms of leprosy. Within 12 months the girl presented the red patches, and seven or eight years afterwards she was a confirmed leper. The mother of this girl contracted the disease, but the father escaped.

I have seen another case perfectly similar, but other members of the family remained exempt.

It is right to add, that I know families where one who was leprous continued to live without any restriction in the house, without any other inmate becoming affected. In these instances, however, the disease was usually of the second form described in question No. 1.

I do not think the disease in its incipient stage transmissible by sexual intercourse.

N.B.—I consider that contagion will take place when ulcerations exist with copious discharge, and this can only occur in the first or tuberculous leprosy.

Dr. Aquart.

I have met with no such instances. *Dr. M'Intyre.*

11. No restriction is imposed; leprous persons may communicate freely with the rest of the community. *Dr. Aquart.*

12. No public provision is made. I would not admit any case of leprosy into the colonial hospital, except under very aggravated circumstances. *Dr. Aquart.*

No special provision is made. There is a poorhouse and a colonial hospital to which they may be admitted, according to the rules of those institutions. *Dr. M'Intyre.*

13. None are treated at the public expense. *Dr. Aquart.*

14. I do not believe that the disease has been on the increase. *Dr. Aquart.*

From what information I can gather, I am led to understand that leprosy is on the decrease. *Dr. M'Intyre.*

15. No satisfactory results. *Dr. M'Intyre.*

16. There is no general registration of births and deaths. *Dr. Aquart.*

The population was 31,990 by the Census taken on 8th April 1861. *Dr. M'Intyre.*

17. No information.

No. 15.

TOBAGO.

1. It is known, but not to any great extent. During the last four years I have known only two cases arise, in neither of which could any hereditary taint be traced, both negroes of 12 or 13 years of age. In both cases the parents are apparently healthy and deny any family taint. *Dr. Buhôt.*

The disease is seen especially in a deformed and mutilated state of the hands and feet.

Mr. Purser.

It occurs generally in the shape of large bluish tuberculated swellings about the face, joints, and extremities, which ultimately break out into ulcerations. There are two different forms, viz.: 1. The yellow or spotted leprosy, and 2. The running leprosy. They are varieties of one morbid state, and not specifically distinct diseases. The first form appears in pale yellow blotches on the face and body generally, and usually attended with a cachectic state. The second form appears in pale blueish running ulcers on various parts of the body. When the hand is attacked, some, perhaps the whole, of the fingers drop off; the same takes place with the feet and toes. *Dr. Elliott.*

2. At the age of ten and upwards. I have known a case in a negro of eight years of age. The earliest symptoms were a puffiness and shining appearance of the ears, lower lobes particularly, and a lightened tint of skin; the alæ nasi were puffy, with a slight incrustation within the nares. The forehead became swollen, the eyelids puffy, and subsequently the finger joints became knobby and scaly, but as yet without ulceration. *Dr. Buhôt.*

It seldom appears before six years of age. The earliest symptoms are a peculiar glistening appearance of the ears, somewhat scaly, with tuberculated hard swellings; at length these nodulated tubercles affect the cheek and neck, and the nose, which ulcerates, with exfoliation of the bones. The extremities and joints ultimately become attacked. *Dr. Elliott.*

3. The period of development is uncertain. I have known a case occur in a white man nearly 60, and terminate in death in about three years. *Dr. Buhôt.*

It does not generally prove fatal until the patient is advanced in years, unless there be neglect and a want of the necessaries of life. *Dr. Elliott.*

4. I have seen a much greater number in males than in females. *Dr. Buhôt.*
I think I have seen more cases in males. *Mr. Purser.*

5. I think it is more frequent in the black, next in the coloured, and then in the white man. *Dr. Buhôt.*
It is most frequent in the black population. *Mr. Purser.*
It is most common among the blacks, and next amongst the coloured. *Dr. Elliott.*

6. I know of no condition which either favours its development or otherwise. We see more of it in the lowest grades than in the upper, simply because, when a case occurs in the latter, the sufferer would be strictly secluded from all but the nearest relatives, the taint of blood carrying an opprobrium with it.
a. The favourite localities are near the sea coast.
b. seems to have no influence on it. *Dr. Buhôt.*
Most frequent among the poorer classes. I have not observed that one situation more than another has to do with the disease. *Mr. Purser.*
Most frequent among the lower classes. *Dr. Elliott.*

7. I have seen it occur in respectable life and in other grades down to the lowest. I know of no circumstances which either accelerate or aggravate it. *Dr. Buhôt.*
Poverty, destitution, and undue exposure to the inclemencies of the weather. *Dr. Elliott.*

8. Yes. In many instances I have been able to trace it. *Dr. Buhôt.*
I regard it as hereditary. I have known instances where the other members of the family remained free from it. *Mr. Purser.*
In the majority of cases it depends chiefly on hereditary disposition. *Dr. Elliott.*

9. No. *Dr. Buhôt.*
Yes. I look upon leprosy, syphilis, and yaws as cognate. *Mr. Purser.*
Leprosy is a distinct disease, sui generis. *Dr. Elliott.*

10. Uncertain. *Dr. Buhôt.*
I think the disease not contagious, nor transmissible by sexual intercourse. *Mr. Purser.*
I have not seen, but have heard, and I am disposed to believe it, that leprosy is contagious. *Dr. Elliott.*

11. There are no restrictions of any sort. *Dr. Buhôt.*
No restrictions. *Mr. Purser.*
No restrictions. *Dr. Elliott.*

12. None. *Dr. Buhôt.*
None. *Mr. Purser.*
A few years back an asylum was provided at the public cost, but it was found difficult to maintain any discipline among the inmates, and it was discontinued. *Dr. Elliott.*

13. None. *Dr. Buhot.*
None. *Mr. Purser.*
There is but one in my district. *Dr. Elliott.*

14. I have no reason to believe that it is on the increase. *Dr. Buhôt.*
I have no reason to believe that it is on the increase. *Mr. Purser.*
It has not been on the increase, but positively on the decrease; and this has no doubt been mainly dependent on the circumstance of the lower orders being better housed, fed, and clad, and their comparative immunity from depressing mental causes. *Dr. Elliott.*

15. I have observed no favourable results from medicinal treatment. *Dr. Buhôt.*
I have observed no favourable results from medicinal treatment. *Mr. Purser.*

16. Population in April 1861 was 15,410. There is no registration. *Dr. Buhôt.*
There is no registration. *Mr. Purser.*
There is no such registration. A measure of this kind would be of great public utility. *Dr. Elliott.*

The more the diet of the people is improved, and the more purity of life prevails, the less will be, I think, the amount of the disease. *Mr. Purser*

No. 16.

TRINIDAD.

1. In 1847 I visited, in company with the Governor, Lord Harris, the leper hospital at Trinidad. It contained 47 patients under the care of a physician. The majority of the cases were of the tubercular kind. Some laboured under the 'joint fever,' the name applied when there was loss of fingers or toes from ulceration, with febrile paroxysms. There were amongst the inmates two or three cases of elephantiasis or Barbadoes leg.

Dr. J. Davy, F.R.S., Inspector General of Army Hospitals, &c.

Has been known for many years. There are two forms of the tubercular leprosy, the sthenic and the asthenic, according to the constitution of the affected; the former occurring in the strong, plethoric, and intemperate; and the latter in the poor, ill-fed, and badly housed. They are only varieties of one morbid state.

Dr. Saturnin, Medical Superintendent of the Leper Asylum.

It occurs chiefly as tubercular leprosy; there is also an anæsthetic form. For some time I viewed these forms of disease as representing two varieties of leprosy; but, with closer attention to five cases of the latter form in the poorhouse under my charge, I am satisfied that it is an intense variety of scrofula, and a distinct malady from real leprosy. These five cases have now continued for years in the same condition without showing any tendency to tubercular disease.

Tubercular leprosy commences with a change of colour on patches of the skin, generally of a darker hue than the surrounding integuments, and of a shining appearance. The spots continue for some time, exciting the uneasiness of patients and parents, and are succeeded by tubercles, generally cutaneous, sometimes deeper seated. The tubercles are small, soft, round, and livid, varying in size from a pea to an olive, and are seen chiefly on the face, particularly covering the nose, ears, and forehead. They spread in time over the whole body, and finally ulcerate, the face presenting the frightful deformity described in books.

The anæsthetic disease is characterized by the loss of the fingers or toes by ulcerative absorption and loss of sensibility. It rarely extends beyond the extremities, though I have occasionally noticed patches of discolouration of the skin over the body. *Dr. Murray.*

The common character of leprosy in the white or coloured person appears in dark brown patches on the face, ears, body, and extremities; those on the ear may be taken as peculiar to it; they are at first merely superficial, but become gradually thicker and darker, and terminate in ulceration. In one form the hands and feet, especially the small joints, are the parts particularly affected. The different forms are varieties of one morbid state. Elephantiasis, in my opinion, is not a form of leprosy. *Dr. Anderson.*

2. It manifests itself at all ages, even in infancy. A medical friend recently saw a case of tuberculous leprosy in a male child at birth.

The earliest symptoms are circumscribed blotches in different parts of the body, the same differing in colour according to the hue of the skin of the individual.

The insensibility of the parts where these blotches exist,—a dryness and roughness of the surface of the skin, which is perfectly devoid of feeling at the end of the second month or later,—numbness in the hands and feet, attended with insensibility, which is sometimes so great that serious injuries from fire or otherwise will be borne without complaint.

Dr. Saturnin.

It appears generally from 7 to 12 years of age; the earliest symptoms are the discolourations of the skin. *Dr. Murray.*

At all ages, from childhood to advanced life. *Dr. Anderson.*

3. It usually attains its full development from one to five or six years of age, and sometimes later; this depending on the state of the patient. The time at which it may be fatal depends very much on the time of its invasion, and also on the state of the system.

Dr. Saturnin.

Generally not till adult age, though sometimes in inveterate cases more rapidly. Patients are generally carried off by diarrhœa, or by extension of the disease into the air passages, between the ages of 40 and 55. *Dr. Murray.*

In youth, and within a few years. It usually, but not always, proves fatal before the period of puberty, when early developed. *Dr. Anderson.*

4. Much more frequent in males. During my 16 years' attendance at the leper asylum, there has always been an excess of male patients. *Dr. Saturnin.*

At the leper asylum there are more males than females; but in my experience females have come more frequently under my notice than males. *Dr. Murray.*

According to my experience, it is not more frequent in one sex than in the other.
Dr. Anderson.

5. Much more frequent among the blacks, less so among the coloured, and still less among the whites. I have seen the disease in one Italian, in two Germans, one Pole, one Irishman, and one Scotchman, but never in an Englishman. *Dr. Saturnin.*

It is more frequent amongst the coloured races, after that amongst the black, and least so in white people. *Dr. Murray.*

It is not. . . As a general observation, true leprosy is indigenous to certain latitudes, and attacks here principally natives of all denominations, black, white, and of mixed races; and although European residents are in a great measure exempt, instances occur among them when acclimatised, and their blood is impoverished by long residence. *Dr. Anderson.*

6. Among the indigent. It is necessary, however, to say that it is difficult to trace the number of cases among the upper classes, as families will seldom apply for medical advice through a sense of shame. The circumstances which favour its development are:—

a. Low marshy districts, exposed to malaria, both in town and country.

b. Badly ventilated habitations. The higher classes, residing in comfortable houses, are less subject to it.

c. Neglect of personal cleanliness.

d. Deficient and innutritious food. The poor live much on tainted fish, and vegetables such as plantains, yams, &c. *Dr Saturnin.*

a. It is observed chiefly in towns and on the sea coast in low and moist situations.

b. The dwellings are low and overcrowded, and the yards are kept in a most filthy state.

c. Extreme want of cleanliness, and habits of idleness and vagrancy prevail.

d. The diet of such persons is poor and unwholesome; in a great part consisting of unripe fruits. *Dr. Murray.*

The disease occurs in both rich and poor.

a. It does not seem to be affected by locality.

b. I have not observed any peculiar effect from such cause.

c. Cleanliness may act as a preventive or mitigator.

d. The use of pork may produce a proclivity to it. *Dr. Anderson.*

7. The almost entire use of salted meat and fish, and the abuse of spirituous liquors, as is the case in country districts, where fresh meat is seldom to be found; also the insufficient supply of food. *Dr. Saturnin.*

Uncleanliness, overcrowding, bad and insufficient food, and general poverty and distress; in a word, everything tending to depress the vital powers. *Dr. Murray.*

Irregularities and intemperance; also want and destitution. *Dr. Anderson.*

8. It is most decidedly hereditary; yet sometimes one member only of a family may be attacked; at other times one of the parents may have been attacked with it, anterior to its appearing in the children, or vice versâ. *Dr. Saturnin.*

The disease is certainly hereditary, although many offsprings of infected parents escape altogether.

I have seen instances of other members of a family escaping the disease, even when the one affected has been brought up indiscriminately with them. *Dr. Murray.*

It does.

I have seen such instances. *Dr. Anderson.*

9. It is quite independent and unconnected with syphilis, yaws, or other cutaneous diseases. It has frequently occurred that variola or scabies may supervene, arrest the leprosy during their existence, and, after the disappearance of these diseases, the leprosy will reappear.
Dr. Saturnin.

I think these are perfectly distinct diseases. At the same time, such diseases become worse in persons who may from parentage be supposed to be predisposed to leprosy.
Dr. Murray.

I have not; but syphilis and yaws may co-exist with it. *Dr. Anderson.*

10. I have never met with a single instance of it appearing to be so. Ulcers with ichorous discharge are dressed several times a day by the surgery man, who has been employed for 12 years at the leper asylum. The washerwoman, who has been there for 16 years, and handles the clothes of the lepers, and the medical superintendent, delivering women in labour, amputating limbs, and performing other surgical operations, have escaped.

The disease has not been transmissible by sexual intercourse in many cases which have been under my care, and which most decidedly confirm my opinion that it is not contagious.
Dr. Saturnin.

I have not met with any instance of it actually arising from direct contagion; neither can I say that it is ever transmitted through sexual intercourse. *Dr. Murray.*

I have not. *Dr. Anderson.*

11. Leprous vagrants and beggars, found in the public streets and highways, are arrested by the police, and conveyed to the leper asylum. There are no restrictions imposed in regard of those who can maintain themselves. *Dr. Saturnin.*

Those only are admitted into the leper asylum who either apply voluntarily or who are summoned before a magistrate for being at large in the public thoroughfares. Many lepers are, nevertheless, to be seen in the streets of Port of Spain. Certainly this should not be so, and requires, in my opinion, a more stringent remedy (vide Appendix). *Dr. Murray.*

12. An asylum was provided in 1843, at Cocorite, about three and a half miles from Port of Spain, for the reception of indigent lepers. Prior to that time they were located on a hill at a short distance from the town, where no segregation was enforced, and the lepers were supported in part by private charity, and no regular medical attendance was provided. Some years ago the locality of the present asylum was very unhealthy; but since hygienic measures have been strictly enforced, the asylum has become comparatively more healthy. There are attached to the establishment bath-rooms, and, the building being near the sea, there is every facility for sea bathing also. *Dr. Saturnin.*

Lepers are not admitted into the general hospitals of the colony. *Dr. Murray.*

13. At present the number maintained at the public expense is 55. As before mentioned, it is difficult to obtain data relative to the disease in general. *Dr. Saturnin.*

RETURN of the Medical Superintendent of the Leper Asylum at Cocorite, showing the number of Paupers admitted, discharged, deserted, and dead from that establishment during the year 1861, from 1st January to 31st December.

——	Admitted.	Discharged.	Deserted.	Dead.	Remaining.
January -	2	—	—	—	50
February -	1	—	—	1	50
March -	—	—	—	—	50
April -	1	—	—	1	50
May - -	2	—	—	2	50
June - -	—	—	—	2	48
July - -	2	1	—	—	49
August -	2	—	—	1	50
September -	2	—	—	3	49
October -	2	—	—	1	50
November -	—	—	—	1	49
December -	1	—	—	1	49
Total -	15	1	—	13	49

14. I have reason to think that it has decreased during the last 12 years, as the number of patients then in the asylum was 60 and more, whereas from that date it has diminished by 8 or 10 per cent. *Dr. Saturnin.*

It has certainly appeared to me to be on the increase in this colony during the last 20 years; but unless it be the coarse hand-to-mouth mode of living, and the careless unprincipled way in which young members of poor families are brought up, I cannot say what has contributed to its increase. *Dr. Murray.*

I do not believe that it is on the increase, nor that it has diminished. An inquiry was instituted on this subject by Governor Sir Ralph Woodford, confirmatory of this fact. *Dr. Anderson.*

15. Patients have been, and are constantly, brought into the asylum in an irremediable stage of the disease. Occasionally patients, whom I considered were progressing favourably, have absconded from the asylum, and I have been thus prevented from following out the cases. Many cases have been ameliorated. I can cite 4 instances of complete recovery where the disease was in its first stage, that of circumscribed, shining, or shrivelled patches of a lighter colour on the surface, with insensibility. I have never known a spontaneous cure at any stage. *Dr. Saturnin.*

I have never witnessed any successful results from treatment. *Dr. Murray.*

During 40 years' extensive practice in this colony I have observed great benefit, and even cures, derived from treatment and regimen, when resorted to in the early stage of the malady I have never seen a spontaneous cure. *Dr. Anderson.*

16. By the Census on April 7th, 1861, the population was 84,438.

The following TABLE shows the component parts of the Population of Trinidad by the Census Returns of 1851, 1861, and the comparative increase and decrease.

Where born.	Census of 1851.	Census of 1861.	Increase in 10 Years.	Decrease.	Total Increase.
Trinidad - -	40,627	46,936	6,309	—	—
British Colonies -	10,812	11,716	904	—	—
Foreign - -	4,915	4,301	—	614	—
China - - -	—	461	461	—	—
India - -	4,169	13,488	9,319	—	—
Africa - - -	8,097	6,035	—	2,062	—
Not described -	260	461	201	—	—
Total - -	68,880	83,398	17,194	2,676	11,842

A uniform registration of births and deaths is kept at the office of the Registrar General, whose duties were established in 1847. The cause of death may be ascertained both at that office or from the keeper of the public cemetery. *Dr. Saturnin.*

Registry of Deaths in the Town of Port of Spain by Leprosy.

When dead.	Sex.		Age.	Rank and Occupation.	Cause of Death.
1861.					
1st February -	—	F.	60	Proprietress	Skin disease.
15th „ -	—	F.	15	None	Leprosy.
9th April -	—	F.	18	„	Leprosy.
10th May -	M.	—	24	„	Leprosy.
26th „ - -	M.	—	50	Labourer	Leprosy.
14th June -	M.	—	62	„	Leprosy.
21st „ - -	M.	—	24	„	Leprosy.
6th October -	M.	—	19	None	Leprosy.
11th November -	—	F.	21	„	Leprosy.
1st December -	M.	—	46	„	Leprosy.
19th September -	M.	—	42	Shopkeeper	Leprosy.
1862.					
15th January -	M.	—	29	None	Leprosy.
7th February -	—	F.	45	„	Skin disease.
23d „ -	M.	—	27	Labourer	Leprosy.
4th March -	M.	—	65	None	Joint evil. Pyœmia.
3d April -	M.	—	43	„	Skin disease.
3d May - -	—	F.	28	„	Leprosy.
13th „ - -	M.	—	26	„	Leprosy.
27th „ - -	—	F.	20	Seamstress	Leprosy.
5th August -	M.	—	30	None	Leprosy.
3d September -	M.	—	17	„	Leprosy.
7th October -	—	F.	20	„	Leprosy.
29th „ -	—	F.	18	„	Leprosy.
21st November -	M.	—	41	Labourer	Leprosy.

There is a general registry of births and deaths, which was established in 1847, and put in force in 1858. *Dr. Murray.*

17. I am not aware of any post-mortem examinations having ever been made. *Dr. Murray.*

No. 17.

BRITISH GUIANA.

1. There are two forms of leprosy seen here,—the one, tuberculous, affecting all parts of the body; the other, attacking the joints only. I have known them co-exist in the same person. I do not think the two forms belong altogether to the same morbid state, although they have some affinity. They are easily distinguished the one from the other. In the tuberculous form, the spots on the surfaces are at first, in a white or fair skin, of a yellowish or dirty white colour, and in a coloured or brown person, they are generally whiter than the surrounding skin. Gradually they assume a glossy appearance, and their colour turns to red in the white, and to yellow in the brown skin. In course of time, varying from six months to several years, the spots are somewhat raised above the surrounding parts, and seem thickened, and fresh spots appear on other parts of the body. The lobules of the ears and the alæ of the nose become thickened, and there is a perceptible swelling of the whole face, especially of the eyelids. The general health is, at this stage of the disease, but little, if at all, affected. Subsequently, when the spots have become more decidedly tuberculous, and the face is red, swollen, and indurated, loss of appetite, headaches, pains in the joints, frequent diarrhœa, and feverishness are not uncommon. When the tubercles ulcerate, the discharge is usually very offensive, and hideous sores are formed. There is often permanent chronic ophthalmia. The progress of the disease may be very slow; the patient is generally cut off by colliquative diarrhœa, or by some sudden pulmonary attack.

In the *second* form of the disease, the joints of the toes and fingers become swollen, painful, and ulcerated; one phalanx drops off, and a cicatrix is formed: then the next one is attacked, and with the same result. Sometimes a portion of the hand or of the foot is lost in the same way. *Dr. Manget*, Colonial Surgeon General.

Yes. There are two forms, viz., the "joint evil," and the tubercular or elephantine leprosy.* They are only varieties of one common morbid state; not distinct diseases, but having a close affinity.

The *first* form begins with exacerbations of fever, and pains about the body for some weeks, and then the appearance of white or copper-coloured spots, sometimes on the face, but always on the limbs and body. They are slightly anæsthetic, and sometimes, after various intervals of time, fade, and become scarcely perceptible. In other cases, a dark red spot, in white and fair persons, often appears on either cheek; numbness of the fingers and toes then ensues, and the little and ring fingers begin to flex or contort. The first joint of the fingers and toes ulcerates underneath the nail, which either separates with the phalanx, or remains and assumes the shape of an imperfect claw. Gradually ulceration and mortification attack the different phalanges, which drop off joint after joint, while ulcers form on the legs, soles, and palms. In this form of leprosy the face and features remain natural, nor does the hair drop off or change its colour.

In the *second* form, the discoloured spots or patches appear always on the face, and on various parts of the body; they are usually copper coloured in the white, and yellowish brown in the black. These spots become tuberculous, and have a firm, dense, and glossy appearance. The skin over all the body becomes insensitive, dry, shrivelled, and thickened. The skin of the forehead is in large folds; the eyebrows and eyelids, deprived of hair and thickened, overhang the eyes, which are waterish, and often inflamed. The alæ nasi and the ears are swollen and scabrous, and the features altogether horribly disfigured. The tongue, uvula, and palate may become the seat of tubercles, and the voice rough, discordant, and very indistinct, doubtless from disease of the larynx. The fingers and toes tumefy about their joints, become numb, so that they are often burnt in cooking. In some cases, however, the fingers and toes ulcerate and drop off, joint after joint. The chief distinction between the two forms of the disease is that, while the face may remain unaffected throughout the course of the former, it is invariably swollen, tuberculous, and deformed in the latter.

Dr. Reed, Medical Officer of the General Leper Asylum.

It is very prevalent in British Guiana. The usual symptoms are the appearance of copper spots on various parts of the body, falling off of the hair from the eyebrows and lids, &c., chemosis and eversion of the tarsi, and great disfigurement of the face; subsequently, ulceration of the nares and palate ensues, and loss of the phalanges of the fingers and toes, &c. The disease is known in the colony under the name of "Cocubay." *Dr. Pollard*, Berbice.

Vulgo "leprosy with bumbs or cacobaa" (an African name.)

I have known the disease in two forms—the joint and the tubercular. The two forms have a close affinity, one very often preceding the other. In the tubercular form, death is generally caused by dysentery or diarrhœa. *Dr. Duffey.*

It is known in British Guiana in the forms of the tubercular and of the joint leprosy. There are also squamous or scaly diseases, as *psoriasis lepriformis*, &c. They all belong, in my opinion, to one common morbid state. *Dr. Carney*, East Coast, Berbice.

Leprosy is known both in British and in Dutch Guiana.

It is characterised by the appearance of spots or blotches, circumscribed generally by high edges, and either of a lighter or darker colour than the surrounding skin; sometimes like bumps, as in *urticaria*, at other times in lines or stripes. These blotches increase in size and number, attended often with an aching of the body; at length, ulcers form, the fingers and toes drop off, and death ensues.

In Dutch Guiana, seven degrees of leprosy are recognized; but they are all considered varieties of one common morbid state. *Dr. Van Holst.*

2. I have seen the disease manifest itself at different ages, from 3 to 12 years. The earliest symptoms, according to my experience, are the appearance of a few discoloured spots on different parts of the body, sometimes not more than two or three, as large as half-a-crown, or smaller. *Dr. Manget.*

In the first form, or "joint evil," as early as seven years of age. The first phalanges of the fingers and toes become red and inflamed, contorted sideways (not flexed), and numb; ulcerations form under the nails, heel, and ball of the big toe; the skin is dry and discoloured.

In the second, or tuberculous form, about nine years of age. After the existence of feverish disturbance for some time, spots appear about the forehead and face; these enlarge into distinct tubercles. *Dr. Reed.*

It seldom displays itself before puberty; but I have seen well-developed leprosy at eight years of age. The copper-coloured spots are generally the first symptoms. *Dr. Pollard.*

I have seen it at all ages. *Dr. Duffey.*

It usually manifests itself from 30 to 40 years of age. Dark blotches appear on the face, arms, &c.; the fingers become contracted, and pains in the limbs, &c., are felt. Subsequently, ulceration sets in, and the phalanges of the fingers and toes drop off. *Dr. Carney.*

I have seen it at every period, from childhood to old age. The earliest observable symptoms are generally the external discoloured spots or blotches. *Dr. Van Holst.*

3. I have seen it attain its full development (by which I mean when the tubercles have ulcerated, the mucous membranes are affected, and there is diarrhœa and rapid loss of flesh) at different ages between 8 and 60 years. Within what time this development occurs after the commencement of the disease, and at what period of life it proves fatal, I cannot state. Occasionally it runs through its successive stages in a very short time; in other cases, it lasts for many years. *Dr. Manget.*

At whatever age the disease commences, it usually attains its full development in about ten years. After the age of from 20 to 25, it begins its depredations, and usually proves fatal between 40 and 50 years of age. The tuberculous form progresses more rapidly than the "joint evil." *Dr. Reed.*

It may invade and run its course, even fatally, between puberty and the next two or three years. I have known it prove fatal, within one year of its appearance, by ulceration; this was in a coloured man. Generally many years elapse before the disease is fully developed. *Dr. Pollard.*

In the tuberculous form, patients generally die at between 30 and 40 years of age. In the joint evil, patients will survive to 60 and upwards. *Dr. Duffey.*

There is great difference in different cases. Lepers sometimes live to an advanced age. The children of leprous parents, although the disease may not have manifested itself in them, are less amenable to medical treatment for other maladies than the children of healthy parents. *Dr. Carney.*

At any time of life; it varies according to the period when it commenced. The full development is in some cases much quicker than in others. *Dr. Van Holst.*

4. In the few cases I have watched, there were more males than females afflicted. *Dr. Manget.*

According to the number of lepers in the asylum, leprosy is more frequent in males. *Dr. Reed.*

Both sexes are, according to my observations, equally liable. *Dr. Pollard.*

It is more frequent in males than in females, in the proportion of two to one. *Dr. Duffey.*

According to my observation, the two sexes are pretty equally affected. *Dr. Carney.*

It prevails in both sexes; I do not think it is more frequent in one than in the other. *Dr. Van Holst.*

5. I believe it to be most frequent among the African race and its descendants, there being many more individuals of that than of any other race seen here afflicted with leprosy. *Dr. Manget.*

"Among the white - about 4 per cent.
" coloured - " 22 "
" negroes - " 67 "
" coolies - " 7 "

These figures are taken from the number of inmates in the asylum in 1862." *Dr. Reed.*

Instances have occurred, though rarely, among our white population, whose number is comparatively small. All the cases I have seen were among the coloured and black classes, and chiefly among the latter. *Dr. Pollard.*

In this colony it is most frequent amongst the negroes and the Portuguese immigrants. A great number of coloured people are affected with it; it is very rare among the whites. *Dr. Duffey.*

The coloured population are less subject than the black, and the East Indian coolies. Generally, European whites are exempt, unless the disease has been contracted by contact. *Dr. Carney.*

It is most frequent in the black, and next in the coloured population. *Dr. Van Holst.*

6. It is most frequent among the lower classes; but I am unable to give any information as to the circumstances which favour its development. The disease is probably accelerated in its development (irrespective of hereditary influence) by the several circumstances enumerated. The few cases which have come under my care belonged to the better classes. *Dr. Manget.*

The inhabitants of British Guiana mostly live on the sea coast, which is alluvial soil, low, damp, and malarial. The villages of the negroes and coloured people are undrained, and no attention whatever is paid to sanitary measures. In these villages leprosy prevails. In George Town, the capital of the colony, lepers are numerous; I attribute this to the facility of obtaining charitable relief. The mass of the population live on vegetables, as plantains, tanias, cassava, salt fish, and salt pork. The general occupation is agricultural. *Dr. Reed.*

Amongst the very lowest class, on account of their unclean way of living and debauched habits. *Dr. Duffey.*

Low, damp, and malarial localities seem to favour the disease; filth and bad diet certainly aid it. *Dr. Van Holst.*

7. Among the cases I have seen, it was clear that the comforts of life, coupled with hygienic regulations, arrested for a time, not seldom short, the march of the disease, without however ultimately preventing the fatal result. On the contrary, unwholesome and insufficient food, and ill-ventilated and crowded damp dwellings, together with dissipation of all kinds, evidently accelerate its progress. *Dr. Manget.*

Poverty of living, sloth, and damp unwholesome dwellings. *Dr. Reed.*

The poor and destitute die much sooner of the disease than those in easy circumstances. *Dr. Duffey.*

8. Sometimes, but not often.

I have known several remarkable instances of one member only of a family being affected, all the other members remaining free. *Dr. Manget.*

Yes.

Yes, but they are rare. If the family consists of several children, it is probable that two or more will be ultimately affected. *Dr. Reed.*

It is undoubtedly hereditary.

Sometimes all the children of diseased parents are affected, at other times one or two only, while the other members entirely escape. The disease often overleaps an entire generation to reappear in the next; the immunity may commence in the immediate family of the leper himself. It is possible that many cases presumed to be of hereditary origin are instances either of extraneous contamination, or of the propagation of the disease from one member of a particular family to the others. *Dr. Pollard.*

It is as hereditary as any disease I know of.

I have known instances where mothers have had the disease, and none of their children showed any appearance of it. *Dr. Duffey.*

It is hereditary in seven cases out of eight.

I have known several instances where one member only of a family has had the symptoms of the disease externally. *Dr. Carney.*

It appears to be often hereditary. *Dr. Van Holst.*

9. I have no reason to believe so. *Dr. Manget.*

Leprosy is a disease *sui generis*, independent of any other disease. *Dr. Reed.*

I believe it to be specifically distinct from any other disease. *Dr. Pollard.*

I think it mostly depends on a syphilitic taint or a strumous state of the blood. *Dr. Duffey.*

I have no reason to think so. *Dr. Carney.*

I firmly believe leprosy to be connected with syphilis, yea, even to be an offspring of it; imperfectly cured syphilis in parents causes the disease to break out in the progeny in the second, third, or fourth generations. *Dr. Van Holst.*

10. I have met with only two cases in which, after minute enquiry, I believe the disease to have been communicated by direct contact. My own opinion is in favour of the contagiousness of leprosy, and that it may be propagated by the matter of ulcerated tubercles being applied to any raw surface; but I admit that I have met with cases which would seem to preclude the idea that the disease can be considered contagious, in the ordinary sense of the term.

Of the two cases alluded to above, one occurred in an Englishman, æt. 35. After having cohabited for several years with a coloured woman, by whom he had a child, suspicious spots appeared on his face and body. He went to England where he remained two years, during which time the disease remained stationary. He returned to Demerara for some time; but in consequence of the progress of the malady, he again returned to England, where he died with all the characteristic symptoms of confirmed leprosy. The woman was not suspected of having any taint of the disease while living with her paramour, although it was afterwards discovered that there had been some spots on her body previously, and one of her sisters was decidedly leprous; eventually, she also became unmistakeably affected, and the child also, when about five years of age, exhibited signs of the disease.

The other case was also in a white man, H. R., æt. 25. He, it was believed, caught the disease by occasionally sleeping in the same bed, and making use of the same tobacco pipe with a Maltese youth who "had at the time leprous spots of which H. R. was not aware." After an acquaintance of about six months, ugly reddish spots appeared on his face and other parts of his body. The hands and feet began to swell, and soon afterwards, the nose and ears. Gradually the disease ran through its successive stages of tubercles, ulcerations, inflammation of the mucous membranes, &c., and he died in about 20 months after the first manifestation of the symptoms.

On the other hand, I have known instances where black women have cohabited for years with their husbands while labouring under confirmed and ulcerative leprosy, and have children by them, without manifesting the slightest trace of the disease. *Dr. Manget.*

Yes.

(*a.*) The leprosy was in the ulcerative stage.

(*b.*) "The first case was in a soldier, a white man born in England; he got the disease "when 55 years old, and died in the asylum, æt. 62. His case was one of the 'joint evil' "form. The second case was that of a negro boy, æt. 12; he was in the habit of associating "with a leper affected with the tuberculous form, and had ulcers."

(*c.*) I think so. *Dr. Reed.*

I am clearly of opinion that it is contagious in every stage and form, and especially so after ulceration. I have seen many instances which could only be referred to contagion; the convictions of the parties, and the most rigorous examination of the history of the cases giving no clue whatever to the pre-existence of any family taint. It is notorious in respect of a white family of distinction in this colony, that, having disregarded the warnings of their medical advisers of the danger of permitting the young members to play in company with a negro boy who exhibited the symptoms of the disease, they one and all became infected, and the majority of them fell victims to the fatal indiscretion.

(*c.*) The liability to the disease in this way is undoubted. *Dr. Pollard.*

I have known instances where healthy men have contracted the disease from cohabiting with a leprous woman whose genitals were ulcerated, just in the same way as syphilis. *Dr. Duffey.*

Yes. The disease was in the stage of ulceration.

(*b.*) A healthy girl, æt. 7, slept in the same bed with a boy, æt. 9, who was diseased; she became affected with leprosy.

(*c.*) Yes. A woman had connection with an old leprous African; she aftewards became diseased. *Dr. Carney.*

From what I have seen and heard in Surinam, Dutch Guiana, where more attention is paid to the disease than in British Guiana, I believe it to be contagious. I have know an officer of high rank there contracting it from cohabitating with a woman whose family were affected with it. In Dutch Guiana, people are afraid of shaking hands with any persons who are suspected of the disease, and even of sitting on the same chair which they have occupied, or of using the same privies. *Dr. Van Holst.*

11. There is an Ordinance regulating the disposal of persons affected with leprosy, who are found in the streets or thoroughfares (*vide* Appendix). *Dr. Manget.*

They are forbidden by law to be seen in public, selling wares, or exposing themselves; but the law is insufficient. *Dr. Reed.*

There is an Ordinance to compel the confinement of lepers to the asylum of the colony; but as informations are seldom laid, it may be considered inoperative. The negroes, being comfirmed fatalists, although firmly believing in the contagiousness of the disease, take no exception to the freest intercourse with lepers. *Dr. Pollard.*

Unfortunately there are more lepers at large than are confined, at present, in the asylum; moreover they freely communicate with the healthy, causing the disease to spread rapidly. *Dr. Duffey.*

Neither the lepers nor their friends wish that they should be confined, as they dread the seclusion and separation from their ordinary habits almost as much as penal servitude. Any cases duly certified and sent to the Leper Asylum are kept separated ever after. *Dr. Carney.*

In British Guiana, we daily see scores of lepers communicating with other persons without any restrictions, and even preparing and selling different articles of food. In Dutch Guiana, on any suspicion the person is brought before the medical committee, and, on the least proof of the existence of the disease, he is sent to the Leper Establishmen, where the lepers are kept separated from the rest of the community. *Dr Van Holst.*

12. The Ordinance of 1858 gives all information as to the provisions made on behalf of lepers. There is an asylum for their reception. They are not admitted into the general hospitals. *Dr. Manget.*

The Combined Court vote annually certain sums for the support and treatment of the leprous poor. A separate and isolated establishment, termed the General Leper Asylum, is provided for them. It was established in 1858, and is situated on Mahaica Creek. It was formerly a military post; the old barrack building, one story high, and provided with an open gallery round, serves for some of the inmates. A second wooden building, two stories high, has been recently erected. The wards are swept out daily and washed weekly. The ground is partly cultivated by the lepers themselves. Each leper bathes daily, and uses soap. They assist each other in sickness. They are under the charge of a superintendent, who has under him two nurses, male and female, a cook, and washerwoman. They have books, a school, and religious consolation. A surgeon provides medical attendance. The treatment followed for the relief of the disease consists principally in the use of vapour baths of sulphur and nitre, sulphur and iodine, the hot air bath, and the internal and external use of nitric, muriatic, and sulphuric acids, and occasionally iodine and its combinations. A strong belief prevails among the coloured races that the disease is incurable, and they generally refuse to submit to medical treatment for it. The following is the dietary of the asylum; besides some spirits, malt vinegar, and olive oil as *extras* directed by the surgeon. *Dr. Reed.*

Diet of the Lepers.

Monday.—Plantains, 2 lbs., raw; salt fish, 5 ounces; oatmeal, 6 ounces; bread, 4 ounces; sugar, 2 ounces; coffee, $\frac{1}{4}$ ounce, raw.

Tuesday.—Plantains, 2 lbs., raw; salt fish, 2 ounces; salt pork, 1 ounce; oatmeal, 6 ounces; sugar, 2 ounces; coffee, $\frac{1}{4}$ ounce, raw; split pease, 2 ounces.

Wednesday.—Plantains, 2 lbs, raw; fresh beef, $\frac{1}{2}$ lb. each; oatmeal, 6 ounces; bread, 4 ounces; sugar, 2 ounces; coffee, $\frac{1}{4}$ ounce, raw; barley, 1 ounce.

Thursday.—Plantains, 2 lbs., raw; salt fish, 2 ounces; ox head, 25 lbs., boiled into soup, of which 1 pint each; oatmeal, 6 ounces; bread, 4 ounces; sugar, 2 ounces; coffee, $\frac{1}{4}$ ounce, raw; rice, $\frac{1}{2}$ ounce, split pease, $\frac{1}{2}$ ounce; barley, $\frac{1}{2}$ ounce.

Friday.—Plantains, 2lbs., raw; salt fish, 2 ounces; salt port, 1 ounce; oatmeal, 6 ounces; bread, 4 ounces; sugar, 2 ounces; coffee, $\frac{1}{4}$ ounce, raw; split pease, 2 ounces.

Saturday.—Plantains, 2 lbs., raw; fresh beef, $\frac{1}{2}$ lb. each; oatmeal, 6 ounces; bread, 4 ounces; sugar, 2 ounces; coffee, $\frac{1}{4}$ ounce, raw; barley, 1 ounce.

Sunday.—Plantains, 4 lbs., raw; salt fish, six ounces; ox head, 25 lbs., for soup, of which 1 pint each; bread, 4 ounces; sugar, 1 ounce; coffee, ¼ ounce, raw; rice, ½ ounce; split pease, ½ ounce; barley, ½ ounce.

Black pepper and salt given as required twice a week. Tobacco and snuff and pipes once weekly.

The Leper Asylum at Mahaica is not adequate for the number of the diseased who could and ought to be sent there. *Dr. Van Holst.*

13. The following is the number in the asylum for five years:—

	Males.	Females.	Total.
In 1858 - -	66	11	77
„ 1859 (additional) -	31	15	46
„ 1860 „ -	23	—	23
„ 1861 „ -	20	7	27
„ 1862 „ -	32	10	42
			215

Dr. Reed.

14. Not from personal knowledge; but if I was to believe in general rumour, leprosy is greatly on the increase here. I certainly see many more lepers about the country than I did 20 years ago; but whether this is due to less coercion being employed to force these unfortunates to remain at home, or to less repugnance on their part in exposing their persons than existed formerly, it is difficult to say. *Dr. Manget.*

From personal knowledge I know that it has been on the increase during the last 20 years.

During the time of slavery in this colony up to August 1838, slave lepers were kept isolated from the healthy; this tended to prevent the disease spreading. On emancipation taking place at that date, the lepers went to live with their friends. Immigration then began, first with the neighbouring West India Islands, and many lepers were introduced. Subsequently, they came here from Madeira, India, China, and Africa, as immigrants.

Dr. Reed.

It has, in my opinion, very palpably so in my district during the last 18 years; and, I have been informed by those who have frequent opportunities of observation, very much so in the river districts of the colony. The sole cause, I believe, to be intermarriage, and free social intermixture. *Dr. Pollard.*

I have every reason, from personal knowledge, to say that the disease is on the increase, owing, I believe, to the influx of immigrants into the colony. *Dr Duffey.*

I believe that during the last seven years it has been vastly on the increase in my district, and that this is owing to the numbers of lepers who are at large and have free intercourse with healthy persons, as well as with each other. *Dr. Carney.*

Without doubt, the disease is fearfully on the increase of late years, at least in this part of the colony. The free intercourse and cohabitation are the principal causes.

On some estates I know several coolies afflicted with it. *Dr. Van Holst.*

15. I have sometimes seen the progress of leprosy checked to a certain extent, for a short time, I thought by hygienic and dietetic measures, but never by pure medical treatment; that is to say, by drugs or remedies. It never undergoes a spontaneous cure. *Dr. Manget.*

Lepers in poor circumstances are especially benefited by proper hygienic and dietetic treatment; the disease often becomes mitigated thereby. Medical treatment may afford relief and suspension, but no cure, of the malady. It is possible that leprosy may undergo a spontaneous cure, but only at the earliest stage, previous to any ulceration. Cases have been observed in negroes, where one of the parents (mother) had the "joint evil;" one of her children, a youth, had yellow spots about the body; these, after a time, faded, and the skin resumed nearly its natural hue. He had no other appearance of leprosy about him. No medical treatment had been used.

None of the patients have recovered wholly; many, having the disease in its different forms, have had it stationary for months and years. *Dr. Reed.*

I have little or no faith in any treatment. By the use of mild mercurial alteratives with sarsaparilla, followed by the nitro-muriatic acid, and of an exclusively vegetable diet, I have kept, I believe, the disease in check, and arrested for a time the access of ulceration. I do not believe that it ever undergoes a spontaneous cure. It sometimes remains in abeyance a whole lifetime after the appearance of the coppery spots; at other times it seems to expend

itself and become arrested, after the loss of the fingers and toes by ulceration; but the reprieve is often only delusive, the disease re-awaking with fatal activity. I have no faith in any attempts at mitigating or curing leprosy; the only remedy available, in my opinion, is absolute isolation. *Dr. Pollard.*

I have never known a case of decided leprosy cured. *Dr. Duffey.*

Temporary relief only. I am not aware that leprosy ever undergoes spontaneous cure. *Dr. Carney.*

I have never seen a perfect cure of leprosy. *Dr. Van Holst.*

16. There is no registration of births and deaths. *Dr. Manget.*

The people of British Guiana, by the Census of 1861, was:—

Country of Demerara, exclusive of George Town - -	62,195
„ Essequibo - - - -	27,959
„ Berbice - - - - -	24,119
George Town, the capital - - - -	29,174
New Amsterdam and Stanley Town - - -	4,579
	148,026

About four years ago a person was appointed as Commissary of Population, but after a short time the office was abolished. Such an officer is much wanted. *Dr. Reed.*

There is no registration of births, but there is one of deaths, including the causes of death, on all estates in this colony; it has always existed, so far as I am aware. *Dr. Carney.*

17. I am sorry that I am not in a position to give such information as would elucidate the many and important queries submitted by the Royal College of Physicians; and I much fear that this want of knowledge of a disease, which by the great majority of the community is believed to be on the increase, is but too general amongst the medical practitioners in this community. I have never heard of any one having made a particular study of leprosy. In 1858 certain queries (sent by the Secretary of State for the colonies) were submitted to the medical gentlemen of this colony. Out of 37, nine only answered them; these answers, with the queries, I now forward (*vide* Appendix). *Dr. Manget.*

A commission on the subject of leprosy has been appointed in this colony, and probably it will soon acquire the information desired.

As leprosy is considered generally a contagious and hereditary disease, admitting that there is a predisponent tendency to imbibe and develop it, its prevention must be a matter of police regulation, by enforcing the perfect isolation of the lepers from the healthy population. *Dr. Reed.*

From close observation and more than ordinary attention to the disease, I consider that one-sixth of the entire Coolie and black population are affected with one kind of leprosy or the other. The best preventative is separation. *Dr. Carney.*

No. 18.

CAPE OF GOOD HOPE.

1. Leprosy is a disease that has been prevalent at the Cape since I commenced practice there upwards of 40 years ago; and as long before that time provision had been made by Government for isolating leprous persons, under the impression of the disease being contagious, it has probably been known there from an early period of the colony as a Dutch settlement. There are two forms, the tubercular and the anæsthetic. In the former the disease commences with tubercles, accompanied with discolouration of the skin, and more or less insensibility to the touch, usually on the cheeks, forehead, alæ nasi, and lobes of the ears, causing as they increase great deformity; also hoarseness, ozæna, and symptoms indicative of disease in the air tubes and lungs. In the second form, the fore-arms and hands and legs and feet are first affected with swelling and insensibility. Vesications appear over or immediately under the metacarpal or metatarsal bones, or the phalanges of the fingers and toes. These burst, ulcers form, and extend deeper and deeper until the joint drops off. This process is repeated again and again with the same result. The strength of the patient becomes undermined, and he dies usually from bowel disease.

These two forms I consider as quite distinct, although they occasionally occur in the same patient, the one form supervening upon the other, and the hereditarily predisposed may be attacked with either. *Dr. Abercrombie.*

It is common at the Cape, principally among the Hottentots and half-castes. In some cases the fingers are contracted and flexed, and even ulcerated off, before there is any unusual appearance about the face or trunk. In other cases the extremities are intact, while the face is horribly disfigured by enormous enlargements about the eyebrows, cheeks, &c. I regard the two forms as varieties of the same blood disease. They are both known by the name of leprosy. In India as well as in South Africa I have seen one form running into the other.
Dr. Ebden, President of the Government Medical Committee of Cape Town.

2. In the hereditarily disposed it seldom occurs before puberty. I have seen it, however, as early as two years of age. The usual period seems to be from 20 to 35 years. The earliest symptoms in the tubercular form are the tubercles on the face and ears; and in the anæsthetic form the swelling of the hands and feet, with a harsh brawny feeling, and general insensibility of the skin. *Dr. Abercrombie.*

Usually soon after puberty, but sometimes in childhood. The contraction and flexing of the fingers and toes is, I think, the first symptom; sluggish ulcers soon follow on this state. Sometimes anæsthesia of the skin, at other times the enlargement of the face, are the earliest symptoms. *Dr. Ebden.*

The following is the return of the ages of the lepers in the Hospital at Robbin Island in August 1858.

———	Under 20 years.	20–30.	30–40.	40–50.	50–60.	60–70.	70–80.	Average Age.	Total No. of patients.
Males - - -	3	12	15	3	1	2	1	34	37
Females - -	2	1	6	4	2	1	1	40	17

Dr. Alex. Abercrombie.

3. The disease in either form is slow in its progress. From three to five years usually elapse before the disease is fully developed; and although from 10 to 12 years may be usually the average duration of the life of a leper, I have known it prolonged to 16 or 18 years. *Dr. Abercrombie.*

In some cases the disease is severely marked at 20 or 25 years of age. It often terminates fatally at 35, but sometimes old age is attained. *Dr. Ebden.*

4. As far as my observation goes, the disease occurs more frequently in males than females, and probably in the proportion of two to one. *Dr. Abercrombie.*

Neither in South Africa nor in any part of India, either eastern or western, have I noted that one sex is more liable than the other. *Dr. Ebden.*

5. It occurs decidedly in the largest proportion among the Hottentots, next to them among the negroes, and last of all among the whites or Africanders. I have met with it in Europeans, but rarely. *Dr. Abercrombie.*

In South Africa the Hottentots are for more liable than any other classes or races of man. Natives of the Mozambique sometimes suffer. Whites only rarely so. Black negroes do not suffer so much as the light copper-coloured Hottentots.
In India, grain-feeding Hindoos, who are poorly off, suffer in a far larger proportion than either Mussulmen or other castes or classes of Hindoos. Amongst the aboriginal races, such as Bheels, Coels, &c., it is very uncommon. *Dr. Ebden.*

Among the Hottentots more than any other race, from their proverbial want of cleanliness and poorness of diet. *Colonial Medical Committee*, 1853.

The inmates of the lazaret in August 1858 were as follows:—

MEN.					WOMEN.				
Whites.	Negroes.	Africanders.	Hottentots.	Total.	Whites.	Negroes.	Africanders.	Hottentots.	Total.
3	10	11	13	37	—	1	4	12	17

Dr. Alex. Abercrombie.

6. It does not appear to occur more frequently in any particular locality. The dwellings of the poor, among whom it chiefly occurs, are badly constructed, ill ventilated, and cold. Their habits are filthy, and their food is often innutritious, consisting much of salted fish.

In the few cases of the disease I have seen in whites and Europeans, their habits had been cleanly, and their food good and nutritious. *Dr. Abercrombie.*

The Hottentots usually reside away from the sea, in open valleys, high and dry, not liable to malaria. Animal food is not scarce, but fruits and vegetables are so amongst Hottentots, who rarely wash their bodies or their clothes. *Dr. Ebden.*

7. Close rooms and poor diet decidedly hasten its progress, while generous diet and stimulants, judiciously used, certainly retard it. *Dr. Ebden.*

Its progress is, I think, much slower among those who have the means of cleanliness and of good diet at their command than among the poor and destitute. *Dr. Abercrombie.*

The crowded and unventilated tenements of the poor, abounding in filth of the most disgusting kind, festering and putrefying around. That such a state of things exists in Cape Town may create astonishment, and not be generally known.

Colonial Medical Committee, 1853.

8. Certainly hereditary; but I have known instances of one member only of a family being affected. *Dr. Abercrombie.*

Most decidedly hereditary. I have known instances where one member only was afflicted, and then the disease has appeared to pass away from that family. *Dr. Ebden.*

That it is highly hereditary there cannot be a doubt; and that poor living, want of cleanilness, mendicant misery, and exposure to cold and damp, are but too constant attendants of this dreadful malady, and tend to generate and keep it alive.

Report of the Colonial Medical Committee of Cape Town to the Secretary of the Government, 13th October 1853.

The children of lepers are usually born healthy, and they seldom evince any symptoms of the disease within puberty, and often until a much later period, whilst some escape it entirely; the disease passing over one generation to appear, as occasionally happens, in the succeeding one. *Dr. Alex. Abercrombie.*

9. I consider it to be a peculiar disease, and in no way connected with any other. Tubercular venereal affections may be mistaken for it. *Dr. Abercrombie.*

It is a disease sui generis. *Dr. Ebden.*

10. I have never been able to trace the disease to contagion. I have known married persons, one being a leper, cohabiting for years, without the other suffering. I do not consider it contagious or transmissible by sexual intercourse. *Dr. Abercrombie.*

I have not seen a single case where it was communicated by contagion. I have known lepers cohabiting with females who remained exempt. *Dr. Ebden.*

Its being contagious is problematical to a very great degree.

Colonial Medical Committee, 1853.

With regard to the contagious nature of the disease, such an opinion, at the Cape at least, is no longer entertained; the fallacy of such an opinion has long since been established.

Dr. Alex. Abercrombie.

11. There is no law, as far as I know, to prevent lepers communicating freely. The present provision for lepers by Government was made, I believe, originally not so much to afford subsistence to the destitute, as by segregating them, to prevent the extension of the disease by hereditary transmission. But as few of the lepers throughout the colony resort to the institution, little good has been effected. *Dr. Abercrombie.*

There is no law authorizing the deportation of any leper, nor his removal from the home of his friends. The Government provides a very comfortable asylum for all lepers; but its insular position deters many, and their friends prefer caring for them at home.

Dr. Ebden.

12. There is a leper hospital on Robbin Island at the entrance of Table Bay, about eight miles from Cape Town. The site is good, but the buildings are defective; there is no arrangement for warm baths, essential in the treatment of all cutaneous diseases.

The institution forms part of a general infirmary on the island for lepers, lunatics, and chronic ailments; but each of these classes is separately accommodated; and the whole are under the care of a medical gentleman, who resides on the spot. *Dr. Abercrombie.*

Refers to the tables and reports from Robbin Island, where the lepers are liberally fed and warmly clothed.

Lepers are not generally admitted into an ordinary hospital, but they are so temporarily in some rare cases.

At one time a leper asylum existed near Caledon, some 60 miles from Cape Town.

Dr. Ebden.

13. For the last 10 years the average number in the hospital on Robbin's Island has been from 50 to 60. Some lepers, I believe, are maintained at the public expense in the eastern province also of the colony. *Dr. Abercrombie.*

Refers to tables, &c. There are very many lepers living with their friends in various parts of our colony. *Dr. Ebden.*

In August 1858 there were 54 patients in the leper institution. Of this number eight were affected with both forms, the tubercular and the anæsthetic, of the disease.

Dr. Alex. Abercrombie.

14. Of the extent to which leprosy prevails here, no estimate can be formed from the mere number of the patients in the institution on Robbin Island. There is a strong prejudice against it, and none resort to it but the really poor and outcast. The disease being beyond doubt hereditary, and no steps being taken to segregate the lepers and separate the sexes in the colony, it may be reasonably inferred that the disease is on the increase; and such is also my opinion from the number of lepers now to be met with in the streets of Cape Town compared with former years. *Dr. Abercrombie.*

Neither in India nor in South Africa does the disease seem to be increasing, but at the same time I do not believe that it is at all palpably on the decline in either country. I have been in the habit of seeing and noting particulars connected with the leprosy for the last 23 years,—from 1839 to 1847 at the Cape,—from 1848 to 1861 in India,—and again in 1862 at the Cape. *Dr. Ebden.*

15. I have never seen a case of spontaneous cure. As to treatment I have seen no satisfactory results beyond temporary relief of suffering. *Dr. Abercrombie.*

Lepers never recover; but good food, pure air, cleanly habits, with tonics and stimulants, do a very great deal to retard the progress and mitigate the severity of the disease. *Dr. Ebden.*

16. 320,000 is the estimated population, but no Census has ever been taken. The only registration of births and deaths is very incomplete and inaccurate. *Dr. Ebden.*

The population of the colony is now estimated at 300,000. A registration of births and deaths in Cape Town, and I believe throughout the settlement, was formerly kept, and a fine attached to neglect in either of these respects; but, the fine being seldom enforced, the law fell into disuse, and we have now no certain data to form a correct opinion as to the mortality from any disease. *Dr. Abercrombie.*

17. I am not aware of any particular locality in this colony where leprosy especially prevails. I send a thesis on tubercular leprosy by my son, Dr. Alexander Abercrombie, printed at Edinburgh, 1860. Appended to it are two plates containing sketches of lepers suffering from the tubercular form of the disease, taken from photographic likenesses of patients in Robbin Island Institution, with short notes of their cases. *Dr. Abercrombie.*

I refer to the tables, reports, and statements from Robbin Island; also to Dr. Hussey's report on leprosy of June 1819, Dr. John Murray's ditto of December 1822, and Dr. John Arthur's report of December 1827. *Dr. Ebden.*

The Medical Committee strongly urge on the Municipality of Cape Town the necessity for a rigorous inquiry into the state of the lanes and dwellings inhabited by the poor and coloured classes of the community, for the removal of nuisances from them, as experience has fully shown the efficiency of sanitary arrangements in preventing the generation and checking the extension of disease, whether contagious or not, amongst a dense and overcrowded population. *Report*, 1853.

Dr. Dyer, the Secretary of the Colonial Medical Committee, in a letter dated 27th May 1863 to the Government of the Cape, states, that the Report of 1853 contained a report from Dr. Birtwhistle of Robbin Island, and extracts from records as far back as 1818–19; also a copy of a letter from the Medical Committee, dated 27th June 1842, with other annexures.

No. 19.

SIERRA LEONE.

1. Yes.

There is but one form of leprosy known here, but in different stages of the disease it assumes different appearances. The first or papular stage may continue so for years, and not go further. The second, or tubercular stage, may also last for years, never getting to the third or ulcerative stage. This generally terminates fatally in from one to ten years from the commencement of ulceration, which usually commences in the feet, destroying the toes joint by joint, until it reaches the metatarsal joints, where it stops, and then commences in the fingers, and follows the same course until it destroys all the phalanges.

The disease being looked on with superstitious fear by the natives, they are very unwilling to give any information on the subject, or even to talk about it.

2. Generally after puberty. The large papular eruption, with thickening of the lips.

3. From 30 to 40 years of age. It proves fatal in from one to ten years after, according to the strength of the person attacked.

4. About equal.

5. I have never seen a case of it in a European. It is altogether confined to the natives, and particularly to those who come from the Niger and Congo neighbourhoods.

6. Amongst the labouring population.

Locality seems to have nothing to do with the development of the disease, as it is most common in the sea and mountain districts, which ought to be healthier than the town.

The dwellings are made mostly of wattles plastered with mud, and thatched with bamboo.

The ordinary diet is corn or vegetables, with fish.

7. Weakness of constitution.

8. Invariably, as far as I can ascertain, it generally skips a generation.

Yes.

9. I believe most of the cases here are connected with syphilis, as most of the patients I have seen have themselves, as well as their parents, suffered from this disease. In one case of leprosy, in the first and second stages, the patient is also affected with elephantiasis of both legs.

10. No.

c. No. I have seen a healthy looking woman living with a leper, by whom she has a child; neither mother or child are infected.

11. There is no restriction.

12. No provision. Lepers are admitted into the general hospital.

13. Males - - 57
Females - - 46

103

They are principally liberated Africans, who brought the disease with them.

14. I do not believe the disease is increasing here.

15. In the first stage the iodide of arsenic with mercury seems to be useful. In the more advanced stages no medicine will effect a permanent cure.

16. The population was, by the Census of 1860 :—

Males - - 21,107
Females - - 20,390

41,497

There is a general and uniform registration of births and deaths, including the causes of death, to be found in the Registry Office, Sierra Leone; it has existed since 1857.

17. Freetown District - - 32
1st Eastern - - - 54
2d „ - - - 10
Western or sea - - 7

Mr. Bradshaw, Colonial Surgeon.

No. 20.

TANGIERS.—TUNIS.—TRIPOLI.—BENGAZI.—CAIRO.

1. *Tangiers.*—Consul Sir J. D. Hay states that he applied to Dr. Daston, an English physician resident there, for information on the subject of leprosy in Morocco. Dr. Daston describes only the different forms of lepra vulgaris and lepra syphilitica. The former is rare; the latter is rather common amongst the inhabitants both of the town and district, and amongst those of the interior. The Moors term the disease ezdam.

The information received by the Consul from the Vice-Consuls on the coast was vague and imperfect, but it seemed to confirm the statements of Dr. Daston.

Tunis.—True leprosy is not known in Tunis. Under this name, however, vitiligo, psoriasis, and elephantiasis are often confounded, though they are very distinct diseases. Leprosy is a constitutional disease; whereas elephantiasis is independent of any special diathetis. *Drs. Ferrini and Lambroso.*

Tripoli.—Dr. Robert Dickson, Medical Officer of the Quarantine Department, describes only the lepra vulgaris and the lepra syphilitica.

Bengazi.—True leprosy is not known in the Bengazi and surrounding districts. *Dr. Nani.*

Consular District of Cairo.—Leprosy is scattered over this consular district; most common in Cairo, but even there rare.

a. The tubercular form is most frequent among the Arabs, and the anæsthetic among the Jews and natives of the Danubian principalities.

c. White shining patches with hard base, in various degrees of ulceration; puffy and waxy appearance of the skin around the patches; the face and upper parts of the body and upper extremities chiefly affected; a general bloodless condition of the system. *Consul Drummond Hay.*

Jeddah.—No cases of leprosy here, but I understand that there are some cases in the Yemen. *Consul Stanley.*

2. *Cairo.*—The majority of lepers here are under thirty years of age. Of five cases one appeared to have been attacked at twelve, the other at about eighteen years of age. *Consul Hay.*

3. No authentic information.

4. *Cairo.*—It is thought by native medical practitioners to be more common in the male sex; but this may be incorrect, as so little is known of female life among the Turks and Arabs. *Consul Hay.*

5. *Cairo.*—In Egypt it is chiefly found among the Jews; next in frequency among the Copts; very seldom among the Arabs. The Bedouins are said to be free from the disease. On the whole the lighter coloured races seem to be most prone. *Consul Hay.*

6. *Cairo.*—Most frequently amongst the very poor.

a. Close, confined, and damp parts of the city.

b. The houses very much confined; not receiving much light; noxious effluvia in almost every direction.

c. Habits dirty in the extreme.

d. Ordinary diet, salted and often almost putrid fish, vegetables, and bread, seldom eating good animal food.

e. Scribes and money changers. *Consul Hay.*

7. No information.

8. *Cairo.*—Does not appear to be hereditary. No instance known of two members of a family being attacked. *Consul Hay.*

9. No information.

10. *Cairo.*—No instances of contagion. *Consul Hay.*

11. *Cairo.*—They communicate freely with the rest of the community, and mostly live by begging in the streets. *Consul Hay.*

12. *Cairo.*—No provision made. Four or five cases have been admitted into the public hospitals at intervals. *Consul Hay.*

13. None.

14. Nothing known on this point.

15. *Cairo.*—No satisfactory results have been observed. *Consul Hay.*

16. *Cairo.*—In Cairo the population is about 300,000. The number of lepers is probably much larger than is generally believed. Too little inquiry has ever been made to elicit facts concerning predisposing or exciting causes of disease. *Consul Hay.*

17. No information.

No. 21.

JERUSALEM AND CAIFFA.

1. Mr. Finn, Her Majesty's Consul at Jerusalem, says:—The disease popularly named leprosy here by the European residents and travellers is really a form of elephantiasis, not contagious, but an infection of the blood. I believe there is but one form of it existing here. The disease to which I refer causes swelling in the nose, fingers, and toes, then eats away the palate and the above-mentioned extremities.

2. It is generally first exhibited at the time of puberty.

3. Fatal in a very few years.

4. I do not know.

5. It is only found among the native population, and is almost entirely confined to the Mohammedans. There is, however, one case of a European Jewish boy being afflicted by it. I am not aware that he was born here.

6. There is nothing remarkable before the developement of the disease; afterwards all lepers live by begging.

This is a healthy climate. The patients have not an unhappy appearance; they are only disgusting to public notice. Some have a little property invested in baggage animals, and they themselves bring in wood, charcoal, &c. to the city.

7. None.

8. I am told it is always so.

9. Medical men here have told me that they believe it to have originated in neglected syphilis in the progenitors of the present patients.

10. I have never heard of such instances.

11. Contact is habitually avoided on all sides. The beggars have vessels on the ground before them into which the charitable cast their alms.

12. In one part of the city, within and close to the wall, there are some clay-built cottages, not more than a dozen, for the reception of those patients (usually denominated lepers) for whose benefit large endowments have been left by benevolent persons in past times. These dwellings have a mud wall surrounding them on three sides, the fourth side being the wall of the city; and the doors and windows are turned toward the wall. No medical attendance is provided.

13. The number is generally about a dozen.

14. It has neither increased nor diminished.

15. It is never cured spontaneously.

16. No such registration.

17. A few lepers are found at Nablus and at Jaffa.

Mr. Sandwith, Her Majesty's Vice-Consul at Caiffa, states that there have been but three cases of leprosy in that district—which includes the towns of Tiberias, Safed, and Nazareth—for many years past. They all occurred in one family in Caiffa; a woman who died six years ago of the disease at about 40 years of age, her brother who is in a leper house at Damascus, and her son, 16 years of age, living in this town with his father and brother; neither of whom is diseased. Its manifestations in this boy are unseemly swollen blotches on the face, hands, feet, and ankles; the nose is twice its natural size; the eyes are half hidden by the swelling of the surrounding parts, and the skin is red and shining. The fingers are also double their natural size, as well as the hands and the feet; and the latter sometimes swell to such an extent as to cause the patient great pain, the skin even cracking and becoming ulcerated.

The disease first appeared at seven years of age. His health is tolerably good.

He mixes freely with his family and the friends of the family; but he never goes beyond the courtyard of the house.

In this part of the country no provision is made for persons affected with leprosy, as the disease is hardly known.

No. 22.

BEYROUT AND CYPRUS.

1. Consul-General Moore states that the disease is all but unknown in the consular district of Beyrout, with the exception of Cyprus.

Vice-Consul White, from information derived from the medical men of that island, states that leprosy is seen there in two forms, the tuberculous and the anæsthetic. Indolent spots on the skin, at first pale, yellow, and shining, then dull and bronze coloured, with slight swelling, especially of the face; sometimes with anæsthesia; at others with hyperæthesia. After a greater or longer interval the spots are followed by tubercles, reddish or livid, and of various sizes; mostly in the face, causing great deformity of the features. Subsequently the tubercles ulcerate, the deeper tissues are invaded, and portions of the extremities, principally the fingers and toes, fall off. The anæsthesia and loss of voice increase. Sometimes tubercles appear on the eye-ball, the cornea ulcerates, and the organ is totally destroyed. The mucous membrane of the nares, mouth, and throat are sometimes similarly affected, and death may be caused by œdema of the glottis.

2. Generally about puberty. Before the appearance of any spots on the skin, there is in many cases a general malaise of the system, frequently supervening upon a sudden check of the perspiration, with great physical and mental depression.

3. This varies. In some cases it is developed far more rapidly than in others. At the leper house at Nicosia the disease often remains long stationary, the inmates there not having the means of committing excesses, and abstaining generally from fat and oily food. When the disease appears about puberty, the patient seldom survives beyond 35 or 40 years of age.

4. More frequently among males. Perhaps 3 out of 5 lepers are males.

5. It is confined almost exclusively to the Christian community; only one Mussulman family in Cyprus is known to be affected with it.

6. Most frequent among the poor agricultural classes living in the country.

a. It occurs chiefly, though not exclusively, inland, near marshes or flowing water. The dry and hilly districts are nearly free from it.

c. Want of personal cleanliness. Mussulmen, who are accustomed to perform frequent ablutions, are scarcely ever attacked.

d. Bad and unwholesome diet. The excessive use of salted pork and salted fish, often rancid, by the Christian peasants, is considered a great cause of the disease. It is believed in Cyprus that the use of pork in a state called in Greek 'khalaxeux,' (i.e. like hail), in consequence of a number of white grains or tubercles, of the size of hailstones, being dispersed through the fat, is apt to give rise to leprosy. The Mahometans abstain from pork, and make very little use of salted provisions.

7. The above circumstances and conditions; also mental depression.

8. Yes; without doubt hereditary.

In the leper house a patient died leaving eight children, two of whom were affected, and the rest are healthy.

9. There is no reason to suspect any such connexion.

10. No; the disease does not appear to be transmissible even by sexual intercourse.

11. No. A house is set apart, near Nicosia, for them, and they are required to dwell there; but numbers manage to escape, or to evade compliance with the regulations.

12. No provision is made for the subsistence or medical treatment of the lepers. They live on alms from the archbishop, who supplies them daily with bread, and on private charity.

13. There are at present 15 men and 20 women in the lazaret. The excess of females is owing to the fact that the men more frequently escape from it. The number of 35 is said to be about one third of all the lepers in the island. If this be correct, the proportion to the population is about one-half per cent.

14. There has been no observable increase or decrease during the last 15 or 20 years.

15. A spontaneous cure has never been known. The general opinion of the medical men is, that though much may be done to check its development, the disease itself is incurable.

16. No information.

17. The districts of Messaoria, Morphon, Lapithus, and Kythræa, all situated in a humid plain, are those where the disease prevails most in Cyprus.

No. 23.

DAMASCUS.

1. Mr. Rogers, Her Majesty's Consul at Damascus, states that leprosy is known in this consular district.

a. There are two forms of the disease. 1. Baras el Israily, or Israelitish leprosy, which consists of whitish scales on the skin; and 2. Jezâm, or, Da el Ased, or the lion-like disease, so called from the fierce appearance of people suffering from it; the lips, nose, lower jaw, and eye-lids swollen, and rounded eyes.

b. The first of these two kinds is very rare. I have never seen a case of it, but have heard of two.

The other kind is quite distinct from it, and may—on more careful and scientific investigation—be found to consist of varieties which have not been particularized hitherto.

c. The usual characteristics of the first kind are, the formation of scales over the skin, which peel off like bran or small fish scales, with pains in the limbs, but no ulcerations.

In the other kind, the nose and upper lip become swollen and shiny; ulcerations form on the face; the hair of the face and head falls off; the voice becomes hoarse; the skin of the face becomes hard, lumpy, and wrinkled; and great pain is felt in the limbs. The nose is gradually eaten away, and sometimes the lips also; the hands and feet next swell; the nails of the fingers and toes ulcerate and fall off; and in some cases not only the fingers and toes, but even the hands and feet, as far as to the wrists and and ancles are eaten away; and sometimes, though rarely, ulcers are formed on other parts of the body.

2. It generally manifests itself in adults; but many cases are also known of children of tender years being attacked by it. The first symptoms are swellings, hoarseness, and pains in the limbs.

3. It sometimes arrives at its height within a short time, varying from one to four or five years, and then proves fatal. In some cases it reaches a certain stage, and, not progressing, the patient may live to an old age.

4. Males are much more frequently attacked than females, in about the proportion of about two or three to one.

5. The disease is known chiefly amongst the poorer classes of the mountain peasantry, both Moslems and Christians. These may be called white races, being hardly as dark as the Italian peasantry; but no instance of its having occurred amongst the Jews of Syria, nor amongst the negroes, is known here.

6. It is found chiefly amongst the poorer peasantry, but members of the richer classes of mountaineers are also sometimes attacked by it. It is not known to have attacked the townspeople of Damascus, nor of the other large towns in Syria.

a. The districts most subject to it are highlands, table-lands, such as the mountains of Lebanon and Anti-Lebanon, and the Hanrân, and very rarely on the seacoast.

b. The peasants' dwellings are built and maintained without the slightest regard to sanitary rules. Animals of all kinds frequently share the one room of which the house consists, with the owner, his family, and guests. Dustheaps and dunghills are formed in any open space near the houses.

c. Their habits of life are dirty in the extreme.

d. Their ordinary diet is, in the daytime, bread with cheese, olives or other fruit; and in the evening, boiled rice, lentils, or wheat with butter, or oil and sour milk, and meat but rarely. They can go for a very long time on little or no food, and eat inordinately when they get an opportunity of doing so at another's expense.

e. Their ordinary occupation is agriculture, wood-cutting, charcoal or lime-burning, mule or camel driving, and tending sheep or goats.

7. An irregular mode of life and want of cleanliness aggravate the disease; and lepers have assured me from their own sad experience that oil taken in cookery or in salad causes great pain, and an increase of the disease. Sexual intercourse seems to have the same effect.

8. It often happens that only one member of a family is attacked, and that the others remain free. Few lepers have children; but when they do some of the children are diseased, and others are not.

9. Leprosy is a separate and independent disease, known in Arabia for many centuries, and mentioned in the Koran of Mohammed under the name of jezâm; whereas syphilis was not known here until the French invasion under Napoleon, when his soldiers brought it hither, whence it is called Hal Franji, or the Frank evil.

10. It is not contagious, and not transmissible by sexual intercourse. I know a family who were living very near to the Christian leper house, and although the children of that family were frequently in contact with the lepers, none of them are diseased.

11. In towns there are no restrictions on lepers; but the villagers are afraid of contagion, and therefore oblige the diseased person to proceed to Damascus, or some other city where there may be a leper house. Those who do not or cannot conform to this custom are made to live in a cave or hut outside the village, where they remain in perpetual quarantine.

12. In Damascus there are two establishments, one just outside the city walls for Moslems, and the other in the Christian quarter, for Christians, where the lepers of these sects are respectively fed and clothed from the proceeds of property—such as shops, houses, &c.—entailed for their benefit.

Lepers are never admitted into general hospitals.

The buildings are of the poorest sort, and no medical aid is afforded to the inmates. Their mode of life is similar to that to which they were accustomed in their villages.

13. Before the troubles of 1860, there were about 50 lepers in the two establishments, viz., 20 in the Moslem, and 30 in the Christian one. Of the former there remain 16 or 17, and of the latter, some died of fright, and others returned to their village huts; but there are now more than 30 Christain lepers who are desirous to come to Damascus as soon as the house, which was burned down, shall have been rebuilt.

14. It does not seem to have either increased or diminished much of late years.

15. When leprosy has gained an advanced stage, there seems to be no known means of diminishing or of curing it. I have heard of only three cures, and in each case the disease was in the early stage.

I never heard of a spontaneous recovery from leprosy.

16. No such registration.

17. The popular belief in Syria is that leprosy is caused by the sexual intercourse of the parents during the period of menstruation in the mother. This idea is negatively supported by the fact of the non-appearance of the disease amongst the Jews of this country, who are most scrupulous in their observance of the Mosaic law of purification. On the other hand, sexual intercourse during the menstrual period, if it occurs in the villages, may also occur in the towns, and yet leprosy is not seen in the latter places.

On the cases I have lately seen, one was a man from Safed. He was attacked about six years ago, when an ulcer formed on his nose, of which the bone and cartilage have been eaten away; but the sore has healed. His lips are still considerably swollen, but there is no sore on the face. He is rather hoarse, and has a constant irritation in his throat. His hands and wrists are swollen, and there is a constant suppuration from his nails, some of which have fallen off.

A man from Sâk Wady Barada was attacked about 10 years ago. His nose is quite gone, and not healed up. His voice so hoarse as to be hardly able to make himself understood. He has a painful cough; nearly all his fingers are gone; his toes are going by degrees; suppuration continues in both hands and feet.

In Haifa I knew a family of native Christians, consisting of four sisters and a brother. All the sisters were married; two of them and also the brother were lepers; the other two were free from the disease. The leprous sisters had children; some of whom are diseased, and others free. The brother, after a residence of about ten years in the leper house at Damascus, died last week in a convulsion fit, which is the usual end of those afflicted with leprosy.

The cities in which there are leper houses are Damascus, Jerusalem, Nablus, and Ramleh. The popular belief is that cutaneous diseases are arrested in their progress by the patient removing to either of these places.

No. 24.

ALEPPO.

1. It is scarcely ever seen in the city of Aleppo, but occasionally in the adjacent villages.

a. Avicenna has described two varieties of the disease; the dormant and the progressive, the second only running on to ulceration. The division I think a true one. Of the ulcerative variety I have seen two forms, the tuberculated and the vesicular (the anæsthetic of Dr. Wood of America). They seem to belong to one common morbid state.

c. The tuberculated. Thickening, glossiness, and dark redness of the skin; the eyes red, suffused, or watery; sneezing, difficulty of breathing through the nose, hoarseness and loss

of voice; the hair of the face, including the eyebrows, falls off; offensive odour of breath and perspiration, &c. Tuberculous growths appear on the face and extremities; these ultimately break, and discharge an ichor; the features become more and more changed; the septum and cartilages of the nose are often destroyed; the loss of voice becomes complete; the smaller joints fall off, and the larger ones, as the knee, become affected. The circulation becomes feebler, and the patient sinks generally from diarrhœa or dysentery. In the vesicular variety, instead of tuberculous growths, large vesicles or bullæ form, especially on the hands and feet, and on breaking leave ill-conditioned ulcers. The eyes are watery, and the hair falls off, but much of the natural appearance of the face remains, and the voice is generally unaffected; the joints are affected, and the case terminates as in the tuberculous variety. *John Wortabet.*

2. Very generally between 20 and 50.

3. Perhaps in 10 years or so, but I do not know for certain. Patients generally live for many years.

4. In males much oftener than in females; in the proportion of perhaps 10 to 1.

5. I have no means of knowing. The Jews are said to be exempt from it.

6. Generally, but not exclusively, among the poor.

a. Urban and rural; rarely on the sea coast. Low, damp, and malarial localities seem to favour it.

b. Bad.

c. Unclean.

d. Poor diet, salted and cured meats, with occasional over indulgence.

e. Over confinement, perhaps.

7. The circumstances stated above.

8. Very often. I know only a single case of one member alone of a family being affected, the others remaining free.

9. It may be connected with syphilis, but it is certainly a specific disease.

10. The Arabian physicians and the natives of the country believe it to be contagious, but I have never found it to be so.

c. It does not appear to be so.

11. No; but the segregation is very often not strict, nor sufficient to prevent its spreading if it were contagious.

12. There is no provision in Aleppo. In Damascus there is an endowed asylum for lepers, helped by charity. In Jerusalem I believe they live in a separate quarter.

13. None.

14. It has probably decreased; the cause may be the improved habits of life.

15. It is held to be unamenable to treatment. I think I have seen one case of spontaneous cure. The case had reached the first stage of ulceration. An attack of small pox seemed to have accelerated the curative process. The patient had had leprosy for two or three years, and had had a remarkably good constitution previously. (It is not stated how long he has been free from it.)

16. No information.

17. Damascus and Jerusalem afford the best field for the observation of leprosy, and the reports of competent medical men from these districts would be highly valuable.

Consul Skene of Aleppo has transmitted, besides the foregoing report, letters from Her Majesty's vice-consuls at Alexandretta, Latakia, and Tripoli, stating that in these places the disease is unknown.

No. 25.

RHODES.

1. Consul Callander transmits the replies of an Italian physician, Dr. Mazzinghi, "who "has been practising as a medical man in some of the neighbouring islands, as well as in "Rhodes, for several years past."

A great number of cutaneous diseases are confounded by the islanders under the name of leprosy, so that persons affected with only lichen, scurvy, syphilis, psoriasis, &c., are often condemned as lepers.

a. The various forms I have observed on the small adjacent islands of Symi and Calchi (Halki), are herpes (erpete forforaceo rotonde of Alibert), Egyptian or Arabian elephantiasis, Greek elephantiasis, and lupus. The first-mentioned form, or herpes, is quite distinct from the other three forms, which are all probably varieties of the same morbid state. In one case of the Greek elephantiasis I saw at Nimo near Symi, in which the man had been ill for 24 years, the body was a single sore, with the exception of the face, which was natural, but thin; the voice was unaffected, and there was no mutilation of the extremities.

2. Generally after 16 years of age.

3. It is said to be sometimes developed in a few months; at other times not for many years. Usually, after lepers have been separated from their families, the disease progresses rapidly, and life is more quickly extinguished.

4. More frequent among males than females.

Consul Callander says that it is supposed that about one-fourth are females.

5. The disease is chiefly confined to the Greek population in these islands.

6. I have only seen it among the lower classes, the persons being either seamen, sponge divers, or shepherds.

a. On the islands of Calchi, Symi, and Tilo the houses are on or near the seashore. These places are salubrious, hilly, and dry.

b. The dwellings are very insalubrious, consisting of a single badly-ventilated room, with a water-tank underneath. All the family sleep together on the ground, which, however, is occasionally planked, and usually in the same garments they wear during the day; the streets are extremely narrow, unclean, and swarming with pigs.

c. Deficient personal cleanliness; rooms not kept clean.

d. Meals irregular, gorging meat when they can get it, but generally taking salt fish and bread dipped in the brine in which the fish is preserved, with roasted peas, dried fruits, mollusca, &c., on which they chiefly live during their religious fasts, of which there is one at Christmas and another at Easter of 40 days each, and one of a fortnight at the beginning of August. The men are much addicted to drinking.

7. Mental depression especially, often arising from the enforced separation from their families and friends, and being obliged to live with other leprous persons. Such is the importance attached by people here to the falling off of the hair, that I have seen a young man in Symi 24 years of age, who being naturally beardless was for this sole motive sent off to the island of Nimo, where the lepers are confined, although he was robust, healthy, and without the least alteration in the skin.

8. Hereditary in all probability.

In all cases but one that I know of, only one member of the family had been attacked, the others remaining exempt.

9. No reply.

10. The disease is entirely exempt from contagion or transmission even by sexual intercourse.

11. They may communicate freely until the disease attracts public attention; and then, without consulting any medical man, and even against his opinion, they are banished to a desert spot of the island, as in Halki, or to an uninhabited island, as at Symi, where they must build their own dwellings, and subsist in rags as they best can, by begging or otherwise.

12. There are no general or special hospitals in any of these islands. As for treatment, government takes no heed of the public health. I was even prohibited from examining closely those lepers from the island of Nimo who came to ask my advice, on the ground that I might catch and communicate the disease to other persons.

13. No leper is maintained at the public expense; they live on the charity of individuals.

14. It has been stationary apparently for the last 50 years.

15. No spontaneous cure has ever been known to take place.

The population at Symi is about 12,000, and the number of lepers on the island of Nimo is, if I remember right, about 300, but they do not all belong to Symi, as several from the surrounding islands take refuge there. The population of Halki is about 3,000, and the lepers are five in number, one living at Halki and the other four at Rhodes.

Consul Callander remarks that the above statement must be a mistake. "I cannot find "out the exact number, but from what I am told it would seem that there are not above 300 "lepers in the whole of this consular district. The lepers living in this island (Rhodes) are

" ten in number, and are in the same conditions in every respect as in the other islands of the " district."

17. As long as lepers are left in their actual condition, in a worse hygienic state than the remainder of the inhabitants, and when medical men must fight with the population to be permitted to examine the disease properly, and with the want of cleanliness, good food, suitable dwellings, and medical assistance, together with the apathy and indifference of the government as to the state in which these miserable people live, the disease will always remain in its present obscurity, and the profession must be satisfied with what information is found in authors.

No. 26.

SMYRNA, SCIO, MYTELLENE, AND SAMOS.

1. *Smyrna.*—Consul Blunt states that it has been very rare at Smyrna for the last 20 years. He is indebted for the following replies to the physician of the British Seamen's Hospital at Smyrna. There are two forms of the disease, viz., the anæsthetic and the tubercular. The former commences by the skin losing its colour and sensation in patches, the colour changing to white; the latter by the appearance of tubercles on various parts of the body, chiefly the face, and often a certain degree of loss of sensation.

Scio.—Vice-Consul Billiotti, from information supplied by Dr. Barbiere, states that it has been known here from time immemorial, and is still seen sporadically. There are two forms; the *humid* and the *dry*, varieties of one morbid state. In the former purple tubercles appear on the skin, chiefly of the face, which subsequently ulcerate, causing great deformity, and proving more rapidly fatal than in the dry form. There is usually aphonia with more or less loss of sensation of the skin. The characteristic feature of the dry form, in its advanced stage, is the falling off of the phalanges of the fingers and toes. There is often a general atrophy, so that the patient is sometimes so reduced as to resemble an Egyptian mummy.

Mytellene.—Vice-Consul Roboly states that it is endemic and well known. The tubercular and ulcerative form of the disease is that almost invariably seen; it is the elephantiasis of the Greeks.

Samos.—It prevails extensively in this island. I have seen 80 cases of the disease. In one fourth, or more, of these cases there was no development of tubercles in the skin or elsewhere, but only, or chiefly, the mutilation of the extremities, associated with more or less extensive and complete anæsthesia. The loss of sensation is not, however, limited to this form of leprosy, as it is present in the tubercular form also; this symptom may indeed be considered as characteristic of leprosy in general. I would call it, after the example of Dr. Hjorth of Crete, the " articular " form of the disease, if I was satisfied that the flexion of the phalanges was the effect of an articular lesion, and not rather, as I believe, of the shrinking and hardening of the flexor muscles and tendons. The appellation of " diérétic " leprosy might best express its most notable feature, viz., the separation or falling off of the members. In all the cases of leprosy, whether tubercular or not, which I have seen, there were two symptoms invariably present, viz., anæsthesia and a sense of inward heat or burning. The insensibility of parts is sometimes such that they may be burnt or cut without the patient being aware of it. From the distressing feeling of inward heat, there is generally a great craving for cool drink, &c. I regard the different forms as having a common origin.

*Dr. Mengozzi.**

2. *Smyrna.*—Generally after 30 years of age. It has been seen in a girl of 18 years of age, whose brother had died of the disease.

Scio.—Generally at about 18 or 20 years of age; but where hereditary pre-disposition exists, as early as 5 or 7. In the humid leprosy the earliest symptoms are the falling off of the hair, and patches as of frost bites on the hands and feet, with more or less insensibility of the skin. In the dry leprosy, a slight impetiginous eruption on the arms and legs, or of small somewhat raised papulæ covered with a dry whitish crust. There is usually loss of sensation of the skin, which is especially smooth in the parts adherent to bones, and more or less numbness in the fingers or toes.

---

* Gazette Medicale d'Orient, Avril 1861.

Mytellene.—Generally at the age of from 8 to 15 in the hereditarily pre-disposed. The earliest symptoms are the swelling of the extremities, with constitutional weakness and depression, and weakness of the circulation.

Samos.—There is very generally a precursory stage of ill-defined constitutional disturbance, with or without febrile symptoms, before the characteristic symptoms appear.

3. *Smyrna.*—I have not met with any one of the medical men of Smyrna who has followed up a single case to its termination. The disease is chronic, and its progress very slow.

Scio.—In the humid form about 30 or 35 years of age; it is fatal at or about 50 or 55. Dry leprosy is often compatible with old age.

Mytellene.—Its progress is usually very slow. Sometimes, however, hectic fever comes on in the early stage of the disease, and the patient dies in a few months.

4. *Smyrna.*—In equal proportion apparently.

Scio.—There seems to be very little difference in this respect.

Mytellene.—In equal proportion.

5. *Scio.*—Here there is only the white race, with the exception of a few negro families who live in the town, and the men act as porters.

Mytellene.—The disease exists only among the Greeks. The Turks are exempt.

6. *Smyrna.*—Principally among the poor.

a. Place or district appears to have little influence.

c. Idle; very dirty.

d. Low and bad food. Olives, oil, and bad bread, which may contribute to originate the disease.

Scio.—Almost exclusively among the poor labourers in the country.

a. It prevails quite irrespective of locality, whether high or low, &c. The inhabitants (non-leprous) of places where lepers exist often enjoy excellent health.

c. Very dirty almost brutally so. They live in miserable hovels, seldom put off their clothes, and exposed to all atmospheric vicissitudes.

d. Food bad; of indifferent bread, rancid olives, salt and often tainted fish, and vegetables with oil, &c.

Mytellene.—Mostly among the poor.

a. The locality where it prevails most is elevated, and about two leagues from the coast. It is dry and stony.

c. Dirty; they seldom wash their bodies.

d. Food principally of dried vegetables, with bad olive oil, olives, salt fish, &c.

e. Peasants or sailors.

7. *Smyrna.* Bad food, and general mal-hygienic conditions.

Scio.—The conditions stated above, together with exposure to cold and damp, checked perspiration when heated, &c.

Mytellene.—Poverty with insufficient and bad food.

8. *Smyrna.*—Yes, without doubt.

Scio.—It is absolutely so.

It is very common for one member only of a family to be affected. Several cases of leprosy in a single family are rare.

Mytellene.—The children of leprous fathers and mothers are almost always sooner or later affected. Cases of the disease in a healthy family are very rare.

Samos.—Yes, certainly. The form of the disease transmitted to offspring is not always that of the parent. One child may be affected with the tubercular form and another with the articular or diérétic form, the father or mother having the tubercular disease. This fact alone shows that tubercles are not a necessary or essential feature of the morbid state.

9. *Smyrna.*—I am informed not.

Scio.—There is no such connexion.

Mytellene.—It is a disease *sui generis.*

10. *Smyrna.*—I am assured it is not, although believed to be so by the people generally.

c. No; a leprous mother may give birth to apparently healthy children.

Scio.—There is no ground whatever to believe that leprosy is contagious, although a vague belief of the kind is prevalent among the common people.

c. No.

Mytellene.—It is demonstrably not contagious. Dr. Bargilli practised inoculation in two instances, but without results.

11. *Smyrna.*—Lepers are compelled to leave the locality where they have resided.

Scio.—Lepers are forced to leave their families, and congregate together in a place by themselves.

Mytellene.—As at Scio.

Samos.—As at Scio.

12. *Smyrna.*—None whatever.

Scio.—There is a place set apart for lepers, called in Greek *lovo chori*, village des lepreux, and consisting of a few detached cottages, in which one or more patients live upon alms, furnished by the municipality or by private persons. There is a small chapel, and also a few fields in which those who are able may work, if they choose. No medical man ever visits them.

Mytellene.—Lepers live in beggary, and are subjected to no medical treatment. They do as they please, and society takes no heed of them. The district of Plumari, however, where the lepers are most numerous, maintains a village of about 50 houses, in which the lepers are lodged and fed at the expense of the commune and by the legacies of the pious. The population of this district is about 1,000, and the present number of lepers is 60.

13. *Scio.*—From 35 to 40 in the above-mentioned locality. From 5 to 10 die yearly, and their places are filled up by new admissions.

Mytellene.—At present the number in the island is about 200, of whom nearly all are mendicants.

14. *Smyrna.*—Forty years ago there was a makallah or parish here full of them; but for the last 10 or 15 years they have all disappeared, in consequence of the better food, clothing, and hygienic condition of the people.

Scio.—No increase or otherwise has taken place within the last 50 years.

Mytellene.—The disease is probably on the increase, from the liberty given to lepers to marry.

15. *Smyrna.*—I learn that the disease is always fatal.

Scio.—Rare cases of spontaneous cure, in a very early stage of the disease, are said to have occurred by removal to a climate quite different from that where the disease originated, as Wallachia, Moldavia, or Russia. A man 28 years of age, son of a leprous mother, and having four brothers younger than himself, all leprous, left this island on the earliest appearance of the disease for Constantinople, where he lived four years. Last spring he returned apparently quite well; but, being then obliged to return to work in the fields, within three months he became quite leprous.

16. *Scio.*—The population of Scio is from 65,000 to 70,000 souls.

17. *Scio.*—The district which furnishes the greatest number of lepers is the northern, which contains from 15 to 20 villages, with a population of from 15,000 to 20,000. The district is mountainous, the air pure, and the water abundant and wholesome; but the inhabitants are poorer and worse off than the rest of the population, and more exposed to frequent atmospheric vicissitudes. The repeated and long fasts of the Greek religion, occupying almost half of the year, must contribute to the development of the disease among a people so badly off as the Greeks. Among the Turkish peasants, whose life is less laborious than the Greeks, leprosy is extremely rare, although the two live in the same villages. The former practise frequent ablutions, use more animal food, and little, if any, salted fish. There still remains much to be ascertained respecting the nature and causes of this terrible disease, of which medical men are so ignorant.

Samos.—Dr. Mengozzi urges the necessity of governments providing suitable asylums for the reception of persons affected with leprosy, as the condition in which these unfortunates are at the present time left is a disgrace to humanity.

No. 27.

CRETE.

Consul Graham-Dunlop states that Ismail Pasha, the governor of Crete, (who is himself an educated physician, having studied seven years in Paris,) introduced him to the acquaintance of Dr. Brunelli, a licentiate of Padua, and employed at the time in researches respecting the leprosy in the island; he furnished replies in Italian to the queries, and directed attention to a memoir of Dr. Hjorth (formerly sanitary physician of Crete) in 1857, and a report thereon addressed to the Imperial Society of Medicine in Constantinople.

1. Yes; and from time immemorial. The lepers distinguish themselves into three denominations:—"stumpy" or mutilated (the original Cretan Greek word means a stump of wood), "rotten," and "spoilt," the local word being applied to milk as the lepers apply it to their

blood. They are all varieties of one common morbid state, as the symptoms of each can often be traced in the same individual.

1st form. Pallor and dryness of the face; partial paralysis of the facial muscles; irregular circulation in the extremities; loss of the fingers and toes; anæsthesia, more or less extensive; sores on the soles of the feet; stained patches of the skin, &c.

2d form. Knotty tubercles of red colour or of the colour of the skin; circular tubercles of an inch or so in diameter, occasionally confluent, and forming an indolent insensible tumour, several inches in size. They appear on the face and on the extremities, also in the mouth, tongue, and throat, impeding swallowing and breathing. These and other forms of tubercles may either suppurate outwardly or internally, or may remain long unchanged; or the disease may pass into the first form, with contraction or mutilation of the fingers.

3d form. General redness in the face, with slight elephantic swelling thereof, and flat tubercles an inch in size, which are more or less insensible; also ulceration in the mouth, loss of voice, and falling in of the bones of the nose and palate. The different forms of the disease of leprosy may be reduced under the heads of the "nervous" and the "vascular." *Dr. Brunelli.*

Dr. Hjorth recognizes three principal forms, according as the disease primarily affects the pituitary membrane, or the skin, or the small joints. They are only different forms or degrees of the same morbid condition, and the various symptoms are often united in the same patient at an advanced stage of the disease. In the first form, or that of leprous coryza, the mucous membrane, cartilages, and bones of the nose, palate, and throat are chiefly the seat of a destructive ulceration. The second or tuberculous form is characterised by the eruption of large papules or tubercles on the face, especially on the ears, point of the nose, chin, and lips; they appear also on the sclarotic, the tongue, and the extremities. They are often long stationary; at other times they suppurate, and if they heal they leave a puckered white cicatrix. Together with a chronic erythematous swelling of one or more of the extremities, there is often a numbness or insensibility to cold, while heat causes a painful pricking of the integuments, which are often covered with spots or blotches of a deep red colour. In the third or articular form, the phalanges of the toes and fingers become ulcerated and ultimately fall off. In some cases, the destructive process involves the greater part of the foot. Neither the brain, heart, nor other vital organs are almost ever affected.

Leprosy is called in the Turkish language djudam or meskin; by the Cretans khalassi or komagra, and lepers khalasmeni, komeni (gatés, coupés). The principal forms seen in Crete may be classed in three groups. 1. The knotty, tuberculous or elephantine, the leprosy of the Arabians; 2. The squamous, or leprosy of the Greeks; and 3. The white, tzarath or leprosy of the Jews. These forms are, however, often blended and combined in one patient, so that it is difficult to dissociate them. The earliest symptom is generally some alteration in the integuments of the face, accompanied at first in some cases with an excessive sensibility or hyperæsthesia, to be afterwards followed by a more or less complete anæsthesia. Swelling and ulceration of the nasal passages and of the lips, with tuberculous enlargement of the selerotic and cornea, as well as of the eyelids, ensue, causing much disfigurement and distress. At the same time, or previously, the extremities are usually the seat of divers morbid changes of structure, with disordered or impaired sensibility, and ultimately of ulceration and loss of the phalanges of the fingers and toes, &c. In some patients, the disease appears chiefly in the form of excessive tumefaction of the extremities, or of scattered nodosities or hypertrophic hardenings of the integuments of the body. The "bouton de Crete," analogous to the "bouton d'Alep," is one of the manifestations of leprous disease. The cerebral and organic functions are usually unaffected. *Dr. Mongeri* (formerly Sanitary Physician of Crete).*

2. Every age is susceptible, but especially that between 15 and 40. *Dr. Brunelli.*

It is only among the Jews in Crete that I have ever observed the symptoms of leprosy in infancy or early youth. The disease seldom appears before puberty. *Dr. Mongeri.*

3. If it begins in infancy, it is very slow of development; if in maturity, it is less so. In the first form, lepers may live 50 years or more; in the second and third forms from 15 to 25 years. The first form ends with spasmodic symptoms; the other two with dysentery or apoplexy. *Dr. Brunelli.*

Leprosy is essentially a chronic disease. Ten or twelve years often pass before the disease is fully developed. Sometimes the symptoms cease for a time, more or less lengthened; afterwards to resume its course. Many patients attain an advanced age. I

* Gazette Medicale d'Orient, for July 1861 and January 1862.

have seen a leper between 70 and 80 years of age, whose general health was not much affected. *Dr. Hjorth.*

4. More frequent in males. *Dr. Brunelli.*

5. It makes no distinction in races. *Dr. Brunelli.*

In its developed or aggravated form, it is much more frequent among the Greek population in Crete than among the other inhabitants. The form of the disease generally seem among the Moslem population is that of the "bouton d'Alep," known in Crete by the name of khaniotico. *Dr. Mongeri.*

6. Among the poor chiefly, but not exclusively. It is favoured apparently by great mental depression, chills, and other causes occasioning rheumatic ailments; but often no cause whatever can be assigned. It prevails independently of the physical geography of the place, of the water drank, or of the sanitary condition of the locality. The ordinary diet consists of beans and barley, &c., with some meat, partly salt pork and salt fish. They consume large quantities of olive oil, also a good deal of wine and spirits (rakei).

Shepherds, agricultural labourers, and masons are more subject to the malady.

Dr. Brunelli.

Dr. Hjorth, who considers that bad diet is one of the principal if not the main element in the development and aggravation of leprosy, remarks: "In consequence of the numerous "fasts of the oriental church, coupled with the neglect of agricultural pursuits, the Cretan "peasant seldom or ever makes use of fresh meat, butter, or fresh vegetables, with the "exception of some of inferior kind. Their food consists of a large quantity of bad salt "fish, barley bread, and of an enormous quantity of olive oil, often rancid, which they will "drink like water. In many places there is a want of good water; it is often brackish, "and in the mountain districts, from which a large number of the lepers come, it is derived "from the melting of the snow." He points to the analogy in the diet used by the inhabitants on the coast of Norway, where leprosy is so prevalent, with that of the Cretan peasant, with this difference only, that the oil so largely consumed is in the one case animal, and in the other vegetable.

Dr. Mongeri confirms the statements and appears to agree in the opinion of Dr. Hjorth, that the large consumption of semi-putrid salt fish and pork, coupled with the total neglect of personal cleanliness, has much to do with the development of leprosy. During the frequent fasts of their church, the poor Greeks live almost entirely on vegetables and oil, often of a bad quality.

7. The exciting causes before mentioned. *Dr. Brunelli.*

8. It is mostly hereditary. Cases of one member only in a family being affected are rare; often all are more or less leprous. Of 122 lepers, the disease appeared to be hereditary in 76 cases and spontaneous in 46. *Dr. Brunelli.*

It is generally hereditary. The father more likely to give the disease to the offspring than the mother. Sometimes both parents are quite healthy, but the uncles or aunts have been affected with the disease. Usually several members of the same family suffer; but I have met with cases where one or two members only were leprous, while all the rest were healthy. There are exceptions upon all these points. *Dr. Hjorth.*

9. Although there are certain symptoms in some individuals, in the first stage of the disease, resembling those of syphilis, it is not connected in any way either with that or any other malady. *Dr. Brunelli.*

10. There are 127 persons, who have all lived together healthy among lepers for many years; for this reason, the lepers in the Canea leper quarter do not themselves consider that the disease is contagious.

c. Not in Crete; because, excepting in one case, persons united in mixed (i.e., healthy and leprous,) marriage live for 10 to 20 years together, and having children, without the healthy person being attacked. *Dr. Brunelli.*

Dr. Hjorth does not consider it contagious, and doubts whether cohabitation will produce it.

11. All persons affected are expelled from their town or village immediately it is known or suspected, and are sent off to places set apart for them. These are six in number, and consist of a series of stone huts built generally in the plains. Often healthy persons live with their leprous relatives in these huts; and, on the other hand, many lepers remain in their native villages, particularly among the Turks, who refuse to be expelled, and are not afraid of contagion. *Dr. Brunelli.*

12. One kilogramme of bread is the nominal daily allowance by government to each leper; but they live chiefly on charity, haunting the public roads. They are not admitted into special houses or hospitals; in fact, none such exist in Crete. *Dr. Brunelli.*

Whoever walks out of the gate of one of the large towns, especially on a Saturday, is distressed by the hideous sight of many of these unhappy beings sitting by the road side imploring charity. It is sad to behold the condition of these unfortunate people, and to think that, as soon as they are branded with the name of leper, they are driven away from parents, children, relatives, and friends; shunned like criminals, deprived of the power of earning their livelihood in an honest manner by their labour, and condemned to the degraded state of beggars. *Dr. Hjorth.*

13. It may be calculated that 300 lepers reside in the six villages assigned to them, and that 200 remain secreted in their houses. *Dr. Brunelli.*

Dr. Hjorth calculates that there are not fewer than 1,000 lepers in the island, either confined in the leper villages or living in their homes.

14. Probably stationary, with a tendency rather to increase. *Dr. Brunelli.*

15. Lepers are never medically treated in the leper villages. In a few rare cases in this town (Canea), benefit has been derived from a light diet, bleeding, and an antiphlogistic regimen. No case of spontaneous cure known. *Dr. Brunelli.*

Dr. Hjorth believes that it may be reasonably hoped to cure the malady in its precursory stage, and even to arrest its progress at a more advanced period, provided a radical change in the diet and general condition of the patient be insisted on. Without this, all medication must be useless.

16. Dr. Hjorth states the population of the island to be about 200,000. Consul Dunlop estimates it at 300,000.

Dr. Mongeri puts it down at about 240,000, of whom 60,000 are orthodox Greeks, the rest being Mahommedans, Jews, and a few Europeans.

17. The localities most affected are (1.) Deviacki, a village of 300 small houses in a wide plain, a short distance from the sea, in the eastern half of the island, in which there are 18 lepers still residing; and (2.) Aivasides, a district in the south of the island, containing five villages, with about 600 small houses, on an elevated mountain chain, where 32 lepers are still living. Many marriages take place in the leper villages between healthy and diseased persons; it is generally the husband who is diseased. There exists a day school for the children, kept in the house of a schoolmaster, himself a leper, who has a diseased wife, and a healthy daughter married to a healthy husband. The school is attended both by diseased and healthy children. *Dr. Brunelli.*

Dr. Hjorth gives details of 27 cases of the disease examined by him, and mentions the extreme difficulty, in consequence of the superstitious abhorrence of it in Crete, of a medical man prosecuting any minute inquiries. He himself became an object of repugnance, from his professional examination of the diseased. His object in bringing the subject before the Imperial Academy of Medicine of Constantinople was the hope of pressing it on the attention of the Turkish government, as it is well known that large numbers of lepers are left to their fate, not only in Crete but in many other parts of the empire.

Dr. Mongeri describes briefly an incomplete dissection he made of a leprous case at Canea, one of the principal towns in Crete. The patient was upwards of 50 years of age, had been in the lazaret for 30 years, and had lost all his fingers and toes. The body was extremely emaciated, with the exception of the head, the scalp and face being enormously swollen from tuberculous enlargement. The integuments of the body were hard, coriaceous, and covered with brown prominent scales. When these were detached, numerous tubercular elevations, not visible during life, were made apparent. The larynx externally was twice its normal size; the *rima glottidis* was occupied with a mass of tubercles of various size; the mucous membrane of the larynx, trachea, and the bronchi was extremely pale. There was much bloody serum in the thoracic cavity; the right ribs were carious; those on the left side were not affected. The lungs were profoundly diseased. The stomach and intestines were very pale, and numerous tubercles were found in their tissues. The omentum, mesentery, and the abdominal parietes were so loaded with these deposits as to resemble the "ladrerie" in swine, a very common disease in Crete.

No. 28.

IONIAN ISLANDS (Corfu, &c.).

1. It is known in Corfu, but is rare; it appears principally in villages in the mountainous parts of the island, more rarely in the towns and in the plains. There are three forms, viz., Willan's lepra, tubercular leprosy, and elephantiasis. The tubercular is the most common,

and shows itself in small tuberous swellings on the forehead, backs of the hands, and the extremities, with fœtid secretions from the nostrils, voice nasal, nares covered with tubercles, which gradually extend over the face, the extremities, and ultimately the whole body. The tubercles ulcerate, the features are frightfully altered, the phalanges become disunited, and the hands and feet are contracted.

Elephantiasis attacks chiefly the lower extremities. The integuments become swollen and hard; raised and rough pimples appear, and here and there sores break out, having a greasy aspect. The veins become knotty and indurated, and frequently gangrenous sores are formed.

These two forms of disease, viz., tubercular leprosy and elephantiasis, are only different phenomena of the same malady; in the latter the cutaneous cellular tissue is more affected, whilst in the former all the textures are attacked, and especially the venous system.

Proto-medico.

Tubercular leprosy has long existed in the Ionian islands. Dr. Dellaporta described it at the end of last century as he saw it in Cephalonia. I have seen it at Faraclata and Erisso, in Cephalonia; at Karussades, St. Duli, and Leptimo, in Corfu; and also in Zante. It is known under the name of Λέπρα. During the 15 years I have practised in the Ionian islands, I have at all times met with cases of the disease.

At first the patients exhibit, especially on the face and the extremities, smooth, shining, and oily-looking spots, of a yellowish colour, verging to a brown or livid hue. The affected parts, sometimes sensible, at other times insensible, or with an exaggerated sensibility, are swollen as if œdematous, and there is loss of the hair.

These spots are succeeded by tubercles of various sizes, at first solid, and afterwards of a pasty or soft consistence, with a reddish livid aspect. As the disease advances, the tubercles attack other parts of the body, as the pharynx, larynx, nasal fossæ, &c.

These tubercles are occasionally more or less completely dispersed; but more frequently they give rise to sanious ulcerations, which cause destruction of the parts, and more or less considerable mutilations. The ulcers are sometimes covered with a thick crust, and when this falls off deeper ulcers are found beneath. Hoarseness of the voice; deformity of the nose, causing a hideous aspect of the countenance; mutilations; a foul smell; diarrhœa, more or less constant; perversion of the taste and smell, often with complete loss of these senses, and also of vision; wasting of the whole frame, with much mental and moral wretchedness. Such are the distressing accompaniments which afflict the sufferer before death.

As a variety of the disease, I have noted in a patient in the village of St. Duli in Corfu the oily, yellowish, insensible spots, on which bullæ, containing a fœtid sanies, had formed. Destructive spreading ulcerations had followed upon the bullæ, but without the formation of any tubercles on the skin. *Dr. Tygaldos.*

There are, I am informed, several cases of tubercular leprosy in the remoter parts of the Ionian islands, though I have never seen them. I had, however, during long service in the Madras Presidency, ample opportunities of studying this disease in the practice of my friends, but I never knew of a case in any of the European regiments to which I was attached.

Dr. Innes, Deputy Inspector of Army Hospitals.

2. The earliest symptoms in tubercular leprosy are the small tuberous swellings on the forehead, the change of voice, and the nasal secretion; and in elephantiasis, tubercles on the feet, followed by œdematous swelling. *Proto-medico.*

In my experience the disease has generally commenced after 16 years of age.

The earliest visible symptoms are the shining of the face, and the appearance of spots on the skin. Occasionally these symptoms are preceded by great general weakness, despondency, and inability for work. One patient, whose parents were quite healthy, told me that the disease began after an inflammatory fever caused by taking a cold bath. *Dr. Tygaldos.*

3. In adults, generally 6 or 8 years after the first symptoms; in some rare cases after 3 years. Many individuals die from want of means of subsistence after the third or fourth year; others have lived on to 50. *Proto-medico.*

4. According to my experience, the proportion has been one fifth in females and four fifths in males. *Proto-medico.*

Leprosy is much more frequent in males. In my notes I find 17 cases among men to 2 among females. *Dr. Tygaldos.*

5. There is only one race, the white. *Proto-medico.*

6. Among the labouring classes, and chiefly in mountainous districts (Oros).

The houses are badly constructed, and exposed to the inclemencies of the weather. The windows are not glazed, and the walls generally defective. The people, chiefly agriculturists and shepherds, are dirty in their persons; their food, Indian corn, frequently dry and musty,

with herbs and garlic. When their harvest is good they indulge in wine, spirits, and dried cod fish; but, when bad, they are frequently in want of the common necessaries of life.
Proto-medico.

With one exception, all my cases have occurred among peasants, and without one exception among the poor and miserable. I have seen some lepers in villages situated on more or less arid hills (Cephalonia); others living in swampy clayey localities (Lepkimo in Corfu); others residing in calcareous districts (Karoussades in Corfu), in low, damp, ill-ventilated, and ill-lighted dwellings, surrounded with heaps of putrescent filth. At Zante the diet of the lepers I saw consisted chiefly of wheaten bread, at Cephalonia of barley bread, and at Corfu of bread of Indian corn*, with vegetables, olive oil, salted fish, but rarely any fresh meat.
Dr. Tygaldos.

7. Sufficient data are wanting. *Dr. Tygaldos.*

8. I cannot say. *Proto-medico.*

I have seen several cases which make me believe in the hereditariness of the disease; but all the members of a family are not usually affected, and I know three families in which one member only was attacked. *Dr. Tygaldos.*

9. The common lepra of Willan is often connected with syphilis; but the tubercular disease and the elephantiasis are not so. *Proto-medico.*

Syphilis has nothing to do with leprosy.

There exists in Epirus in Lower Albania another affection, commonly called Σπυροναχον, which belongs to the syphilitic family, like the radesyge. I have met with two cases only of the disease, one in Cephalonia, and the other in Zante. Both were cured with the ioduret of potassium. *Dr. Tygaldos.*

10. The general opinion here is that it is contagious after a lapse of time. Two instances I have met with substantiate this opinion. In one family three of the members were attacked, first the father, whose malady was far advanced with ulceration, when the wife became affected, and the son, who was born a year before the father was attacked, also caught the disease, by sleeping in the same bed with his parents. In another family the husband was first affected, and three years afterwards the wife was attacked.
Proto-medico.

I have never been able to recognise the contagiousness of leprosy.

Women have often lived with leprous husbands without contracting the disease.
Dr. Tygaldos.

11. As Proto-medico, I have frequently represented the necessity of a separate asylum for lepers, but want of means has hitherto prevented anything being done. Persons, however, always avoid them, as they believe that communication is dangerous. *Proto-medico.*

No sanitary care is taken of lepers in the Ionian islands; and if they generally remain secluded within their dwellings, it is only to avoid being objects of disgust to their fellow creatures. *Dr. Tygaldos.*

12. They are not admitted into the general hospital. The Government makes (no?) provision for the poor attacked, and they are left in their own houses. *Proto-medico.*

Nothing is done for their relief; they are left to their misery and sufferings.

There has never been any asylum for their reception, and I am not aware if any succour is ever given them in their own dwellings. *Dr. Tygaldos.*

No provision is made, I believe, in the Ionian islands. *Dr. Innes.*

13. None at present.

14. It has not increased. *Proto-medico.*

15. In two instances I have checked the progress of the disease by changing the patients' mode of living, and by the use of arsenical remedies. I have never perceived a spontaneous cure. *Proto-medico.*

Lepers rarely apply for medical advice or assistance. *Dr. Tygaldos.*

16. By the last Census in 1860 the population of Corfu was 72,967.

Since 1841, medical certificates are furnished to the health department, agreeable to the instructions in the codes of the Ionian states on this subject, and a regular register is kept in the office of the civil magistrate, where the particulars of births and deaths are inserted.
Proto-medico.

17. At present there are 10 cases of leprosy in the district of Oros, and 8 others in other districts, principally in hilly situations, at a distance from the town.

---

* At Corfu, where the peasants always eat maize bread, I have seen within the last four years several cases of pellagra.

I have observed in some post-mortem examinations that the tissues generally were attacked, and principally the venous system, more particularly in elephantiasis. In one case, where death resulted from pneumonia, the crural, femoral, and iliac veins exhibited knobby appearances, and, on being opened, the deposit of a caseous substance resembling tubercular matter.

Proto-medico.

The only writing on the subject I know of is the memoir of Dr. Dallaportà. (Dissertazione sull' Elephantiasi che s' incontra negli abitanti dell' isola di Cephalonia. Venezia, 1851. Giornale Veneto di Scienze Medicale).

Bad hygienic conditions and hereditariness are, in my opinion, the causes of the production and continuance of the disease; and therefore it is that Government should take under its protection the leprous poor, provide a suitable asylum, where good food and proper medical attention might be had, at the same time that marriages between them should be interdicted.

Dr. Tygaldos.

No. 29.

SALONICA.

1. Consul Wilkinson states that leprosy, though rare, is known in the consular district of Salonica; but under the general term, three distinct diseases, having no affinity with each other, are included, viz., the common squamous lepra, the elephantiasis of the Arabs, distinguished by the enlargement and thickening of the integuments of the extremities, &c., and the elephantiasis of the Greeks, or proper leprosy. The two former are extremely rare. The last-named is endemic on the sea coast of Macedonia and Thessaly, and is known under the name of λαβη (injury).

It is characterised by the appearance of tubercles on the skin, which subsequently ulcerate, and cause great disfigurement as well as mutilation of the fingers and toes.

2. Between the ages of 15 and 30.

3. No information obtainable.

4. More frequent among males.

5. Observed in the white race only.

6. Among the lower orders.

a. In rural districts, situated in hilly and dry places on the sea coast.

b. Good.

c. Personal cleanliness on a par with that of the inhabitants of the interior, where leprosy is unknown.

d. Principally vegetable diet and salt fish.

e. Agricultural.

7. No information procurable.

8. Yes; a whole family, the mother excepted, composed of six individuals, whose father had been leprous, and died of the disease.

9. It has no such connexion.

10. I cannot record any such instance.

c. It does not seem so.

11. They are not; segregation is enforced.

12. None. The leper is forced to live apart in a separate place provided by his relatives.

13. None.

14. The disease is very rare, and does not seem to have increased or diminished.

15. Two patients in the first stage of the disease are said to have recovered under the use of ioduret of potassium and arsenic, with cauterisation of the ulcers.

16. No reply.

17. The disease is entirely confined to the peninsulas of Cassandra and Longos, and to the coast of Thessaly.

No. 30.

MONASTIR.

Consul Calvert states that the disease is unknown in his consular district, which immediately adjoins on the inland to that of Salonica.

BOSNIA SERAI.

Consul Holmes states as the result of his inquiries that "leprosy does not exist in this part "of Bosnia. A German physician in the Turkish service called Vely Bey, better known "at Vienna as Dr. Gaal, who has resided more than ten years here, informs me the disease "exists in Dalmatia under the names of 'mal di fiume,' 'falcadiné,' and 'scherlievo;' and "that it may possibly be found in Bosnia on the Dalmatian frontiers."

BUCHAREST.

Consul Green states, that "Dr. Mawer, a member of the royal college of physicians, one of "the physicians of the Brancovano hospital of this city, informs me that no case of leprosy "has ever come to his knowledge in Wallachia, and that, according to the principal "medical men in Bucharest, the disease is unknown in this country."

VARNA.

Consul Luter states that Dr. Charles Roll, who has practised medicine in Bulgaria for 22 years, and is a graduate of the university of Vienna, has never seen or heard of a case of leprosy and that the other medical men whom he spoke to made a similar statement.

No. 31.

DARDANELLES.

Acting Consul Mr. Fraser states, "within this province the disease is almost entirely "unknown, and no precautions are taken in respect of it."

BRUSSA.

Consul Sandison states, that he is informed by the two chief medical men there, one of whom has been a resident for 25 years, that leprosy has been quite unknown in the district during that period. There was formerly a sort of hospital in the city for lepers, who were usually strangers; it is now utterly neglected, and only occupied by a few infirm and other poor. If any leprous persons made their appearance in Brussa, they would be liable to segregation. Consul Sandison adds that, "in my recollection, leprous beggars were common "at Smyrna, understood to come, most or all, from the island of Scio. The medical men "in Brussa state that the disease is endemic also in Mytilene and Samos, and in some other "islands on the Turkish coast to the south."

SAMSOUN.

Consul Barker states that the disease is occasionally, but rarely, seen in isolated cases in his consular district. He hears that it is not known generally in the towns of Asia Minor, but that at Kupren, a large village about 20 hours from Samsoun, and in some of the adjacent villages, cases have been known. The Turks designate it "Judam-ata" or the Jews' disease. It is supposed to be caused by bad food, and that the use of maize bread predisposes to it. It is generally hereditary. Mr. Barker has known a case where it passed over one generation

and reappeared in the grandchildren. Occasionally, one member only of a family is diseased It is always considered to be highly contagious; men, however, have been known to live many years with leprous wives without being affected. Leprous persons are kept apart from the rest of the community.

No. 32.

CONSTANTINOPLE.

1. Consul-General Cumberbatch states that it is very uncommon amongst the native population of the district, and cases so seldom fall under the observation of scientific medical men that it is impossible to obtain categorical answers to the interrogatories. The following information was communicated to him by Dr. De Castro of Constantinople:—"With the "exception of the cases in the leper asylum at Scutari, the 'tzaraath,'* or leprosy of the "Old Testament, (which Dr. De Castro considers to have been the disease now described as "Greek elephantiasis,) is very rarely seen in this city. It is called by the Turks 'miskine,' "by the Arabians 'djouzam.' It always commences by general or partial anæsthesia of the "skin, and by copper coloured spots on various parts of the surface, especially the face. These "spots subsequently become discoloured tubercles. There is generally hoarseness of the voice "and falling off of the hair. The tubercles afterwards ulcerate, destroy the tissues, and "cause mutilations of the extremities. In some cases the anæsthesia is the only symptom "present. The tubercular and anæsthetic forms are only varieties of one disease. The first "is the most common."

2. It is very rarely seen before the 10th year. Once only has a child been seen at birth covered with the leprous tubercles, the offspring of leprous parents.

3. No specific or definite answer can be given.

4. At present there are more leprous men than women in Constantinople, but the proportion is not uniform.

5. The cases seen at Constantinople occur among the Turks, Greeks, and Jews. No case has been observed among the Armenian poor, although they are subject to the same hygienic conditions as the poor of other races.

6. Chiefly but not exclusively among the poor.†

a. Most of the inmates of the leper asylum at Scutari are from the Asiatic coasts of the Black Sea, and some districts one or two days distance from the coast; and those seen at Constantinople are chiefly from the islands of the Archipelago.

7. No information.

8. Yes, certainly; yet it often appears spontaneously. Sometimes one member only of a family is affected; at other times several.

9. I have not.

In the discussion of this subject at the Imperial Academy of Medicine of Constantinople, on April 5, 1861. it was stated by some of the members that there is every reason to believe that leprosy has often been confounded with papular and tubercular syphilitic eruptions.

10. In almost all cases no contagion has been observed; but in a few, related by me in the "Gazette Médicale d'Orient, Mai 1861," the transmissibility in this way was, I think, certainly proved.‡

11. They may communicate freely in Constantinople, but they usually live apart, as they are objects of aversion.

12. The lepers at Scutari are not medically treated; they are only sheltered and fed by the authorities. None but Mussulmen are admitted there; those of other races are received into their respective hospitals. The few cases which occur in the army are received into military hospitals, and mixed with the other patients.

The asylum at Scutari, situated in the middle of the cemetery there, contains 20 small apartments, badly furnished, and still worse lighted.

---

* Λεπρα of the Septuagint.

† Dr. De Castro relates, in the Gazette Médicale d'Orient for April 1861, several cases of tubercular leprosy among the Jewish population of Constantinople. The patients were not poor or destitute; some of them were in easy circumstances.

‡ The evidence adduced by Dr. De Castro, in respect of these cases, was discussed at a meeting of the Imperial Academy of Medicine of Constantinople, and was considered far from being conclusive by several of the members.

13. The number of lepers in the asylum at present is 30. 15 men and 15 women, married among themselves, and all the offspring of healthy parents. Of these marriages the children born in the asylum, are as yet healthy. The eldest child is 12 years of age. Of the above 15 men, six are 25, two 30, three 40, one 45, and three 55 years of age. The females are somewhat younger.

14. During the last 20 years, leprosy has somewhat diminished; cause unknown.

15. I am not aware of any case of cure, spontaneous or otherwise. Some lepers live to a considerable age. The disease seems to be arrested after having produced mutilations of the extremities.

16. No information.

17. There is no document respecting the leprosy as it has been seen at Constantinople, where it is extremely rare; nor has there been any necroscopic examination of the disease.

No. 33.

TABREEZ.

Mr. Consul-General Abbott, in forwarding the following replies, remark:—"In a country "where there are no statistics of disease, no hospitals, no public provision for the relief of "suffering of any description, and where the native faculty are an ignorant set, wedded to "the strange theories of the east respecting disease and the healing art, there exist but few "means of obtaining the information that is desired. I have no knowledge myself of the "disease, and I could discover no one among the natives who had.

"All classes have a horror of the complaint, and keep themselves entirely apart from those "afflicted with it, whom they mercilessly turn out of their homes, to live or perish, as may "be, by the highways, without any provision for their support.

"The only resource for information which could be of any value was in Dr. Cormick, an "English physician, who, in the course of a long practice in the country, has had occasional "opportunities of becoming acquainted with the disease."

1. Yes, in several parts of the province of Azerbaijan. It is of the kind called tubercular lepra, or in Persia jezam.

c. Disease sets in with great languor and depression, followed by numbness and formication in the extremities. The spots and tubercles then make their appearance on every part of the face, but especially the nose and ears; they are soft, round, reddish or livid. Subsequently they appear on other parts of the body. The face is puffed, the eye-brows and lashes fall off, the forehead is beset with tubercles, the lips become thick and shining, and the lobe and alæ of the nose much altered. After some years these tubercles inflame and suppurate, and discharge a sanious pus, that dries up and forms adhering black or brownish scales. The mouth, uvula, pharynx, and nasal fossæ are also attacked with tubercles; the pituitary membrane becomes inflamed, and secretes a purulent fluid, and ultimately the cartilage and bones of the nose exfoliate. The voice becomes hoarse, nasal, and is finally lost. The sense of smell becomes impaired, and ultimately lost.

Disease after long continuance very frequently causes the loss of toes and fingers, and even of the hands.

2. At all ages, but the youngest I have seen was about eight years. It does not however generally appear till much later.

3. No information.

4. Believes the disease to be more frequent in men than in women.

Mr. Consul Abbott expresses the same opinion as to the greater frequency of the disease in men.

5. No information.

6. Disease most frequent among the poor. Has never known a leper among the upper classes.

a. Is more frequent in rural districts where poor living and constant exposure to cold and damp are undergone. Is said by the consul to be especially prevalent in Zenjan, a small ruinous town in the north of Persia, situated in a dry sterile plain half way between Tabreez and Teheran. Exists also in other elevated dry districts with severe winters, but is believed by the consul to be unknown in the dampest regions of Persia, namely those lying on the Caspian.

b. The habitations in Zenjan are of the meanest description, and the inhabitants exceedingly poor.

c. The lower classes are very uncleanly in their personal habits.

d. The ordinary diet of the poor consists of milk, sour curds, cheese much salted, and bread. Dr. Cormick says cooked dishes are rare among them, and in some parts vegetable diet rarer still; probably salt is seldom used.

7. No information.

8. Yes, nearly always.

The Consul-General mentions the case of a soldier who had the disease badly. Of eight children, some born before, some after, the development of the disease in the father, only one inherited it, and he is supposed to have caught it at Zenjan.

Mr. Abbott adds, he is informed that children of diseased parents generally become leprous at five or six years of age.

9. Does not believe it is. Syphilis is rare in the villages of Persia.

10. Has met with no case of direct contagion, although disease is here considered very contagious.

a. Thinks the discharge from sores must be highly contagious.

c. Not always. Has seen several instances of the contrary.

11. No; as soon as the disease is known to have attacked a person, he or she is driven from the town or village to the highways, where the sufferer lives in a most pitiable condition, in wretched holes or hovels, depending entirely on the charity of passers by.

12. There is none whatever. There is not a single hospital or asylum in the country, nor is there any provision for the alleviation of suffering and distress.

13. Answered above.

14. No accurate information; but Dr. Cormick thinks, and it is the general opinion, that leprosy has been on the increase of late years.

Mr. Abbott remarks:—"Twenty years ago no lepers were seen on the road leading from "Tabreez to Teheran until one reached Zenjan; now at intervals along all that portion "of the road groupes of these people are found living as beggars. I believe that the "increased traffic on that line has attracted them from all other parts, without there being "necessarily an increase in the total number. Now, we cannot quit Tabreez by any one "road without encountering parties of lepers."

15. Believes the disease to be incurable in its confirmed state. At the commencement it may be arrested by generous diet conjoined with tonics. Sarsaparilla with bi-chloride of mercury is useful. Has seen great good in two cases from goat's milk whey taken of a morning, with generous diet and great attention to cleanliness.

A Persian physician states that, when there are sores, mercurial ointment rubbed on the body, with pills of corrosive sublimate, is useful in recent cases; that where there is no sore, there is no cure; that when sores show themselves the disease becomes contagious. Has heard of, but has not seen, spontaneous cures of this disease.

17. In the north of Persia the districts most subject to the disease are Khumsa and Hasht-rood, both elevated countries of mountain and plain; but there are no statistics of numbers.

No. 34.

CHINA, JAPAN, &c.

Hong Kong.

1. Saw the disease formerly at Canton, where it is not uncommon.

Leprosy may commence on any part of the body or extremities, but in general application is only made to the hospital when it attacks the face or other part liable to be seen. The first symptom spoken of by the Chinese is a feeling of cobweb stretched across the face. Has observed in many persons what might be called a leprous physiognomy. When the disease becomes visible, a dusky redness on a slightly elevated patch is usually the first external symptom, and it may manifest itself on any part of the body. It increases in size; other patches follow and spread. The toes and fingers swell, fissures and rhagades follow,

ulceration sets in, and after a longer or shorter period causes the extremities to drop off, and destroys life itself. The muscles of the thumb waste away at an early period.

This is the only real form of the much dreaded fatt foong or leprosy.

2. At all ages, from 9 or 10, to 40 or 50.

3. The duration of the disease varies exceedingly.

4. No information.

5. No reply

6. Most frequently observed among the poor, but has known cases of it among the upper classes, although kept as secret as possible by the latter.

a. Leprosy is frequent both at Macao and Canton.

b. Drainage of Chinese towns generally bad.

c. Chinese seem to be generally cleaner as regards washing than the same ranks in Europe.

d. Diet too poor, chiefly rice and vegetables; occasionally fish and pork may be added. Fish diet, especially shrimps, believed to excite leprosy.

e. Disease is found in persons of all occupations.

7. Reply indefinite.

8. Is considered hereditary in China, but all agree in saying that it dies out in the third generation. Has known a family for 10 years in which only one member, a boy, was affected.

9. No reply.

10. No, and the Chinese do not seem to consider it so.

c. It is considered to be so transmissible by the Chinese. Relates, however, one case strongly opposed to this view.

The Chinese always look upon it as the result either of hereditary descent or of sexual intercourse. The common expression of "selling the leprosy" arises from the idea of its being communicable by a woman to a man or *vice versâ;* and women will, if there is any symptom of the disease upon them, try to dispose of it to a healthy person by having sexual connexion with him. A go-between in marriage has to take the greatest care in her inquiries, as she may be made responsible should the disease appear after marriage. The dread of this scourge no doubt exerts a great influence on promiscuous intercourse in China, and on the general moral conduct of the people.

11. No reply.

12. There are villages set apart for lepers in the neighbourhood of Canton; in other parts, there are in many villages two or three huts set apart. No hospital, except one at Macao, kept by the Portuguese.

13. No reply.

14. No reply.

15. Has seen iodine, arsenic, and mercury tried without beneficial results. An oily nut called the chaulmoogra, or tai-foang-tsze, is used by the Chinese as a remedy, but only in a few cases of young persons was any benefit observed to follow. The Chinese sometimes try removal to a cold climate, such as Pekin, but they tell me without permanent advantage.

17. No reply. *Dr. Dickson.*

1. No lepers in Hong Kong, but large numbers at Macao, to which place they crowd from China, because they are well treated there.

a. Several different forms of leprosy in Macao called by the Chinese lai, that is, "scaly itch," and ma-fung or fak-fung, *i.e.*, the medical and civil word for the worst form, be it tubercular or ulcerative.

b. Cases of chronic scaly skin diseases, such as pityriasis and psora, are popularly confounded with leprosy at Macao. Both tubercular and anæsthetic leprosy are met with at Macao.

c. Lepers have a swollen, flabby, lymphatic appearance, chiefly in the face, and exhibit on various parts of their bodies those dusky-red, livid, or rather discoloured tubercles, which are the distinguishing characteristic of tubercular leprosy. Has not however once seen these tubercles in the sharply circumscribed form usually delineated. The first suspicion of the disease arises from a change of pigmentation in a small part of the skin, of a bright red

in the white, and a more dusky or livid red in the dark complexion; while in old cases in persons of very brown skin the tubercles are whitish, probably from want of blood in the inactive corium. In old cases the discoloration generally pervades the whole surface, but in exceptional cases the parts exempt from tubercles exhibit a comparatively healthy colour. The tubercles are neither cutaneous nor sub-cutaneous, nor are they moveable, but are simply an increased thickness of the cutis, generally of an ovalar form, never exceeding two inches in length, and invariably decreasing towards the outlines; the surface of these degenerated parts is covered with whitish or brownish epidermis cells. The usual seats of tubercles are the face, chiefly the skin above the eyebrows, the cheeks, the ears, much less the extremities. In the feet the dorsal side is the most frequent seat of the disease, the skin being sometimes altered to a large extent, rigid and rugous.

In the anæsthetic form of leprosy there is more general debility, with inactivity of the skin, and contractions of the toes and fingers. Ulcerations of the contracted toes often occur, beginning at the nails, and causing the loss of either the whole toes or of one or two phalanges. When the sores heal up the nails often remain intact, attached to the stump. This anæsthetic form of leprosy seems to supervene on primary tubercular leprosy. The hair generally falls off from whatever part of the skin is affected with tubercular leprosy.

2. At all ages from 5 years upwards.

3. No reply.

4. No reply.

5. No reply.

6. No reply.

7. No reply.

8. No reply.

9. Relates a case in which possibly syphilis and leprosy co-existed.

10. No reply.

11. They are. Leprous beggars being tolerated in all the most frequented roads of Macao, there would seem to be no restrictions imposed in respect of them.

12. There is an asylum for lepers at Macao, the Santa Casa della Misericordia, endowed 200 years ago for the reception of an unlimited number of leprous poor; but now the funds only afford maintenance for 22 gratuitous inmates.

It is called the Hospital di S. Lazaro, and is situated outside the city of Macao. The building is of brickwork, old and decayed, one story high, simply divided into three or four wards, with a verandah in front. It is surrounded by a brick wall and two enclosures, neglected courtyards or gardens, that on the right being used by the female, that on the left by the male patients. Both the hospital and its gardens are in a dilapidated, ill-kept, dirty condition. No treatment appears to be attempted in this infirmary, which contained 15 females and 16 males, at the time of Dr. Scheteleg's visit, of all ages, from five up to 75 years. In one case the disease had commenced as early as five; in another as late as 62 years of age. One of the men aged 30 years had been 10 years in the hospital, suffering from anæsthetic leprosy, and had lost all his toes but two. The matron, Jacintha, aged 60 years, appears to have contracted leprosy in the hospital, where she had resided 37 years, the leprosy having commenced in the twenty-fifth year of her age.

A few private patients are admitted into the Santa Casa, besides those maintained on the foundation, at the expense of their friends and neighbours, who are generally anxious to pay anything rather than breathe the same air with a leper.

13. No reply.

14. No reply.

15. No reply.

17. No reply. *Dr. Scheteleg.*

1. Leprosy seldom seen in the colony. Has observed lepra vulgaris, and another disease, much dreaded by the Chinese, presenting the following appearances; viz., general cachexia enlargements of the inguinal, axillary, and sub-lingual glands; gums and fauces much injected; slight ptyalism; also a peculiar bluish-leaden colour of the cuticle over the abdomen, and extending to the loins. The skin of the chest natural, with a well-defined line separating it from that of the abdomen, which is cracked in many places, and discharging a very offensive ichorous fluid.

3. No information.

4. Has examined, as medical officer of the West India Emigration depôt, during the last two years, 13,000 Chinese, 11,000 males and 2,000 females, of whom only five males presented the appearance of the skin disease described under interrogatory 1.

5. Has only observed the disease among the Chinese.

6. No information.

7. No information.

8. No information.

9. All the cases seen of the disease described by him presented unmistakeable traces of syphilis.

10. Can say nothing on the subject of his own knowledge.

11. There is no restriction preventing lepers from mixing with the healthy inhabitants

12. There is none at Hong Kong.

13. There are none.

14. Can form no opinion.

15. Relates a case of leprosy cured by him at sea in six weeks with nitro-muriatic acid, sulphur ointment, sulphur vapour baths, and generous diet.

16. Population of Hong Kong at the census taken December 31, 1861, was 119,321.

The population consisted of the following classes, &c :—

——	Men.	Women.	Boys.	Girls.	Total.
Europeans and Americans	1,012	271	134	140	1,557
Goa, Manilla, Indians and others of mixed blood	1,186	65	20	13	1,284
Aliens, chiefly seamen and temporary residents	—	—	—	—	100
Chinese in employ of Europeans	3,731	267	38	75	4,111
Chinese residing in Victoria	39,538	12,830	5,249	4,341	61,958
" " villages, &c.	7,142	2,211	1,130	732	11,215
Boat population in Victoria	9 788	4,032	3,156	1,895	18,871
" " other than Victoria	5,419	3,137	2,115	1,367	12,038
Emigrants	—	—	—	—	229
Persons living in mat sheds	—	—	—	—	2,508
Street coolies	—	—	—	—	5,000
Prisoners and vagrants	—	—	—	—	400
	67,816	22,813	11,842	8,563	119,321

There has been a registration of births and deaths from the foundation of the colony ; but I am not aware that the returns have been printed.

17. Leprosy is frequently seen at Macao and Canton.

Dr. Enscoe, Surgeon of the Seamen's Hospital.

Canton.

1. Leprosy prevails in Canton and in the two neighbouring provinces, Quag-si and Fukien in the south-west of China, but does not extend further.

This fact is considered by the Chinese to be accounted for by these being lower and more damp than the other provinces of China.

c. The first symptom of the disease is a red spot appearing either on the face, body, or legs ; most frequently on the face. This spreads into a patch ; sometimes these patches unite ; in other cases they remain distinct and numerous. The integument of these patches is elevated, and feels thickened, is of a dull reddish hue, and looks stretched. The ears soon become swollen, thick, and permanently red. The affected part usually loses its sensibility, and, if the disease advances, the hair falls off from the eye-brows and head. The tendons of the hands and feet contract, and the skin ulcerates, and discharges a thin purulent secretion, In the worst cases there is much swelling, with loss of the toes and fingers by ulceration.

The Chinese profess to distinguish 36 different kinds, but confound with leprosy various other skin diseases, *e.g.*, lichen, psoriasis, scabies, and syphilis. (Quoted from the Chinese Repository and from the Transactions of the China branch of the Royal Asiatic Society, Part III., 1851–2.)

3. Leprosy does not appear to shorten life materially. Several old persons have been seen with the disease; and one 80 years of age is now in the lazar village at Canton, who has been there many years. Lepers are however so effectually excluded from society, from the fear of their infecting the healthy, that they are as among the dead; and this separation is so complete, and its consequences are so much dreaded, that persons becoming leprous are known very frequently to terminate their lives by opium, or by hanging or drowning themselves, for they say "to die is to become clean."

5. No information.

8. Leprosy is undoubtedly a hereditary disease. It is said to become mild in the third generation, and to run itself out in the fourth. The children of leprous parents are at once recognised by the coarse thickened expression of the features, a broad nose, large ears, and a dry shrivelled skin on the arms and legs. The Chinese never permit any marriages with the progeny of leprous parents. Its appearance in a family not supposed to have any hereditary predisposition or taint puts an effectual stop to all matrimonial engagements, and makes null and void all previous bonds of betrothment. The lepers themselves usually intermarry only with those of the same grade or type of disease; e.g., a leper of the fourth generation with no external appearance, but known to be of leprous origin, will only marry a woman who is in the same circumstances with himself. Their progeny is considered free from taint, and need no longer be secluded from society.

10. Cannot determine whether the disease is really contagious, but it is affirmed to be so by the Chinese, who regard it with horror. The law regards and treats it as a contagious disease.

11. Such persons are nominally secluded from society, but practically the poor are allowed to roam about as beggars, and the rich are exempted from confinement in the lazar house by payment of large bribes to the police. Leprosy, however, is regarded as so unclean and contagious a disease that the infected persons are banished by their families, who will not eat or live with them lest they also should become contaminated.

12. There is a lazar house in Canton, supported by the government, capable of holding several hundred persons. It is chiefly used as an asylum for poor outcast lepers, who receive daily small allowances of rice, but are at the same time allowed to roam the streets as beggars. There is also a part of the city appropriated for the residence of lepers who live and trade together, not daring to intermarry with others.

15. The disease is regarded by the Chinese as incurable. In two cases I have tried the effect of liquor arsenicalis, with alterative medicines and saline aperients, and as topical applications the white precipitate of mercury, blue ointment, sulphur, chloruret of sulphur, &c., in one case without any benefit, in another, that of a boy, with only temporary advantage.

17. The Chinese, like the Jews, speak of the leprosy as an unclean disease, and it is supposed to be a just retribution for past offences; hence lepers meet with no commiseration, no hand is extended to give them succour, and no heart is moved to alleviate their wretchedness; they are regarded with no other feeling than as objects of disgust and fear.

Dr. Hobson.

1. (Replies founded on information derived from a Chinese leper physician, and from the head men of the Canton leper asylum.) Leprosy is extensively prevalent throughout the province.

a. There are several forms; the worst is called ta-ma-fung, or great leprosy. Two others are known respectively as white spot and red spot leprosy. Other varieties enumerated by the Chinese are not considered by European physicians to be true leprosy.

c. Spots and patches of white or red colour on the face, hands and feet, or body generally; withering of the fingers, toes, and frequently of all the members; falling in of the nose, depression of the lips, distortion of the eyelids, and scaly brightness of the skin, are the distinguishing characters of the great leprosy.

The other forms, commencing with spots of red or white, which sometimes ulcerate, are popularly believed to merge in the great leprosy.

2. Cannot assign any particular age. The earliest symptoms are spots on the skin, and numbness of the subjacent flesh.

3. No specific answer can be given.

4. Thought to be most prevalent among the male sex, but the difference is in any case slight.

5. Not applicable to China, where but one race exists.

6. Among the poor. Bad living and exposure to weather.

a. The disease most frequent near the the seacoast, in low, damp, and malarial situations.

c. Cleanliness is unknown among the Chinese poor.

d. Poor diet is believed to have a predisposing effect.

e. Labourers and others much exposed to sudden changes of temperature are considered most liable.

7. No answer.

8. The disease is often hereditary. It is believed in most cases to run through four generations, after which the virus becomes exhausted.

9. It is a Chinese medical opinion that injudicious mercurial treatment for syphilis may induce leprosy.

10. Instances of contagion are known.

a. In an advanced stage with ulcerous discharge.

b. Has seen none.

c. The disease is believed to be most frequently transmitted by sexual intercourse.

11. Segregation, either voluntary or on the compulsion of friends, is practised to a certain extent; but there is no official restriction to free intercourse.

12. A leper asylum, founded by private benevolence, exists near Canton, and in most of the other ninety walled cities in the province. The Canton asylum is a wretched collection of dilapidated cottages, in which the utmost filth and squalor prevail. There are upwards of 900 inmates, females being slightly in excess. Each inmate receives a small pittance from government, and from 40 to 50 die annually, whose places are immediately filled up by others.

13. About 900 in the leper asylum at Canton; besides these, about 2,500 lepers are believed to gain a livelihood in Canton as beggars, ropemakers, or pedlars.

14. A Chinese quack doctor through whose hands about 300 patients pass annually states that the disease is on the increase, owing to the spread of prostitution induced by the vast augmentation of the military forces, and the disordered state of the country.

15. Leprosy is not known to undergo a spontaneous cure, and true leprosy is believed to be incurable by the head men of the leper asylum, although various forms of cutaneous disorders are cured under the name of leprosy by Chinese quack doctors. Among their remedies a seed brought from Siam, and called the ja fung tze (lucraban seed ?), is considered the most efficacious.

16. No information.

17. Leprosy prevails throughout the whole of the south of China, as far as the Yang-tze-kiang, which it seldom crosses. It is most common in Quang Tung.

Mr. Consul Robertson.

SHANGHAE.

1. Leprosy is common in the district around Shang-hae, and occurs in the province of Kiangsee; commences with one or more dusky-reddish shining patches on the forehead, nose, or legs; the skin seems tense, and has the look of being varnished; patients sometimes complain of weakness and languor; the appetite seems impaired; the tongue slightly furred; sensibility of affected part at first increased, but after from one to three months diminished. In the course of a short time, soft, livid, slightly prominent, indolent tubercles appear and spread over different parts of the body. Indolent, slowly corroding ulcers appear on the lower extremities; the skin becomes thickened and hard. After some months the whole skin presents a full and puffy appearance; the lips seem much thickened; the nose flattened; the nostrils dilated; the teeth become loose; the gums tender and ulcerated. The expression is peculiar, and the senses appear more or less blunted. The general health suffers little, and patients ordinarily continue their employments, unless very laborious, throughout the progress of the disease.

In third stage of disease, parts of the face, neck, and arms are ulcerated; the lower eyelids are everted; the bridge of the nose is broken down; the palate is destroyed; the fingers and toes drop off, and the whole body appears a mass of corruption.

a. This, the only form of leprosy in this district, is called mo-fóng. The outward forms or manifestations of leprosy are very different in Canton from what they are at Shang-hae.

b. These several forms or outward manifestations are, in my opinion, essentially varieties of one common morbid state; the same causes, i.e., poverty, bad food, dirty habits and dwellings, operating to produce all; only at Canton the disease assumes the tropical form, which is modified by the temperate climate of Shang-hae.

2. Has seen the disease commence at the ages of 17 and 46. The most common age is from 22 to 38.

3. Disease appears to be fully developed in from one to two years after the first symptoms, when as a rule it remains stationary for several years. Dr. Henderson never saw a patient who had had the disease more than 18 years, nor one with the disease over 50 years of age.

4. Of 75 cases seen by Dr. Henderson, only four were women; and of these only two were well marked cases.

5. No reply.

6. In this province leprosy seems entirely confined to the lower classes. Has seen three cases in Buddhist priests.

a. The country for 30 miles round Shanghae is flat, the soil alluvial, the climate damp and relaxing. The country is intersected by small ditches and canals, and there is much stagnant water, with many paddy fields. Leprosy not more common on the seacoast than inland.

b. The dwellings are mere hovels, all on the ground floor, which is not elevated. They are essentially dark and damp, many of them formed of bamboo and mud.

c. Personal and domestic habits extremely filthy; indeed a majority of all classes affected with some sort of cutaneous disease.

d. There can be little doubt that bad, insufficient, ill-prepared, food is the chief cause of leprosy. The food of the people consists chiefly of rice and vegitables; the lower classes eat large numbers of small crabs which abound in the ponds and ditches; what animal food they have seems ill-prepared, and they use very little salt with their food.

So far as Dr. Henderson has been able to learn, those affected with leprosy have been much exposed to malarious influences; have been insufficiently clad, never changing their clothes or removing them by night; have been living on bad stale food, any animal food they had being badly nourished, and often in a state of decomposition.

Opium smokers are numerous, but Dr. Henderson has never known one to have leprosy.

7. No reply.

8. Leprosy does not appear to be hereditary.

9. Leprosy does not seem to be connected with syphilis, yaws, or any other disease.

10. Has never met with an instance of the disease appearing to be contagious.

11. Persons affected with leprosy are permitted to communicate freely with the rest of the community. There is no restriction imposed, or segregation enforced, in respect of them.

12. There is no public provision made for the reception and treatment of the leprous poor in this district.

13. None.

14. Notwithstanding the suffering and privation in and around this district during the last few years, the disease does not seem to be on the increase.

15. Has only had experience of the results of treatment of this disease in a few cases. In two cases tried saline purgatives, iodide of potassium, and tincture of iron, for four months, with temporary benefit at first, but the improvement did not last. In one case tried arsenic without benefit, in another mercurial alteratives, which did mischief. Doubts much whether fully developed leprosy can be cured by medicine; believes, however, that it can be modified, and kept in check; but that more can be done in the way of prevention than of cure.

Leprosy as it occurs here does not undergo a spontaneous cure.

16. No information.

17. No information.

Dr. Henderson,
Medical Officer of the Chinese Hospital.

NEW-CHWANG.

1. Leprosy is entirely unknown in the region surrounding the port of Newchwang, and as far as can be ascertained in the whole consular district, including within that term the whole of Manchooria and the eastern part of Eastern Mongolia.

Mr. Consul T. Taylor Meadows.

KIN-KIANG.

1. Leprosy is known only to a limited extent in this district as compared with the province of Canton.

P. J. Hughes, Vice-Consul.

KANA-GAWA.

1. Leprosy is said to exist in Japan, though little, if any, is seen within my consular district.

3. Is said to commence in children often at the age of 12 months, to be fully developed at the age of 30 years, and prove fatal.

4. Disease rare among women.

5. The distinction does not exist in this consular district.

6. In the poorer classes disease of most frequent occurrence.
a. Mostly urban, in low, damp, and marshy districts; less in hilly and dry districts.
b. The dwellings of the poor afford a mere shelter from the storms; not from damp or cold.
c. Uncleanly.
d. Diet of the poorer classes mostly consists of inferior fish, crabs, rice, sweet potatoes, common vegetables, and the poorest quality of saki (liquor).

7. Want of good diet, exercise, cleanliness. Living in unhealthy localities.

8. It often occurs that but one member of a family is known to have had the disease, though sometimes it breaks out at the third or fourth generation.

9. No certain information.

10. Disease not considered contagious by the Japanese. Persons in the advanced stages of the disease are considered unclean.
c. Disease seems not to be transmissible, except in its worst forms.

11. In the early stages of the disease, there is little restriction. In the worst stage, patients are often deserted, and sometimes left to perish.

12. There is no public provision for the poor, so far as can be ascertained.

13. Unknown.

14. Unknown.

15. No information.

17. No information.

Mr. Consul Vyse.

FORMOSA.

1. A few cases only.

2. Various.

3. Various. Is not fatal.

4. More frequent in men. 70 per cent. of cases occur in males.

5. No reply.

6. The very lowest orders.

7. No reply.

8. No reply.

9. No reply.

10. The disease appears to be not contagious.

11. No restriction is imposed. Lepers are allowed to marry at pleasure, whether with other lepers or unaffected persons.

12. None. There is said to be an establishment for them at Tai-wan-foo, the capital of the island.

13. None.

14. No reply.

15. No reply.

16 No reply. *Off. V.-Consul G. C. P. Blanne.*

No. 35.

AUSTRALIA.

Victoria.

1. Leprosy is known in the colony of Victoria, solely amongst the Chinese.

a. Under one form, "elephantiasis Græcorum," called by the Chinese fat-fung.

c. The distinguishing characters of the disease are:—tubercles on the forehead, ears, eyebrows, and face; bronzing of the skin on those parts; thickening of the eyebrows, eyelids, ears, nose, and lips; thinning and sometimes entire absence of hairs on eyebrows and eyelids. Tubercles in mucous membrane of mouth, nose, and fauces; anæsthesia of skin of arms and legs; cicatrices from former tubercles; and shining bluish spots on arms and legs, often as large as a crown piece, with ulceration on feet and hands, and loss of toes and fingers.

2. In this colony from the age of 24 to 45 years. The earliest symptoms were tubercles on the forehead and cheeks, and anæsthesia of the skin in different parts.

3. Attains its full development between 28 and 50 years. Within from 2 to 7 years. It proves fatal usually in periods varying from 5 to 10 years, and at different periods of life, from 35 to 55 years of age.

4. Has occurred only amongst males, there being very few female Chinese in the colony.

5. Occurs exclusively amongst the Chinese.

6. Invariably amongst the lowest orders.

a. Suburban and rural, inland, low and damp, usually among the diggers' holes of the mining population, but sometimes on the sides of hills where gold digging is carried on.

b. The dwellings are usually tents huddled close together near the gold fields.

c. The personal habits are uncleanly.

d. The ordinary diet is beef or mutton, and rice.

e. The occupation is usually gold digging.

7. Poverty and filth seem to aggravate the disease, or are supposed to do so; but in the prisons high feeding seemed to aggravate the disease; on a lower diet it did not make so rapid a progress.

8. Patients state that none of their relations have been affected with the disease. No instance of more than one member of a family being affected is known to have occurred in this colony.

9. Leprosy is not connected with or dependent on any other disease except syphilis, its connection with which is dependent only on the statement of persons affected.

10. No instance of apparent contagion has been met with in this colony.

11. Persons affected with leprosy are in this colony allowed to communicate freely with the rest of the community. They are, however, generally deserted by the other Chinese, it would seem rather from hopelessness of cure than from any fear of contagion, though they give their dread of contagion as an excuse for their inhumanity in deserting their brethren.

12. There are no separate infirmaries or asylums for leprous patients, but they are admitted into the general hospitals, the sanitary condition of which, as regards dryness, cleanliness, and ventilation, is good, and the arrangements for medical and hygienic treatment are excellent.

13. There are at present about 13 known lepers in the colony, among the Chinese population; but it is probable there may be others unknown. Ten of the 13 are maintained at the public expense, three in gaols and seven in hospitals.

14. Thinks the disease has diminished of late years, and that an increase of comfort and cleanliness among the Chinese has contributed to this.

15. Nearly every class of medicine has been tried, including baths, medicated and plain, but without much effect. Has found the disease increase rapidly under the prison diet, which consists of the following daily allowance, viz., maize or oatmeal 8 oz., bread 20 oz., fresh meat 12 oz., potatoes 16 oz., sugar 1 oz., and salt ½ oz. When this diet was reduced, the disease did not progress so rapidly. The remedy that seemed to have most effect was the daily affusion of a large quantity of cold water over the head or parts affected. Under this treatment the tubercles on the forehead, and the thickening of the eyebrows, ears, and lips, diminished, but the patients being prisoners were discharged, and lost sight of after a few months.

There has been no instance of leprosy undergoing a spontaneous cure in this colony.

There has been no instance of recovery among the leprous poor treated at the public expense in this colony. Those treated in the hospitals died, and those treated in the prisons, who were all in an early stage of the disease, were discharged when their terms of imprisonment expired, with the disease somewhat alleviated, but by no means cured.

16. Population of Victoria, according to the census of 1861. was 328,651 males and 211,671 females; total 540,322 persons. There has been since 1853 a uniform registration of births and deaths, including the causes of death, throughout this colony. (Vide Appendix.)

17. Leprosy prevails most in the gold districts in or near the townships of Ballarat, Castlemaine, and Beechworth, the number of lepers and the population being respectively, in each district:—Ballarat, lepers three in hospital (all Chinese); population 34,458, including 2,612 Chinese. Castlemaine, lepers seven (all Chinese), four in hospital, three outside; population 26,764, including4, 482 Chinese. Beechworth, lepers, 1 Chinese in gaol; population 15,644, including 2,291 Chinese.

Two other lepers are in Collingwood Stockade Prison, sent thither from the gold fields.

Dr. M'Crea, Chief Medical Officer, Melbourne.

1. *a*. Leprosy is called by the Chinese fat-fung.

c. In all the cases seen the disease was matured, and though the symptoms varied in different cases, they were so unmistakeable as to be easily recognized. In all, the sensibility of the skin was more or less impaired. In some, the nose, larynx, and air passages became seriously involved as the disease advanced, and death seemed to take place by suffocation and exhaustion, while one or more attacks of pneumonia not unfrequently took place before the fatal result. In another class of cases, the disease seemed to develop itself more especially in the bones and joints of the phalanges of the fingers and toes; there were fistulous openings leading down to the diseased parts, and the bones became absorbed, so that one or even two phalanges sometimes were wanting; the soft parts contracted, leaving the fingers stumpy-like and short, but having the nail, and otherwise looking entire. In one case, where the disease had existed seven or eight years at least, one of the ancle joints was completely dislocated, the foot being turned inwards and the sole upwards, so that the individual walked on the ends of the leg bones.

In two cases now under my observation there is paralysis of one side of face, and the fingers are contracted on the palms. In one case the sight of the eye on the affected side was destroyed.

3. Is of opinion that in most of the cases the disease had commenced before they left China, but could arrive at no definite conclusion as to the length of time they had suffered from the disease.

5. Has seen only one case in a European, who had contracted it while resident in India.

7. Some of the sufferers attribute it to cold, &c.

9. Some of the sufferers point to syphilis as the cause.

10. Is supposed by the Chinese to be contagious.

15. The remedies tried were arsenic, Donovan's solution, cod liver oil, &c., but with little or no effect. Generous diet and cod liver oil seemed to improve many of them, and they

left relieved, but only to return after different intervals with the disease still wearing out the vital powers. Has not seen a single case of true leprosy (fat-fung) cured.

The following is the report of the only post-mortem examination which has been made.

Ye-lac, admitted December 2d, 1861, age 50, died May 5th, 1863.

Post-mortem appearance. Body extremely emaciated, skin of a tawny colour, dry and corrugated, something like a dried fish's skin; nose flattened from absorption of cartilage; small abcess round larynx; when the skin in front was cut into, matter welled out. Epiglottis and internal parts of larynx thickened. Mucous membrane denuded for some distance down the tracheæ. Aperture at the top nearly occluded. Heart empty; arterial system seemed healthy; lungs natural, with the exception of a limited deposit in upper part of each lung of a melanotic or tuberculous character. Liver healthy looking, and about natural in size. Gall bladder completely filled with gall-stones, 151 in number, smooth and polished, varying from a very small pea to a bean in size. Other organs normal. Brain not examined.

Mr. Hutchison, Resident Surgeon at Castlemaine Hospital.

New South Wales.

Dr. Bennett of Sydney states that he had seen the disease in India, and in the leper hospital at Singapore, but among the great number of the various cutaneous diseases that had come under his care during a practice of 25 years in this colony, he had not observed a single case of the true leprosy, elephantiasis græcorum.

A statement to the same effect is made by several other leading medical men in Sydney. No cases of the disease have ever been met with among the Chinese and other Asiatics admitted into the hospitals there.

Mr. Mason of Tenterfield, in the gold field district, describes a form of cutaneous eruption, consisting of small shining spots or tubercles of a livid colour, which often discharge a very offensive fluid, and are followed by silver-looking scales, which he has observed chiefly among the Chinese labourers engaged in mining. All the cases occurred in persons who had suffered from syphilis.

Mr. Redhead, of Braidwood, mentions that, about two years before, it was currently reported that several Chinamen in that gold district were affected with leprosy, to the great alarm of the white population. On examination, the disease proved to be an aggravated form of itch. Mr. Redhead adds that, when he was in Queensland in 1858, he saw several severe cases of yaws amongst the native blacks of that district, but none of leprosy.

Mr. Street, of Hargraves, mentions that he had seen the disease in Madagascar, and in the Seychelles islands, but never in New South Wales.

Mr. Hogg, long resident in India, writing from the neighbourhood of Sydney, states:—"A "few years ago there was a copious stream of immigration into this colony from China, "so much so, as to alarm the European population that they would soon be outnumbered. "The subject demanded the attention of Parliament, and a poll tax of 10*l.* checked the "immigration at once. As leprosy was known to prevail to a great extent over China, "the emigrants on arrival here were subjected to a searching examination by the port "surgeon, and instructions were sent to the various ports in China not to ship any persons "having a cutaneous eruption, or any appearance of leprosy. In this way the Colony has "been kept clear of the disease, which every one seems to dread." Mr. Hogg had, in a letter to a local journal in 1860, said:—"The subject demands the most serious and prompt "consideration of our legislators and the government as to the best means to be adopted to "guard us and the generations to come from the invasion of so loathsome and infectious a "disease as leprosy; or the time will come, as it did in the Mauritius (where the disease has "got into some respectable families, and, as in the east, spread over the country) when it may "be beyond our power to control or expel it. I would suggest that Chinese lepers be sent "back to their own country immediately on the disease being detected, and if necessary, "even at the public expense; and no Chinese immigrant should be permitted to mix with "our community having arrived with the disease or anything approaching to it, as "elephantiasis, herpes, psoriasis, &c."

According to the Census of 1861, the population of New South Wales (exclusive of the military, and of the crews of ships at sea, also of the roving aboriginals) amounted to 250,860. Of this total 12,986 were Chinese.

Since 1856, there has been a general and uniform registration of births, marriages, and deaths, including the causes of death: and an annual return is published at the Registrar General's office in Sydney (*vide* Appendix).

No. 36.

MAURITIUS.

1. It is very common in this island, but has been little studied by the profession. It appears in two forms, the tuberculous and the anæsthetic; these seem to be only varieties of one morbid state. The description of the disease given by Drs Danielsen and Boeck applies exactly to it as it is seen here. *Dr. Regnaud.*

Leprosy is very common in the Mauritius and its dependencies under every type, in the two main forms of elephantiasis Arabum and of elephantiasis Græcorum. These, in my opinion, are only varieties of one morbid state; one form may run into or be accompanied by another, and sometimes the various forms become blended in the same patient; they occur too in the same countries and localities, and under similar circumstances. In many cases of leprosy, the fingers and toes of the hands and feet drop off at the joints; and all the forms are generally accompanied with abscesses or ulcers, and frequently the body is covered all over with scales. *W. Ford* Esq., F.R.C.S., Health Officer.

It is very common, and occurs among all classes. There are two forms of the disease, the white and the black leprosy; the two are mere modifications of the same disease, due to the colour of the skin. The progress of the white form is slower than that of the black. *Dr. Bolton*, Government Medical Officer.

There are two kinds of leprosy in the Mauritius, the tubercular and the anæsthetic; they are, in my opinion, distinct forms of the disease. The anæsthetic form is marked by ulcerations under the joints of the fingers and toes, when exfoliation takes place; the finger or toe is shortened, often leaving the curious appearance of a finger or toe with a perfect nail and but one joint. *Dr. Powell*, Superintendent of Grand River Lunatic Asylum.

Leprosy here is characterized by tubercular swellings on the face, nose, forehead, and ears, the cartilages of the nose and ears being sometimes thickened by tawney discolourations of the skin, pervading the entire body, generally in patches. The discolourations are deepest over the tubercles. The hands and feet are peculiarly affected; the fingers, toes, and soles of the feet are the parts first attacked. The epidermis first becomes harsh and scaly, and then horny; it cracks, and fissures are formed from which a thin ichor is discharged. The ulceration extends deeper and deeper through all the tissues, bone and cartilage included. In this way the extremities of the toes and fingers literally rot off. As soon as a phalangeal joint is destroyed, the diseased action seems to arrest itself at this particular spot, and the extremity of the phalanx will remain attached to the member simply by a string of soft tissue, for an indefinite period; a source of great annoyance to the patient, until it is removed by the knife. And here I may remark, that amputations of all kinds (and I have performed many on lepers) heal with a rapidity rarely met with in healthy persons. Perversion and loss of cutaneous sensibility are frequent in the course of the disease. Cutaneous secretion is always much diminished; frequently almost entirely arrested. There is always more or less emaciation.

b. However much the symptoms vary in intensity and sequence in different patients, the disease is, I believe, in all cases one and the same.
Dr. Finnimore, Government Medical Officer, Grand Port.

2. The disease appears at every age.

The appearance of tubercles, or of spots not unlike, at first, those of urticaria, sometimes preceded, at other times not, by a longer or shorter period of feverishness. *Dr. Regnaud.*

At any age, from infancy to late in life. Medical men seldom see cases at their commencement; they are too often kept secluded. The earliest symptoms observable in the tuberculated form of Greek leprosy are disturbance of the general system, alteration and puffiness of the features, and discolouration of the skin, to be followed by the more advanced appearances.

In the Arabian elephantiasis the first symptoms are those of general disturbance, swelling with erysipelatous inflamation of some part of the upper or lower extremities, generally the latter, with fever, commonly called "l'erisipelle" in the colony. The first attack is curable, and may leave no trace behind; but similar ones recur from time to time with increased violence, until abscesses and ulcers form, and all the deeper seated tissues become implicated. *W. Ford* Esq.

Generally, I think, about the age of 10 or 12. The earliest symptoms are the appearance of discoloured patches on the skin, followed by enlargement of the lobes of the ears and of the alæ nasi; the nails assume a peculiar blue colour, and the ends of the fingers and toes enlarge, and acquire a soddened appearance, as if they had been macerated. As the disease advances, the throat and nares become affected, the fingers and toes drop off, and ulcers form in various parts of the body. *Dr. Bolton*

Generally in early youth; more especially after measles. The earliest symptoms are patches of discolouration, such as in England would be called "liver spots," which show a great want of sensibility. *Dr. Powell.*

By far the larger number of cases commence after puberty, and the ratio seems to increase as life advances. I have known one case where the disease occurred at nine years of age.

In one set of cases, the earliest symptoms are the tubercular swellings and cutaneous discolouration, followed by the other symptoms above described, in varying order and severity. This is the course I have invariably observed in patients of European birth or origin, as well as in those of African origin and mulattoes. In another set of cases, confined almost entirely to the Indian population, the true leprous symptoms are preceded by a peculiar affection of the nerves of the foot, indicated by an intense burning sensation; the general health frequently breaking down under it, and the patient dying of marasmus. I by no means consider this a symptom of leprosy, and still less that every patient suffering from it must necessarily become a leper; but I have so frequently observed that it is a precursor of the disease, that I cannot but think that it has an intimate relation to it, or, at any rate, that the causes which produce the two affections must be mutually related. Whether this symptom occur or not in this form of the disease, one of the first things observed is the induration of the skin on the soles of the feet; the skin cracks, and the same morbid changes ensue as described in the other variety. The disease gradually extends to the legs and hands, and the skin of the whole body becomes dry, scaly, and discoloured; but rarely do tubercles occur in this variety. Perversion or loss of cutaneous sensibility invariably occurs. *Dr. Finnimore.*

3. The period varies very much. I have known lepers live upwards of 30 years. In the anæsthetic form, I have seen the disease limited to the wasting of one arm for from 10 to 15 years without any progress of the malady or much disturbance of the health; others have lost several fingers or toes, the health still remaining good. The tuberculous form is rather more rapid in its course. Lepers die at every age, and after the greatest variety in the duration of the disease. *Dr Regnaud.*

Its progress is usually slow; most frequently it attains its developement at the period between full growth and middle life; sometimes cases linger on to old age. *W. Ford* Esq.

Generally before the age of 15. The duration of the disease varies much. *Dr. Bolton.*

Generally soon after puberty. It proves fatal after various periods, but usually between the ages of 30 and 50 years. *Dr. Powell.*

At whatever period of life the disease shows itself, I think about two years is the time usually occupied in developing itself fully; the progress is then generally rapid; but frequently the disease seems to remain stationary. *Dr. Finnimore.*

4 It is seemingly more frequent in the male sex. Out of 109 patients treated by me (58 at the Hospice St. Lazare) 83 were males and 26 females.

	——	Males.	Females.
1	At birth - - - -	1	—
4	Under two years - -	1	3
3	From 2 to 5 years - - -	3	—
4	From 5 to 8 years - -	3	1
6	From 8 to 14 years - - -	4	2
13	From 14 to 21 years - -	6	7
15	From 21 to 30 years - -	10	5
28	From 30 to 40 years - -	23	5
32	From 40 to 50 years - -	30	2
1	Of 65 years - - -	1	—
1	Of 68 years - - -	1	—
1	Of 69 years - - -	—	1
109		83	26

Dr. Regnaud.

I have seen more males affected than females, but probably the latter keep themselves more secluded. *W. Ford* Esq.

Both sexes are, I think, equally liable. *Dr. Bolton.*

Both sexes seem to me equally liable, but the general impression seems to be that it is more general among females. *Dr. Finnimore.*

5. The native population, black, mulatto, or white, are equally subject to it. Of the 58 patients treated at the Hospice St. Lazare there have been—

7 from the white population of the colony.
10 „ mulatto „ „
21 „ black „ „
7 „ Indian population born in the country.
9 „ Indian immigrants.
2 Chinese.
1 Irishman.
1 Frenchman. *Dr. Regnaud.*

It is greatly more frequent in the Asiatic and African than in the European or Caucasian races. The lower the race the more prone it is to the disease, and to the severity of its attack. I have seen leprosy in Egypt and Arabia, in India, Ceylon, in the Islands of St. Marie near Madagascar, in the Seychelles Archipelago, and in Bourbon and Mauritius, and I have met few cases of native-born Europeans affected; still they are liable to the disease after long residence in a country where it is endemic. In Mauritius and the dependency of Seychelles it exists in many white creole families, the descendants of Europeans. *W. Ford* Esq.

It seems more frequent among the immigrants from India. *Dr. Powell.*

It seems to me that all the different races are attacked in an equal proportion, with the exception of those of European origin. *Dr. Finnimore.*

6. It is equally prevalent in all ranks of society.

The only circumstances which have seemed to me to favour its development are—1. Residence in the most arid, least elevated, and the hottest parts of the island, and particularly on the sea coast. 2. The little use made of cold water, the want of cleanliness, and the weakening of the system by hot baths. *Dr. Regnaud.*

It is most frequent in the lower conditions of society, and on the seacoast of large countries and in small islands. *W. Ford* Esq.

It is most common among the poor black population, and its development is favoured by bad living and an hereditary taint. It is more frequent on the sea coast than in inland elevated localities.

d. Rice with salt fish and vegetables, with the occasional addition of a little fresh animal food. *Dr. Bolton.*

The Indians live principally on rice and salt fish, many of them entirely on rice and leguminous seeds, such as dholl, &c. The creole population live principally on rice, with more animal food than the Indians; they are fond of pork. Their habits are generally cleanly. *Dr. Powell.*

All conditions of society appear equally liable.

a It is more frequent near the sea coast than inland.

c Want of cleanliness no doubt favours its development; but I know cases where persons in the higher classes, Europeans, and with no hereditary taint, have been attacked. *Dr. Finnimore.*

7. Poverty, close unwholesome dwellings, want of cleanliness and pure air, unwholesome food, as too much of fish, and above all of pork, especially its grease (of which large quantities from pigs that feed on all kinds of offal are imported from Calcutta into Mauritius), tend to accelerate and aggravate the disease when manifested. *W. Ford* Esq.

Poor living and want of care. *Dr. Bolton.*

Low and deficient diet, intemperance, &c. *Dr. Powell.*

Bad food, unwholesome dwellings, and neglect of cleanliness. *Dr. Finnimore.*

8. Unequivocally so. Sometimes certain members of a leprous family appear to be exempt, but even they not unfrequently exhibit glandular lymphatic swellings, indicating a slight degree of or tendency to the disease; and the offspring of such persons frequently become affected. *Dr. Regnaud.*

It is undoubtedly often hereditary, but the offspring are not inevitably affected.

I have known such instances; also instances of several members of a family being affected; also instances where every member of the family was affected, parents and children, in Mauritius and Seychelles, where I have resided 21 years. *W. Ford* Esq.

It is doubtless hereditary in almost every instance. In a case which recently occurred in a white young lady, whose parents and brother were free, the disease had existed in the maternal uncle. I know of another similar instance. *Dr. Bolton.*

Yes, undoubtedly. I have frequently seen one member only affected, but in those cases which were not hereditary. In hereditary cases I have seen all the children affected, and occasionally only one. *Dr. Powell.*

Most generally.

Yes. *Dr. Finnimore.*

9. I have not. In two cases, however, the disease declared itself at the same time with a syphilitic eruption. After the disappearance of the latter, the leprosy has continued. *Dr. Regnaud.*

I consider it a disease sui generis. *W. Ford* Esq.

I think not. *Dr. Bolton.*

No. *Dr. Powell.*

I believe not. Yaws, as far as my observation goes, are unknown in this colony. I am of opinion that some cutaneous diseases may degenerate into leprosy. I have a patient who some years ago began to suffer from hæmaturia, connected with an oxalite of lime calculus in the kidneys; after some time an eruption resembling lepra vulgaris, and described by Dr. Prout as occurring in the course of that affection, appeared; later, leprosy declared itself. *Dr. Finnimore.*

10. The two following cases have recently made me consider whether the disease may not be transmissible under certain circumstances. 1. A white man, affected with the anæsthetic form of the disease, had a fœtid ulceration of the heel. His wife, as well as myself, were in the habit of dressing this daily. She was probably less careful than I was in washing her hands after each dressing. A month after his death, a tuberculous spot appeared upon her right cheek, and within the next two months several other spots were seen over the body; since then, there can be no doubt that she has become leprous. It is now eight months since the death of her husband. 2. A black native woman, who had a child of five years of age by a former husband, married a black native affected with tuberculous leprosy. The child, who was much in the company of the husband, became affected with the same form of the disease. There was no traceable hereditariness in the family, either of this child's mother, or of the wife in the preceding case. *Dr. Regnaud.*

I have not. It might possibly become contagious under particular circumstances.

c. No; I know instances where it has not been so transmitted. *W. Ford* Esq.

I have not met with any such instances, but from what has come to my knowledge I believe transmission by contagion to be possible.

In the case of a boy aged 14, of European parents (the father from Kent, the mother Irish), who has been leprous since his seventh year, the father ascribes the disease to vaccination. I cannot discover if the child, from whom the lymph was taken, was of a leprous family or not. *Dr. Bolton.*

Never. I know two instances where medical men have wounded themselves in dissection, but without any bad results.

No. I know several instances in proof. *Dr. Powell.*

I have not met with any such.

c. No. *Dr. Finnimore.*

11. There is no restriction, except in the case of mendicant lepers found in the streets, when the police send them off either to the Lunatic Asylum de la Grande Rivière,* or to the Hospice of St. Lazare. *Dr. Regnaud.*

Formerly in Mauritius and its dependencies they were kept segregated; but for many years past, since the disease has been considered to be non-contagious, no restriction has been imposed. *W. Ford* Esq.

There is no restriction. Lepers generally shun their fellow men, but not always. They may be often met with wandering about. *Dr. Bolton.*

There is no restriction whatever. *Dr. Powell.*

12. An asylum was founded six years ago, under the name of Hospice St. Lazare, by the lady superior of the Sisters of Charity of the island. It is entirely supported by voluntary charity, and is not under government superintendence. Some of the patients, belonging to the well-conditioned families, maintain themselves in it. There are 52 inmates at present; when the hospice was founded, there were scarcely more than 12. I succeeded Dr. Koenig as medical attendant about a year ago; my services are gratuitous. *Dr. Regnaud.*

No public provision is made.

They are not admitted into the general hospital at Port Louis.

---

* Lepers are no longer received into the lunatic asylum.
A. Gordon M.D., Chief Med. Officer, Civil Med. Dep.

An establishment for lepers—and their families in some instances—used to be kept by government on Ile Curieuse, one of the Seychelles, with a medical superintendent on the spot; but about ten years ago all the healthy persons were discharged, and the asylum gradually dwindled away, except for the poor of the dependency, with the intention of substituting for it a general hospital at Port Victoria, Seychelles, and a new leper asylum at Mauritius.

The asylum at Seychelles sometimes had above a 100 patients in it; it consisted of a number of small detached huts, with a larger one as a hospital for the worst cases, and a residence for the superintendent. *W. Ford* Esq.

N.B.—I am not aware that it is the intention of government to erect a leper asylum in Mauritius, nor do I think such an institution absolutely necessary, although it might be advisable to treat leprous sores in a separate or detached building. The greater number of cases of leprous sores are treated in the Hospice St. Lazare, under the superintendence of the Sisters of Charity. The disease I believe will be found to be hereditary, and neither contagious nor infectious; hence little benefit would be derived from complete isolation, unless marriages were strictly prohibited. *A. Gordon* M.D., Chief Medical Officer.

13. Very few, I believe, are so maintained in Mauritius and its dependencies.
W. Ford Esq.

14. In 1781, there were 12 white and 59 black lepers in the island, according to the official memoir of Drs. Deschamps and Rochard; since then no statistical inquiry has been made. The disease has spread more and more, and I am certain that there are at this time several thousands in the colony. During my practice for the last seven years, I have observed a degeneracy of the native population, attributable, I think, to a faulty hygienic condition, coupled with the debilitating influence of the climate. *Dr. Regnaud.*

It has certainly been on the increase during the last 15 or 20 years; but I do not believe more so than in proportion to the increase of the population. The large immigration from India, all over which vast country leprosy prevails, has also brought an influx of persons infected with the disease. *W. Ford* Esq.

Yes. In consequence of the increased immigration, the cases are much more numerous among the Indian population. *Dr. Powell.*

The general impression is that the disease is on the increase; but, judging from the statements of old residents, I do not think that it has made much progress during the last 25 years. *Dr. Finnimore.*

15. The daily use of cold baths, a nourishing diet, principally of milk, the use of flower of sulphur with the food, &c., have to me seemed to be of use.

In two cases of anæsthetic leprosy, where the patients have lost the phalanges of the hands and feet, the disease seems to have spontaneously stopped.

In two men about 30 years of age, one black, the other mulatto, there has been for the last five or six years an atrophy of the muscles of one hand and forearm, but without retraction of the fingers, and the disease has made no further progress. *Dr. Regnaud.*

Medical treatment seems to have been of only partial and temporary benefit. Due observance of sanitary and hygienic measures, together with the sufficient use of wholesome nourishing food, must be important in its treatment. As to a spontaneous cure, I should think such a thing in a true case impossible. *W. Ford* Esq.

I have found that good food, an airy dwelling, and the use of chowmogree oil, appear to render the progress of the disease slower, but nothing more. I never saw or heard of any case of spontaneous cure. *Dr. Bolton.*

In tubercular leprosy, the only treatment of any avail in the earlier stages is removal to a colder climate. In the advanced stages, alternate courses of arsenic and quinine. In the anæsthetic form or the joint evil, I have found great benefit from the continued use of quassia in doses of 10 grains twice a day; the ulcers become healthier, and heal and the patient frequently continues well for two or three years. *Dr. Powell.*

My own experience (of eight years) leads me to think that here the disease is never cured, but is sometimes, though rarely, arrested, under the continued use of the iodine of iron, and an infusion of a plant called bivilagna, of the order violaceæ, growing wild here, and reputed as a specific. I have observed in several cases the discolourations of the skin to diminish, the cutaneous sensibility improve, and the sores to take on a healing process.
Dr. Finnimore.

16. By the Census of 1861 the population was 313,462. The births and deaths are regularly registered, and the causes of death assigned by the relatives of the deceased, but without any medical certificate, except in the case of hospitals and prisons. *Dr. Regnaud.*

By the Census of 1861 the estimated population in Mauritius was 310,050, two thirds being Indians; and in the dependencies, where there are very few, if any, Indians, the population was 9,055, viz., in Seychelles 7,486, and in the other islands 1,569.

A general and uniform registration of births and deaths has long been kept; including the cause of death, since 1855. *W. Ford* Esq.

17. The disease is very prevalent in the capital, Port Louis, and also in Mahebourg, the second town of the colony, both on the seacoast.

I may mention that in two cases of white children, one seven and the other eight months old, both the offspring of leprous fathers, and both healthy and well formed, the vaccine vesicle did not appear until the 19th day in the one, and the 22d in the other, after vaccination. But in other similar cases no such delay has taken place. I add two official documents illustrative of the past history of leprosy in my native country, the Mauritius. (Vide Appendix.) *Dr. Regnaud.*

Animals (mammalia) are occasionally affected with leprosy. A young ox brought up at the Leper Asylum died of the disease some time since. A report of the post mortem examination of this animal was made by Mr. Olivier, veterinary surgeon, of Port Louis.

Dr. Bolton.

The general appearances on post mortem examinations are those of tubercular disease of the internal organs. *Dr. Powell.*

I subjoin a copy of part of a report made by me, at the request of government in 1851, on the Leper Asylum at Seychelles, when it was proposed to reduce that establishment, and when I was government medical officer of that dependency. *W. Ford* Esq.

Report on the health and condition, &c. of all the inmates of the Leper Establishment at Ile Curieuse, Seychelles, on the 3rd August 1851.

Males afflicted with Leprosy.

Age.	Where from.	Residence in Asylum.	State.
About 60	Mauritius -	21 years	All the fingers and toes lost.
„ 60	„ - -	21 „	Loss of all the fingers; the feet diseased, and the right eye nearly gone.
„ 60	„ - -	21 „	Loss of most of the fingers and all the toes except the left great toe.
„ 60	„ - -	21 „	Loss of both fore-fingers, and all the toes except the great ones; two ulcers on the right foot.
„ 60	„ - -	21 „	Loss of the last phalanx of the left fore-finger and all the toes, except the left great toe; also the right eye gone.
„ 60	Providence Island	21 „	Loss of the last phalanx of the left thumb; the joints of some fingers affected. He is able to work a little in the garden.
„ 55	Mauritius -	21 „	Loss of all the left-hand fingers; the toes are affected.
„ 55	„ - -	21 „	Loss of nearly all the fingers and all the toes; an ulcer on the right foot.
„ 50	„ - -	21 „	Loss of the right hand to the wrist, and almost all the phalanges of the left hand; also all the toes.
„ 50	„ - -	21 „	Loss of several fingers of the left hand, and all the toes; ulcers on the legs.
„ 45	„ - -	21 „	The joints of the fingers affected; loss of all the toes; ulcers on the legs.
„ 55	„ - -	21 „	Right fore-finger affected; loss of nearly all the toes; ulcer on the left foot.
„ 46	„ - -	16 „	Loss of all the fingers and toes.
„ 51	„ - -	15 „	Loss of the last row of the phalanges of the fingers and thumbs; also of all the toes.
„ 55	„ - -	15 „	Loss of all the fingers of the left hand; some of the right hand are affected; ulcer on the left heel.
„ 55	Mahé - -	12 „	Elephantine enlargement of scrotum, and also of the feet and legs, which are covered with scales. He is in the Hospital. P.S.—This patient died soon afterwards.
„ 25	Mauritius -	10 „	All the joints of the fingers and toes affected; ulcers on the feet; large tubercles on the face and upper and lower extremities.

MALES AFFLICTED WITH LEPROSY—*continued.*

Age.	Where from.	Residence in Asylum.	State.
About 41	Mauritius - -	7 years	Disease of all the finger joints and of the nose; both feet swelled, with ulcers on the soles.
„ 40	„ - -	7 „	Ulcers on the feet and legs; disease of the phalanges and metacarpal bones; also of the nose and ears.
„ 36	Mahé - -	7 „	The joints of the fingers and wrists much diseased; the lower extremities swollen and scaly, with sores on both feet; the nose is also affected.
„ 24	„ - -	3 months	Swelling of the hands and fingers, some of the phalanges of which are lost; swelling of the feet and legs; numerous ulcers and tubercles on the face and ears; all the body covered with scales. This patient is in hospital and very ill.

MALES NOT AFFECTED WITH LEPROSY.

About 21	Mauritius -	- - -	Came with his mother, a leper, who died a few years since. Is quite well, and able to work in the establishment.
„ 16	- - -	- - -	Born at Curieuse, brother of preceding. Free from any disease, and quite able to work.
„ 19	- - -	- - -	Born at Curieuse. His mother, a leper from Providence Island, is dead. Is quite well and able to work.
„ 6	- - -	- - -	Born at Curieuse; is quite well.
„ 7	- - -	- - -	Born at Curieuse; is quite well.
„ 9	Mahé - -	- - -	Came with his mother, a leper, about four months since; is quite well.
„ 6	„ - -	- - -	Brother of preceding; is quite well.
„ 3	„ - -	- - -	Brother of preceding; is sickly, and has got the itch.

Diseased - - -	21
Not diseased - - -	8
	29

FEMALES AFFECTED WITH LEPROSY.

About 60	Mauritius -	21 years	Loss of all the fingers and toes; is much diseased, and is blind; is in the hospital.
„ 55	„ - -	21 „	Loss of all the fingers and toes; is blind, and in hospital.
„ 50	„ - -	20 „	Loss of all the toes, except the great one.
„ 55	„ - -	16 „	Loss of nearly all the fingers and toes; ulcer on the left foot; is in hospital.
„ 60	„ - -	14 „	Loss of both hands and of all the toes; an ulcer on the sole of the right foot. This woman has three daughters, who came with her, and have remained quite free of the disease.
„ 50	„ - -	14 „	Loss of the second and third phalanges of all the fingers and toes; an ulcer on the stump of the right foot.
„ 50	Mahé - -	12 „	Loss of all the fingers and toes.
„ 45	Mauritius -	14 „	Loss of nearly all the fingers and toes; a sore on the left hand and tubercles on the face and ears.
„ 36	Mahé - -	7 „	Loss of all the fingers and toes; ulcers on the legs and feet; body covered with scales; is in hospital, bed-ridden.
„ 30	„ - -	1 „	Loss of two rows of the phalanges of the hand; numerous tubercles.
„ 36	„ - -	4 months	Loss of nearly all the fingers and toes; elephantiasis of the feet and legs; disease of the nose and ears.

FEMALES NOT AFFECTED WITH LEPROSY.

Age.	Where from.	Residence in Asylum.	State.
About 24	Providence Island	21 years	Came with her mother, a leper, who is dead; is quite well.
„ 24	„ „	21 „	Has no disease, except slight psora.
„ 24	Mauritius -	20 „	Came with a diseased parent; is in good health.
„ 19	- - -	- - -	Born at Curieuse; her father and mother, who both came from Mauritius, died of leprosy; she is quite well.
„ 15	- - -	- - -	Born at Curieuse; is quite well.
„ 23	Mauritius -	14 years	Came with her mother, a leper, who is still living. Is quite well; employed in washing for the Asylum.
„ 17	„ - -	14 „	Is quite well.
„ 16	„ - -	12 „	Came with her mother, a leper; is quite well.
„ 7	- - -	- - -	Born at Curieuse of one of the leprous inmates; is quite well, except having psora.
„ 2	- - -	1 year	Came with her mother, a leper.

Diseased - - - -	11
Not diseased - - - -	10
	21

The following extract from the annual report of the civil commissioner of Seychelles, dated 16th February 1864, shows that the number of the lepers now at Isle Curieuse is very much reduced from what it used to be :—

" The principal ailments in these islands are dysentery, easily treated if taken in time, but " very fatal if neglected; and some very hideous varieties of cutaneous diseases, from leprosy " downwards. The number of lepers now on the books of the establishment at Curieuse is " only 5; but this is no criterion as to the actual amount of existing leprosy. In this country " it is always tubercular, and its development, though sure, is most insidious. Those " afflicted with it will never, in the earliest stages, allow that anything is the matter with " them; and cannot be persuaded to undergo a regular course of treatment at the hands of " the government medical officer. The dreadful result is only a question of time; but no " decided opinion can be arrived at here, respecting the rapidity of its progress, its " amenability to medical treatment, or its contagiousness. The latter, indeed, admits of so " much latitude of argument, that it is difficult to feel convinced that the fearful objects seen " here, with all the facial integuments eaten away, and with but sloughing remnants of " fingers and toes, are comparatively innocuous."

" I may mention, too, with reference to the opinion of the majority of medical men that " this terrible malady is not contagious, that Dr. Robertson, formerly in medical charge " of the Curieuse leper establishment, was himself an unmistakeable leper. The disease was " not in a very advanced stage, but of its presence there was no doubt whatever."

In his despatch, dated 15th March 1864, transmitting the preceding statement to the colonial office, Sir Henry Barkly, the Governor of Mauritius, remarks :—" My own expe- " rience in the West Indies furnishes instances similar to that quoted by Mr. Ward, in " which Europeans in constant communication with lepers have themselves become affected " with the disease, and I entertain no doubt myself that it can be conveyed in certain stages " to one, however healthy, who has any open cut or sore on his person."

No. 37.

CEYLON.

Leprosy is known in Ceylon. It is not an uncommon affection among the lower orders of the natives. I have seen it occasionally in Europeans and the burgher classes. The disease is commonly but erroneously put down as " lepra," and, I believe, it has been for years included under that head in the medical returns.

Leprosy is seen in two forms, the tubercular and anæsthetic varieties. Occasionally these two forms are found combined in the same patient. I believe they are only varieties of the same disease, depending upon one morbid action.

The tubercular form sets in with a shining and discolored appearance of some portion of the skin, attended sometimes with loss of sensibility; the discolored patches are afterwards found raised; they then become thickened and tuberculated, the tubercles generally appear on the ears, nose, fingers and toes. Suppuration ensues leading to contraction of the small joints, or these become destroyed by sloughing ulceration. A fatal diarrhœa generally terminates a miserable existence.

The anæsthetic variety is, I think, comparatively rare in Ceylon. It commences with impairment of general health. Vesicles form in different parts of the body which lead to destructive ulceration, attended with falling off of the hair and general emaciation. The articulating processes of joints sometimes become absorbed, leading to anchylosis. Diarrhœa is generally the fatal termination of this variety also. *H. D.**

The disease is frequently confounded in this country with elephantiasis, to which individual cases occasionally manifest some seeming alliance, though they are essentially different and distinct form of morbid phenomena.

(*a. and b.*) There are, in my opinion, four distinct forms of leprosy, having no affinity with each other, and which have never been known by me to run into each other, at any stage, but always to manifest a train of morbid phenomena, essentially different from each other, and to maintain their distinguishing characteristics during a whole lifetime, until some accidental or extraneous cause supervenes to close the scene of the sufferer, generally diarrhœa or debility.

1. *Lepra Tuberculosa* is characterized by tuberculous thickening of the skin of different parts of the body, in the form of irregular patches of a dark, livid, or dusky hue; the affected parts are smooth and glossy. The eyebrows, alæ nasi, and lobes of the ear, are invariably thickened and tuberculated; the lips are thickened. As the malady progresses, the fingers and toes become affected with painful paronychial swellings; deep-seated purulent infiltrations form under the tendinous sheaths which gradually end in sloughing ulcers discharging a fœtid sanies. The same thing occurs in the soles and heels, gradually ending in deep, callous, and fistulous ulcers. These are followed by necrosis, joints drop off from time to time, or have to be removed. There is often partial or total diminution of sensibility in the affected limbs, as well as on the spots or discolorations of the surface of the skin.

As the disease advances the voice becomes hoarse or husky. The tonsils frequently become affected with recurrent attacks of inflammation, and ozæna is almost always present more or less in the advanced stages.

2. *Lepra Nodosa* or *Anæsthesiaca*. This form of disease, not unfrequently met with in Ceylon, is characterized by what may at first sight be mistaken for gouty deposits and strumous articular enlargements of the hands and feet. It frequently commences with articular pains, sudden diminution of feeling in a part or whole of a limb, generally the lower extremities. Swellings form in the fingers like whitlows, which gradually ulcerate, the nails drop, followed by sphacelous ulcers which frequently eat away to the bone, and the joints fall off. The tendinous expansion of the palms becomes thickened and inflamed, producing permanent deformity and contraction of the finger across the palms.

In some cases, the fingers of both hands are only permanently contracted without any ulcers on them, while the toes and feet become the seat of suppurative inflammation and gangrene; the joints swell and become permanently thickened and deformed, and some of the joints drop off. Locomotion is considerably impeded, the legs cannot be thrown forward in walking, but can be easily flexed or drawn back, which produces a peculiar swaggering gait. Sometimes the most prominent symptom is the want of feeling or sensibility of one or both legs and hands, a kind of partial paralysis, which remains for life, while the sores heal up after some years. The countenance remains quite serene and natural, the general health is tolerably good, and all the animal and intellectual faculties are unimpaired. In the advanced stages of the disease the cutaneous surface is harsh and unhealthy.

3. *Lepra Squamosa*. This is characterized by uniform squamous patches all over the body, attended with frequent or periodical itching. It appears in small furfuraceous patches which gradually coalesce until the whole surface becomes uniformly affected. There is no diminution of sensibility; if anything, it is preternaturally augmented.

Locomotion is not impeded in the early, but only in the advanced stages. No swelling or ulcerations occur as in the last, nor any tuberculous enlargement of any part of the skin. The skin does not glisten as in the last form of disease, nor is there any lividity. The whole surface is, however, excessively sore and itchy, and as the disease advances, the cuticle becomes thick, inflamed, and fissured. The general health is impaired, occasional febrile attacks supervene, and the patient often becomes emaciated, and dies from exhaustion.

4. *Lepra Hebræorum*, or the white Jewish leprosy.—This form of disease is extensively prevalent in the island, particularly so in the North-western Province. It is characterized

* The names of the respondents are not given in full; the gentlemen belong to the Civil Medical Department; *vide* the Governor's Despatch in the Appendix.

by a peculiar marbled appearance of the skin. It generally makes its first appearance on the hands and lower extremities, and occasionally on other parts of the body, in the form of small white dots, which gradually enlarge and extend over the whole surface. It not unfrequently first shows itself on the lower lip, whence it spreads to the face. The hair on the affected parts becomes quite white from the very beginning of the disease. The spots are sometimes of a grey or dusky hue and often remain stationary for some time; but when they once begin to assume an active development, they rapidly extend so as to cover the whole body with large irregular white spots which deface the person very much. This disease appears to answer the description given in the Mosaic writings more than any other with which we are acquainted, the "Berat Lebina" or white leprosy of the Jews, and the "Berat Cecha" or the dusky Berat. Although this disease produces a striking singularity of appearance in its advanced stage, yet it does not cause any inconvenience to the patient. It is seldom attended with ulcers or other physical suffering or disability. *T. A. P.*

Yes.—The symptoms of this disease are that, in various parts of the body, the skin exhibits circular scaly patches, is thickened and elevated; and that, in process of time, the patient suffers from blisters in the fingers and toes, followed by ulceration. In a subsequent stage, excavated ulcerations appear in the soles of the feet, after which, exfoliation of the smaller bones in the diseased parts takes place.

There are several forms of this disease.

I am of opinion that they are varieties of one common morbid state. In one kind, the skin is thickened in different parts of the body, especially the soft parts of the face; the trunk and extremities have a glossy appearance, with fulness of the fingers and toes, in the joints of which the patient experiences a numbness to such an extent, that he often fails to feel a burning sensation on exposure of the diseased parts to the fire.

A *second* kind is distinguished by circular brown-coloured patches of the skin of various dimensions in different parts of the body, but more particularly on the trunk and extremities. They are not so much thickened and elevated as in the former; exfoliation, distortion, and contraction of the fingers and toes supervene.

There is a *third* kind, of which the only symptom is the whitening of the skin, unattended by any ulceration. Sometimes the labia of the mouth and the extremities are alone affected; at other times, nearly the entire body becomes white. This species is more common amongst the Singhalese than the two first kinds . *J.G.*

2. I have seen the disease in children and in adults; but, I believe, it is more frequently observed inm iddle age. Shining patches on the face and ears were almost the first symptoms that excited observation, and claimed treatment, in the cases I have met with. *H.D.*

Where the disease originates from hereditary taint, it manifests itself at all periods from infancy to adolescence, sometimes at middle age, and rarely after that time. When its cause is the result of a neglected and direct syphilitic contamination, it shows itself at all ages between puberty and old age, seldom after advanced life.

In the *Lepra Anæsthesiaca*, the earliest symptom is a partial or general diminution of sensibility in one of the limbs, and a feeling of numbness of the part, which last for months and sometimes years, without any other external manifestation of the disease.

In the *Lepra Tuberculosa*, the first symptom is a livid spot generally on the face or some part of the body; then thickening of the lower part of the lobe of the ear, the surface of which becomes irregular and tuberculated. The alæ nasi next become of a dusky and livid hue and gradually become thick and expanded.

In the *Lepra Squamosa* the first symptom is a glossy state of the skin with greyish discoloration, upon which lines drawn with the nails leave a whitish mark like that drawn on a slate with a slate pencil. The cuticle then becomes rugose and scaly, followed by frequent desquamations.

The *White Leprosy* commences with minute white spots, and the hair on the affected parts of the skin becomes quite white at the very commencement. *T.A.P.*

From youth upwards, at all ages.

The earliest symptom felt by the patient is a numbness in the fingers and toes, attended by a sensation described as that felt on being pricked with needles. *T. G.*

3. In about five or six years the disease attains its height; but in cases associated with scrofula and syphilis much sooner. Occasionally the disease remains stationary for years. After 10 or 12 years it generally proves fatal. *H. D.*

At the middle age the disease usually attains its full development; but a great deal will depend upon the period of life when the disease first shows itself in a given case. Its progress is at first very slow, though certain. It may take from one to five years to develop itself

fully; and from 5 to 10 or 15 years to prove fatal according to the severity, malignancy, and the individual form of the disease.

The anæsthetic form may last a whole lifetime, or to an old age, and the patient be carried off ultimately by some local affection unconnected with it.

The tuberculous form usually proves fatal within 8 or 10 years from its development, though some cases last longer. This form unquestionably proves fatal much sooner than the others here enumerated. *T. A. P.*

From its first appearance, several years elapse before it attains its full development; and it proves fatal in different stages, and at uncertain periods. *T. G.*

4. I have seen leprosy most frequently in the male sex. *H. D.*

More frequently in men than women,—in the proportion, say 1 to 30—in the cases under my observation in practice.

Men are more predisposed to it, on account of their being more subject to direct syphilitic contamination, at least in this country, than women. *T. A. P.*

More frequent in men than in women. Owing to the absence of statistics on the subject, I cannot state the proportion; but judging from the number of patients in the hospital of which I have the charge, I may state that men suffer from this disease in the proportion of 10 to 1. *T. G.*

5. I have observed the largest number of cases among the lower orders of Natives, Singhalese and Moors; a few among the Burgher class, and fewer still among Europeans. *H. D.*

It is unquestionably more prevalent among the black and coloured population than among the white; more frequent among the black or native races than among the coloured or Eurasian communities, and among the African and Arab tribes and their descendants than among the Singhalese or the original natives of the soil. During my experience of 26 years, I have not seen a single *European*, in the strictest sense of that term, suffering from the disease. *T. A. P.*

It is more frequent among the black than among the white and coloured population of this island. *T. G.*

6. Poverty, filth, damp, bad water, and whatever induces general cachexia, are circumstances, I think, that favour the development of leprosy when excited by a specific influence—malarial.

I have seen the disease more frequently on the Western Coast of Ceylon. In Colombo, its chief town, the native portions of which extend to the banks of the Kalany-ganga (river) which are damp, and at certain seasons decidedly malarial. I have not seen many cases on the hills where I am now stationed.

The sanitary condition of the dwellings of the mass of natives is very defective. They are constructed in a manner to foster disease, and consist of Cadjan huts, ill ventilated and greatly deficient in the means of removing the refuse of the inmates.

Natives practise ablution frequently and cannot be said to be filthy in their habits.

Their ordinary diet consists of boiled rice, vegetables cooked into curries, and curries made of inferior kinds of fish. Their occupation is that of the cooly or labourer. Many are artizans and cart-drivers. *H. D.*

It is more frequent in the maritime districts and the fishing coasts.

It is seldom seen in the inland and hilly districts; more in the urban than in the rural provinces. It is prevalent in the low damp and malarious districts, such as the Wanny Chilaw, Putlam and Negombo in the North-western Province; also in Balipitte, Modera, Matura, and Galle on the seacoast of the Southern Province. It is in Galle that elephantiasis (a disease somewhat allied to and frequently confounded with leprosy) specially prevails.

An entirely fish or salt-fish diet, and want of cleanliness, invariably occur among the natives who are subject to the disease. *T. A. P.*

It is most frequent amongst the lower classes. Bad diet and filthy habits seem to favour its development in individuals.

In Ceylon this disease generally appears in towns, and chiefly in Colombo, not from any unfavourableness in their climates, nor from their being "low, damp, or malarial," but, as I believe, principally from bad diet and filthy habits. *T. G.*

7. As leprosy is a blood disease, a cachexia leading to destruction of structure, all those conditions and circumstances which tend to deteriorate the blood must aggravate the disease when it has once shown itself. *H. D.*

Poverty, want of cleanliness, coarse and unwholesome food, syphilis, sexual excesses, and all depressing agencies undoubtedly tend to aggravate and accelerate the disease.

The natives believe that the too frequent use of pork as a diet, as well as certain kinds of fish and fruits, either excite or predispose to, and when once formed, aggravate the disease.

I unhesitatingly believe that the frequent living upon an entirely fish-diet, the fish being of an unwholesome kind, frequently putrid and badly cured, such as the native races often subsist upon, often excites the disease in those who are predisposed to it. *T. A. P.*

The disease is aggravated by want of nourishment, and of attention to cleanliness. *T. G.*

8. Yes; sometimes.

I have known instances where the children of a leprous father became affected with the disease, while the wife escaped it; and of one child only of a family suffering, while the others were free from the disease. *H. D.*

It is often hereditary.

Yes. I have known several such instances. *T. A. P.*

I believe it to be hereditary; but sometimes one member only of a family is affected. *T. G.*

9. I have seen cases where leprosy and syphilis co-existed. One case in a remarkable manner proved a certain connection between the two diseases. A native was frequently admitted into the Civil Hospital at Colombo, while under my charge, for primary syphilis. After a time he came in for psoriasis, which gradually assumed the tubercular form of leprosy. I believe he is now in the Leper Asylum at Hendella, a confirmed leper.

Scrofula and syphilis, I believe, would lead to leprosy under favourable circumstances; but that leprosy is a constitutional form of syphilis, as some writers believe, I do not think. *H. D.*

Leprosy is, in my opinion, often dependent or connected, either directly or remotely, with syphilitic taint. *T. A. P.*

The majority of cases that have come under my observation were connected with syphilis; and this is perhaps the reason why the disease itself is more frequent in the towns than in the country. *T. G.*

10. I do not think the disease contagious. People affected with leprosy in Ceylon frequently mix with other people; and among the Moors it is no disqualification for marriage, unless the disease is in an aggravated form, attended with foul ulceration and fetid discharges.

I have said before that the wife of a leprous person escaped the disease, while her child evidenced symptoms of it. *H. D.*

I have not met with a single case of contagious communication of the disease, although popular belief in this country is strongly in favour of its communicability.

I am inclined to believe that the disease in its advanced and ulcerative stages might be capable of infecting healthy individuals, if they frequently come in contact with the diseased, or live with them in close proximity, and breathe the air of confined apartments saturated with offensive emanations. *T. A. P.*

No.

I have not known a single instance in which a wife, whose husband was a leper, was affected by this disease, whereas numerous instances have come under my observation in which the offspring of a diseased person have been affected. I may also remark that in one instance a wife had the disease whilst her husband was free from it; that all the children of the connection were also affected with the disease, but without communicating it to their wives or husbands; and that the disease has lately appeared in the grandchildren of the first-mentioned couple. *T. G.*

11. Yes. So long as a person affected with Leprosy can walk about, he mixes freely with other people. No legal restriction is imposed or segregation enforced. Paupers affected with the disease, when no longer physically able to follow the profession of beggars (which they adopt as an easy means of earning a livlihood, their unfortunate condition exciting much commiseration and sympathy) seek the protection and comforts of the asylum provided for them by Government. *H. D.*

There is no legislative restriction for the compulsory segregation of lepers in this island; but there is a public asylum to which the poor and unfortunate sufferers voluntarily resort. Those who are well to do remain in their own houses and among their own families, but never freely mix themselves with the rest of the community. *T. A. P.*

In Ceylon, no person affected with leprosy is prevented from communicating freely with the rest of the community. *T. G.*

12. There is a leper asylum at Colombo where the leprous poor are fed and clothed at the Government expense, and to which is attached a medical officer. The institution is under the supervision of the Principal Civil Medical Officer of the colony.

They are not admitted into the general hospitals, except perhaps for a few days until they can be transferred to the Leper Asylum, which is beautifully situated on the banks of a river 4½ miles from Colombo town. The arrangements therein are such as obtain in all other well regulated government hopitals, and the inmates are supplied with everything that might contribute to their health and comfort. Medical attendance is provided, medicines supplied, the diet is liberal and nutritious, and even small luxuries, indulged in by natives, are not denied them. They have plenty of water for purposes of ablution. But they are a discontented, dissatisfied body, morose and indulge in drink and opium or Bang.

A return of the cases admitted, &c., into the Leper Asylum from the early part of the century, is appended to the return. *H. D.*

13. Forty-five was about the average daily number of patients maintained at the Leper Hospital during the year 1862. *T. G.*

14. I do not think the disease is on the increase in Ceylon. *H .D.*

I have reason to believe that the disease has of late years been on the increase among the better classes of the colored population. It is, in my opinion, ascribable to imprudent connections with hereditarily predisposed individuals, and to syphilitic taint on the part of the men. *T. A. P.*

In Ceylon the disease has gradually increased during the past 15 years; and the larger number now in the hospital is, I believe, chiefly from the influx of Malabars into Ceylon. *T. G.*

15. I have not observed a spontaneous cure of leprosy. In one case only, medicinal treatment has arrested the further development of the disease. Pure air and a nutritious diet have good effects in this disease. *H. D.*

Medical treatment in all its forms, hygienic and dietetic, may occasionally arrest or protract the disease in its premonitory and incipient stages. It may prevent the progress of the disease to its more loathsome and severe forms, or render it stationary; but it never effectually cures the disease after it has once devoloped itself. It never undergoes a spontaneous cure. *T. A. P.*

I cannot state any satisfactory result from the treatment of this disease; and, to my knowledge, no case of leprosy has ever undergone spontaneous cure. It is a fact that no person treated in the hospital has ever recovered wholly or partially. *T. G.*

16. In 1861 the estimated population was nearly two millions. I am not aware whether any census was ever taken. The number stated above was ascertained for the purposes of the Road Ordinance. *H. D.*

There is no registration of births and deaths; but a bill is in the course of preparation at the present session of the Legislative Council, for a Registration Act to supply the desideratum long felt in the island, and which has always been an acknowledged source of difficulty in the drawing up of any vital statistics. *T. A. P.*

17. In Colombo the largest number of lepers is to be found. That town, being the capital, contains the largest population; and it is not unusual to transfer leprous poor from other districts to Colombo, in order to afford them the comforts of the only Leper Asylum to be found in the colony.

Of this disease, medical men have always found considerable difficulty in ascertaining the causes, and pathology has not afforded any great assistance.

Six photographic portraits of leprous patients are forwarded. *H. D.*

The townships and districts in which leprosy most prevails are in the North-western Province, Colombo, in the Western Province, Galle, Matura, and Ballepittinge in the Southern Province.

I am unable to give either the number of lepers or the population of the respective towns and districts.

With regard to the prevention, mitigation, or cure of the disease, I will mention a few of the remedies I have been in the habit of employing with more or less benefit.

I consider mercury in the first and early stages essentially necessary, not with a view to salivate, but in minute alterative doses, salivation being as much as possible to be avoided. The mercury is to be cautiously administered in conjunction with iodine.

After a mercurial course, followed by alkaline alteratives nitro-muriatic acid may be administered with advantage. Nitro-muriatic acid baths have been frequently tried by me with benefit. Sponging the skin with lotions made of it may also be usefully employed, where baths may not be convenient. It renders the skin smooth, soft, and of a healthier aspect.

The iodide of lead, and the iodine ointment have been frequently used by me, as topical applications and frictions to the spots and tuberculous enlargements. Mercury has always

been considered by me to be contra-indicated in the advanced and ulcerative stages, although it may even here be cautiously tried in conjunction with sarsaparilla or iodide of potassa and hemlock, where the metal had not been previously used. The patients invariably evince a scorbutic or strumous diathesis in every stage of the disease; hence the caution necessary against the indiscriminate use of mercury. I have seen it aggravate the ulcers.

Tonics, nourishing diet, and attention to general health are also indispensable auxiliaries.

T. A. P.

The exact number of lepers cannot be stated. They are frequently seen in the streets of Colombo, where the disease prevails most.

In the diagnosis of leprosy, the most important, and the most difficult, point to be determined is whether it be of syphilitic origin.

The signs of Lepra tuberculosa in its incipient stage are these:—The soft parts of the face, such as the lobes of the ears, the end of the nose, cheek and chin, are seen somewhat swollen, with a dark shade of the skin, of a livid color, slightly elevated; discolored circular patches occur on the arms, near the elbows, and thighs, differing a little in color from the natural skin; and at times patches are observed on the back or sides of the trunk. These, by slow degrees, increase in dimensions, becoming slightly tuberculated and covered with layers of laminated micaceous scales, which desquamating, disclose underneath, a red glistening surface, on which a thin newly formed scale is visible. As the disease continues to advance slowly, patches of various sizes on the hips, buttocks, elbows, and wrists appear, attended with psoriasis. The scrotum is likewise covered with scales. The fingers and toes are benumbed, attended by swelling and a glossy appearance. Ulceration of the soles of the feet occurs, and eventually the bones of the toes and fingers drop off; and in some instances, the patient's eyesight is affected. Invariably the testicles are considerably enlarged; the glands of the groin are likewise swollen and become painful, and are at times followed by suppuration and ulceration. These appearances last for years, and are seen accompanied with psoriasis occuring simultaneously in the same patient. Ultimately, derangment of the bowels, general emaciation and debility, or anasarcous swelling terminates in death.

In the *Lepra mutilans articulorum* there are no tuberculated, elevated thickening patches of the skin, covered with a dark shade. The appearance of the diseased skin in this form is irregular and of a light brown colour; patches of various dimensions appear on the arms, legs, and trunk, differing from the colour of the natural skin. The fingers and toes are contracted and distorted, so that the nails alone are visible, protruding at the end of some of the toes and fingers. The foot in such cases resemble a mere stump at the end of the leg. In both species of the disease, deep seated irregular thick-edged ulcers appear in the soles of the foot, attended with discharge of matter, affecting the tarsal bones, and sometimes followed by exfoliation. But the general health of the patients is not much affected; they generally live longer than those suffering from the tuberculated disease.

T. G.

RETURN of cases of Leprosy admitted into the the Leper Asylum, Ceylon.

YEAR.	—	Remained.	Admitted.	Total.	Discharged or Absconded.	Died.	Remaining.	YEAR.	—	Remained.	Admitted.	Total.	Discharged or Absconded.	Died.	Remaining.
1802	Lepra tubercular	–	–	–	–	–	–	1827	Lepra tubercular	–	1	1	–	–	1
	Do. of the extremities	–	1	1	–	–	1		Do. of the extremities	4	1	5	–	–	5
	Total	–	1	1	–	–	1		Total	4	2	6	–	–	6
1807	Lepra tubercular	–	–	–	–	–	–	1828	Lepra tubercular	1	2	3	–	–	3
	Do. of the extremities	1	1	2	–	–	2		Do. of the extremities	5	1	6	–	–	6
	Total	1	1	2	–	–	2		Total	6	3	9	–	–	9
1810	Lepra tubercular	–	–	–	–	–	–	1829	Lepra tubercular	3	–	3	–	–	3
	Do. of the extremities	2	1	3	–	–	3		Do. of the extremities	6	1	7	–	–	7
	Total	2	1	3	–	–	3		Total	9	1	10	–	–	10
1824	Lepra tubercular	–	–	–	–	–	–	1830	Lepra tubercular	3	1	4	–	–	4
	Do. of the extremities	3	1	4	–	–	4		Do. of the extremities	7	–	7	–	–	7
	Total	3	1	4	–	–	4		Total	10	1	11	–	–	11

Year.	—	Remained.	Admitted.	Total.	Discharged or Absconded.	Died.	Remaining.
1833	Lepra tubercular - -	4	1	5	–	–	5
	Do. of the extremities -	7	–	7	–	–	7
	Total -	11	1	12	–	–	12
1834	Lepra tubercular - -	5	4	9	–	1	8
	Do. of the extremities -	7	1	8	–	–	8
	Total -	12	5	17	–	1	16
1835	Lepra tubercular - -	8	6	14	–	–	14
	Do. of the extremities -	8	3	11	–	–	11
	Total -	16	9	25	–	–	25
1836	Lepra tubercular - -	14	3	17	–	3	14
	Do. of the extremities -	11	1	12	–	1	11
	Total -	25	4	29	–	4	55
1837	Lepra tubercular - -	14	2	16	–	1	15
	Do. of the extremities -	11	–	11	–	1	10
	Total -	25	2	27	–	2	25
1838	Lepra tubercular - -	15	–	15	–	1	14
	Do. of the extremities -	10	–	10	–	1	9
	Total -	25	–	25	–	2	23
1839	Lepra tubercular - -	14	–	14	–	2	12
	Do. of the extremities -	9	–	9	–	1	8
	Total -	23	–	23	–	3	20
1840	Lepra tubercular - -	12	1	13	–	2	11
	Do. of the extremities -	8	–	8	–	2	6
	Total -	20	1	21	–	4	17
1841	Lepra tubercular - -	11	2	13	–	2	11
	Do. of the extremities -	6	–	6	–	2	4
	Total -	17	2	19	–	4	15
1842	Lepra tubercular - -	11	3	14	–	2	12
	Do. of the extremities -	4	–	4	–	1	3
	Total -	15	3	18	–	3	15
1843	Lepra tubercular - -	12	2	14	–	2	12
	Do. of the extremities -	3	–	3	–	1	2
	Total -	15	2	17	–	3	14
1844	Lepra tubercular - -	12	4	16	–	–	16
	Do. of the extremities -	2	–	2	–	–	2
	Total -	14	4	18	–	–	18
1845	Lepra tubercular - -	16	1	17	–	2	15
	Do. of the extremities -	2	–	2	–	–	2
	Total -	18	1	19	–	2	17
1846	Lepra tubercular - -	15	4	19	–	1	18
	Do. of the extremities -	2	–	2	–	–	2
	Total -	17	4	21	–	1	20
1847	Lepra tubercular - -	18	5	23	–	3	20
	Do. of the extremities -	2	1	3	–	1	2
	Total -	20	6	26	–	4	22
1848	Lepra tubercular - -	20	2	22	–	4	18
	Do. of the extremities -	2	2	4	–	–	4
	Total -	22	4	26	–	4	22
1849	Lepra tubercular - -	18	2	20	1	3	16
	Do. of the extremities -	4	–	4	–	–	4
	Total -	22	2	24	1	3	20
1850	Lepra tubercular - -	16	8	24	1	5	18
	Do. of the extremities -	4	–	4	–	–	4
	Total -	20	8	28	1	5	22
1851	Lepra tubercular - -	18	18	36	9	4	23
	Do. of the extremities -	4	–	4	–	1	3
	Total -	22	18	40	9	5	26
1852	Lepra tubercular - -	23	10	33	4	5	24
	Do. of the extremities -	3	–	3	–	–	3
	Total -	26	10	36	4	5	27
1853	Lepra tubercular - -	24	13	37	8	4	25
	Do. of the extremities -	3	–	3	–	–	3
	Total -	27	13	40	8	4	28
1854	Lepra tubercular - -	25	12	37	6	8	23
	Do. of the extremities -	3	–	3	–	–	3
	Total -	28	12	40	6	8	26
1855	Lepra tubercular - -	23	15	38	5	6	27
	Do. of the extremities -	3	1	4	–	–	4
	Total -	26	16	42	5	6	31
1856	Lepra tubercular - -	27	20	47	8	12	27
	Do. of the extremities -	4	–	4	–	–	4
	Total -	31	20	51	8	12	31
1857	Lepra tubercular - -	27	10	37	7	3	27
	Do. of the extremities -	4	–	4	–	–	4
	Total -	31	10	41	7	3	31
1858	Lepra tubercular - -	27	24	51	18	4	29
	Do. of the extremities -	4	4	8	–	–	8
	Total -	31	28	59	18	4	37
1859	Lepra tubercular - -	29	14	43	8	9	26
	Do. of the extremities -	8	4	12	–	1	11
	Total -	37	18	55	8	10	37
1860	Lepra tubercular - -	26	12	38	3	7	28
	Do. of the extremities -	11	1	12	1	1	10
	Total -	37	13	50	4	8	38
1861	Lepra tubercular - -	28	20	48	11	5	32
	Do. of the extremities -	10	4	14	2	2	10
	Total -	38	24	62	13	7	42
1862	Lepra tubercular - -	32	19	51	4	9	38
	Do. of the extremities -	10	2	12	1	1	10
	Total -	42	21	63	5	10	48
1802–1862	Lepra tubercular - -	–	241	–	93	110	38
	Do. of the extremities -	–	31	–	4	17	10
	Total -	–	272	–	97	127	48

Those discharged and absconded during the above periods were suffering from the disease, and not cured.

1. Of those colonies in which I have served on the medical staff of the army, the only ones in which I have witnessed the disease have been Ceylon, Barbados, and Trinidad.

In Barbados I saw it only in the form of elephas or Barbados-leg, which, though it may be allied, does not strictly come under the head of leprosy. Whilst I was in that island, three years and a half, I saw very few cases of it; this was from 1845 to 1848. I had no opportunity of studying it there. There, at that time, there was no hospital for the reception of such cases. The disease was chiefly confined to one or to both lower extremities, and was entirely chronic. It did not seem to affect materially the general health; it advanced at intervals, with febrile exacerbations.

In Trinidad, which I visited twice in the performance of my duties as Inspector General of Army Hospitals, my experience of the disease was very limited indeed. There is a leper hospital there, which I saw and examined in company with the then governor, Lord Harris. At the time, March 30th, 1847, it contained 47 patients under the care of a physician, an apothecary, and a surveyor. The majority of the cases were of the tubercular kind—the elephantiasis of the Greek writers; some of them laboured under "the joint-fever," the name there applied to the cases in which there was a loss of fingers or toes, or of both, from ulceration, with febrile paroxysms. There were amongst the inmates two or three cases of elephas or "Barbados-leg."

In Ceylon I witnessed the disease when in that island in 1816. Then, for about four months I had the superintendence of the leper hospital situated on the bank of the Kalany Gange, a river about three miles from Columbo. The number of cases collected there was 32, of which 17 were males, 15 females; of each of these cases I made notes, to which, having been preserved, I now refer. Owing to the short time of my superintendence, these notes are less extended than I could wish, and, owing to the same circumstance, I had not an opportunity to judge with any confidence of the medical treatment employed. Some of the cases were good examples of elephantiasis, i.e., of the tubercular disease; others were striking instances of the ulcerative disease, affecting chiefly the extremities, occasioning often their deformity from contraction and a loss often of the phalanges; a few bore the character of elephas. In the larger number of instances, there was a more or less complication of lesions—of tubercles, ulceration, and swelling—suggestive of a common taint, or *causa mali*.

2. The ages of the cases in the Ceylon hospital varied from 7 to 60 years. The disease began at various ages, from early childhood to 40 years.
A febrile attack occurred commonly at first, following some accidental lesion or disease, such as small pox, measles, psora.

3. Its development in these hospital cases was very various, commonly slow. The only fatal case I saw died at the age of 43.

4. As already stated. The female cases in the Ceylon hospital were to the male as 15 to 17.

5. The cases in the Ceylon hospital were of many different races, chiefly, as might be expected, native Singalese; besides, there were some Malays, some natives of the Malabar coasts; two or three of Dutch extraction; and one of French.

6. All the cases of which I had any knowledge in Ceylon, in Trinidad, Barbados, were of the lower class, with two exceptions. In the Trinidad hospital there was one gentleman reported, whom I did not see. In Barbados I knew a gentleman planter who laboured under elephas. His health was good, except during the febrile exacerbation to which from time to time he was subject. He was very robust.

7. I cannot say.

8. The disease seems occasionally to be hereditary. The medical officer of the Trinidad Hospital told me of the following instance. A man, after having had two children by his wife, these healthy, became leprous, and ultimately died of the disease. The children, born after the setting in of the disease, also became leprous. In Ceylon there were three instances of the offspring of diseased parents having the same disease; in one case the mother, in two the father was affected; of the former, the other children remained exempt from the malady.

9. All I can venture to say is, that from my limited experience I think there may be, as already hinted at, some connexion between elephantiasis, elephas, and the ulcerative disease, and for the reason already assigned.

10. I have no reason to consider it contagious or transmissible by sexual intercourse. Such (that it is not) is the prevailing opinion in Ceylon and Trinidad, according to the information I obtained.

11. I am not aware of any restrictions.

12. As already stated, in Ceylon and Trinidad there is an hospital special for the reception of lepers.

Owing to the lapse of time since I saw these hospitals, I do not describe them.

13. The patients in the Trinidad and Ceylon hospital, whose numbers have been given, were maintained at the expense of these colonies.

14. I am unable to reply.

15. I never heard of a case of spontaneous cure. The disease, I believe, may be mitigated by treatment, and especially through attention to the general health, like other cutaneous eruptions often the accompaniments of the tubercular malady. In some cases arsenic appears to be useful. The physician of the Trinidad hospital used largely hydriodate of potash and chloride of barium, 30 grains sometimes of the latter in the day, and 60 grains of the former. He thought he witnessed more good effects from them than from any other medicine.

16. These questions *now* I cannot well answer.

17. As to post-mortem examinations, the only one I made was of a Singalese, ætat 43, who had been labouring under the disease 14 years. The subjoined account of the autopsy will be found in my work "On the Interior of Ceylon," published in 1821. A mistake has been made there as to his age. In my notes, as given above, it is stated to be 43, with the remark that he looked as if 60.

"In a very few instances I have seen the two kinds of elephantiasis, viz., leprosy of the joints, and the tuberculated species combined. I may mention one case, in particular, of this combination, as I had an opportunity of examining the diseased appearances. The individual was a Singalese, 60 years old, and the disease had been increasing on him 14 years when I first saw him, September 1816. . . . On the 26th November he was moribund. The surface was fissured and excoriated in a hundred different places. The left foot was in a state of gangrene, and he died the next day. The heart was rather small and flaccid, and its parietes were thin, a thick layer of fat covering its outward surface. The liver was too large, pale, and marked with white spots. The gall-bladder was distended with greenish bile. Much fat was accumulated about the mesentery. A few red spots appeared on the mucous membrane of the intestine. A section of the slightly enlarged glands of the groin exhibited no decidedly-marked diseased structure. The tuberculated parts of the skin were thickened, and each tubercle seemed to be produced chiefly by a thickening of the cutis. The integuments of the lower extremities, and especially of the knees, legs, and feet, were generally thickened. In most places the true skin was not less than a quarter of an inch thick. Under the thickened layer a layer of fat presented itself, which was also diffused through the cellular membrane, between the muscles. Most of the muscles of the leg seemed to be converted into adipose matter, so that very little muscular fibre remained. At both knee-joints, the capsular membranes and bursæ were distended with an oily or fatty matter, which was yellow, semi-fluid, and granular, and in appearance very like honey. No serous effusion was observed in any part of the body."

John Davy, M.D., F.R.S.,
Inspector-General of Army Hospitals.

Lesketh How, Ambleside,
November 21st, 1862.

No. 38.

MADRAS PRESIDENCY.

PUBLIC LETTER from FORT ST. GEORGE, dated 11th October, No. 35. of 1864.

Your Despatch of the 8th December 1862, No. 42, requesting to be furnished with replies to the interrogatories by the Royal College of Physicians, respecting the character and progress of Leprosy in this Presidency, and also with any additional information obtainable here relative to the treatment of the disease, was, on its receipt, at once placed in the hands of the Principal Inspector General, Medical Department, with instructions to take necessary steps for procuring, as early as practicable, and submitting, with his own views on the subject, the information called for.

2. This Mr. Shaw, the Officiating Principal Inspector General, has now done, and we beg to forward the several reports received from him, with a copy of his letter in review of those reports, which as there has been considerable delay in furnishing them, we have not deemed it advisable to detain for the purpose of being printed.

Proceedings, 7th October 1864, Nos. 29 and 30.

No. 29. Read the following letter from J. Shaw, Esq., Officiating Principal Inspector General, Medical Department, Fort Saint George, to the Honourable A. J. Arbuthnot, Chief Secretary to Government, Public Department, Fort Saint George, dated 16th September 1864, No. 306.

I have the honour to transmit to Government, for communication to the Secretary of State for India, all the Reports which have been received up to this date on the subject of leprosy.

2. In this Presidency there are three Lazarettos, one at Madras, one at Cochin, and one at Bangalore. The Report from the Officer in charge of the Bangalore Institution has been sent to the Government of India.

3. In consequence of the want of statistics, the Reporters are unable to reply to that important interrogatory, where it is asked to give the number of lepers, the population in the townships and districts in which it most prevails.

4. In the remarks which follow I have attempted to analyse, as far as the subject would admit, the various Reports, and to render them as connected as possible I have adhered to the order in which the interrogatories by the Royal College of Physicians have been drawn up.

5. From the nature of these inquiries I have been obliged to make my remarks more extended than I anticipated, and I fear in some parts to repeat myself.

6. I beg to call attention to the very able Reports by Drs. Porteous, Van Someren, and Day.

I.—Leprosy (the Lepra Arabum, elephantiasis Græcorum of deomatologists) is a disease of frequent occurrence throughout the Madras Presidency, more especially in all the large towns on the Eastern and Western Coasts, but more especially in the latter. At stations somewhat inland, though known, it cannot be said to prevail. It is not often seen at Bellary, (Dr. Dorward); it is known but not often seen at Cuddapah, (Dr. Doyle); does not prevail at Coimbatore, (Dr. Ogg); nor Guntoor, (Dr. Crowdace); but few cases occur at Rajahmundry, (Dr. Macdonald). It is not often met with at Chittoor, (Dr. DeFabeck); nor at Tinnevelly, (Dr. Gillies); while the Medical Officers serving at Secunderabad are unable to afford any information on the subject.

In Burmah leprosy does not appear to be frequently met with; a few cases only are reported from Moulmein; at Rangoon, Dr. Ford, many years Garrison Surgeon at Rangoon, has met with no case of leprosy there, and in the district of Henzadah but eight cases have been met with. The Medical Officers serving in Burmah give it as their opinion that it is not common among the Burmese.

Two distinct forms of the disease are recognized throughout the Madras Presidency by those who have had the most extended opportunities of studying it. These two forms are not unfrequently combined in the same individual, constituting the compound or mixed variety, (Day); while some of the Reporters, Furnell, Rean, and Shortt, describe a third form under the name of Lepra lencopathica vel albida, (Vullay koostum, Tamil); but this appears to be a species of albinoisin, commencing insidiously with spots on the extremities, trunk, or face, which enlarge without structural change, and without much functional derangement coalesce, occasionally increasing to such an extent as completely to assimilate the dark skin to that of a fair European. This condition contrasts with true albinoisin(?), the

hair of the head being unchanged, and the irides retaining their colouring matter (Furnell). We often find this state associated with burning of the eyes, hands, and feet; it is also occasionally combined with leprosy, but when uncomplicated it leads to no impairment of health, neither does it induce the ulcerations and hideous mutilations which accompany leprosy. Circumscribed white patches on the extremities, on the palms of the hand, face, and feet are by no means uncommon among the Natives of Southern India. These small spots often remain stationary for years, whilst at other times they spread and involve the whole of the skin; but this discharge of the cutaneous pigment in none of its essentials resembles leprosy, nor does the black discoloration of the skin, which is also occasionally met with.

Lepra anæsthetica, Poonnah kooshta themir coostarogum (Tamil).

The anæsthetic form of the disease is the most common in Southern India; we find that in 1864 out of 75 cases at the leper hospital, Madras, 45 were of the anæsthetic form (Dr. Van Someren's pamphlet). In Cochin Dr. Day does not state the proportion, but he says the anæsthetic form is the most common.

Anæsthesia of an extremity, or of a portion of an extremity, or of localized spots on the trunk, attended by slight loss of colour in the anæsthetic part is usually the first indication of the disease; it occurs without any constitutional symptom, and so insidiously that its existence is often unsuspected; the spots are usually small, though of varying size, irregular or round in outline, and appear as if the colour had been partially discharged from them; they are usually dry, and present a peculiar glistening appearance, combined at times with wrinkling, or bullæ form over the extremities of the fingers, the toes, or over the back of one or more of the phalangeal joints; these latter soon lose their flexibility, the finger becomes swollen, the vesicle bursts and leaves a round glazed and intractable ulcer, which either heals slowly, to be followed by others of a similar character at longer or shorter intervals of time, or probably it destroys all the soft textures and exposes dead and carious bone. While these ulcerations are in progress, changes of a destructive nature are also occurring in the bones and articulations; the latter become stiff and peculiarly distorted, a process of interstitial absorption is going on in the phalanges, so that in a short time the last bone of the finger is entirely removed, and the altered nail and pulp is to be seen fore-shortened on the second phalanx, or if that has also undergone absorption, the soft parts of the two terminal phalanges may be seen on the first phalanx. Although destruction of the bones of the hand by interstitial absorption is perhaps the most common, yet it is often effected by caries and necrosis.

When the destruction of bone is considerable, the distortion of the hand is often very peculiar; the fingers become so much distorted and stiffened as more to resemble the talons of a bird than the human hand, the first phalanges of the fingers are bent backwards, while the second and last are curved into a claw-like shape, in which position they become stiffened, and the whole hand becomes withered, wasted, and insensible. In like manner the toes are absorbed and fore-shortened, so that a toeless foot remains accompanied by the destruction of one or more of the metacarpal bones. Ulcers often form in the soles, and corrode deeply towards the metacarpal or carpal bones; the edges of these ulcers are hard, callous, and insensible, and appear as if they were cut out by a punch, or some such instrument; these ulcers sooner or later communicate with dead or dying bone. Owing to the hands and feet being generally anæsthetic, the commencement of the destructive processes just described may be mechanically caused by fire, or abrasions; but irrespective of these, vesicles often form on the insensible surfaces.

The anæsthesia usually in a few months extends up to the knees and elbows, but often much further; cases occurring where it is so complete that in the tongue alone sensibility remained. (*Day*).

Mutilation seldom extends beyond the fingers and toes. Epistaxis occasionally occurs, but more frequently there is a fœtid discharge from one or both nostrils followed by destruction of the bones of the nose and palate, from which the voice becomes altered and hearing affected. The cornea often becomes hazy and ulcerated, the lower lid everted, the conjunctiva thickened, and consequent loss of vision. In this condition, more or less maimed and helpless, the leper drags out a weary existence protracted over decades of years, till at last he succumbs under an intercurrent attack of diarrhœa, dysentery, dropsy, or bronchitis.

Lepra Tuberculata, Koostum coostarogum (Tamil), appears insidiously without any or but ill-defined constitutional symptoms; burning and itching are complained of in the face and extremities, and the skin is often dry, bronze, or fawn coloured; raised patches of various shapes and dimensions soon appear on the face and extremities; sometimes they present a glazed and shining appearance, or the reverse. These elevated patches are often hypersensitive (Day, Van Someren) in the first instance, but gradually become insensible and continue so. In some the *distinct* tubercles are comparatively few, but the face is covered

with livid, smooth, shining blotches; the nose, ears, brows and chin are the parts chiefly affected; in severe cases, the face becomes one nodulated mass, producing a most revolting appearance; the moustaches, whiskers, the hair of the eye-brows and of the eye-lids fall off, the nose becomes flattened, its alæ enlarged by tubercles, and the lobes of the ears pendulous. This arrangement of the tubercles, the staring effected, produced by the eyes in consequence of the want of lashes, and the sallow complexion has led to the affix *leonine* being applied to this phase of the disease. The tongue and mucous membranes covering the hard palate become studded with tubercles, discharges of pus and blood from the nares are frequent, the voice becomes weak and altered, sometimes entirely lost, and the patient blear-eyed.

The skin of the extremities is usually dry, shining, and thin, often fissured on the soles of the feet and on the knuckles, the ends of the fingers thick and clubbed, the nails horny and raised by a deposit under them. There is not the same amount of distortion in the hands and feet that occurs in the anæsthetic form of the disease; indeed, it is not uncommon to see perfect hands in the advanced stages of the tubercular form of the disease. Even when stiffening of the joints occur, there is not the same tendency to their flexion, nor is interstitial absorption of the phalanges so common; their destruction is generally by necrosis, the tubercles breaking down and forming foul and painful circular sores on the soles of the feet, heels, and palms, causing the destruction of the smaller joints. In this, the tubercular form, the loss of sensation is not so complete, but the patient is much more disfigured and loath-some in appearance than in the anæsthetic, the suffering is greater, and the disease runs a more rapid course terminating in chronic diarrhœa or dropsy.

The anæsthetic and tubercular forms or varieties are often combined in the same individual, constituting a mixed variety. In neither do any definite or well marked constitutional symptoms precede the local development of the disease, but both are often complicated with other skin diseases, especially scabies, psoriasis, chronic eczema, and venereal eruptions.

II. Dr. Day has seen leprosy in an infant in arms whose mother was a leper, and Dr. Porteous has treated a child of four years old; but out of 58 patients in the Leper Hospital, Madras, in February 1863, in two only had the disease appeared before the 10th year of life. Dr. Van Someren gives a table showing that in 58 patients, 15 cases of the anæsthetic and 16 of the tubercular form, or in 31 out of 58 cases (53 per cent.), the disease appeared between the 20th and 30th year of life.

III. The full development of the disease does not appear connected with any particular period of life, but depends rather on the period of its own commencement, irrespective of the age of the subject; thus, beginning in a child the maturity of the disease may be reached long before the maturity of the patient, (Van Someren). Dr. Porteous again considers that the disease does not obtain its full development till the subject of it is about 25 years of age. Dr. Day, not till between the 30th and 50th years, while Dr. Rean sets it down at 40th year of life. Dr. Shortt says, the full development of this disease seems to depend on the mode of life, habits, and living as well as the peculiar idiosyncrasy of the patients, but its intensity increases with age.

The following table shows the number, among 58 patients in the leper Hospital, Madras, in whom the disease reached maturity within the quinquennial periods mentioned:—

Under 5 years.	5 to 10.	10 to 15.	15 to 20.	Total.
33	20	3	2	58

Van Someren.

Dr. Porteous gives the average age of 48 lepers under his charge at 38. Of 50 cases under treatment at Cochin, 10 per cent. were between 60 and 70, and 2 per cent. of them were over 70 years of age. Dr. Shortt says, it is seldom fatal before 40 years of age. Dr. Rean, that death in lepers seems to be generally caused by want, and the unfavourable influences to which they are exposed; when well taken care of, they are capable of living to a considerable age. No death is recorded in the Leper Hospital, Madras, since 1855 under 20 years of age; and the following table shows the numbers and ages under each quin-quennial period for the total deaths, viz., 183:—

20 to 25.	25 to 30.	30 to 35.	35 to 40.	40 to 45.	45 to 50.	50 to 55.	55 to 60.	Above 60.	Total.
27	22	20	34	30	18	16	4	12	183

Van Someren.

IV. The disease is more frequent in males than in females in the Lazaretto at Madras, 5·36 males were found for one female, and at Cochin 2·33 for one female.

V. The disease undoubtedly attacks all races, European, East Indians, Musselmans, and Hindoos of all denominations, Brahmins as well as Pariahs.

It is, however, rare among Europeans. East Indians suffer considerably, though not so severely as Natives, especially the lower orders.

VI. The disease is unquestionably most rife among the poorer and lower orders residing in the seacoast towns, which are low and damp, though it is by no means unknown in inland, rural, and even in hilly districts. A table by Dr. Van Someren in his report, showing where the disease first betrayed itself among the present inmates of the Madras Leper Hospital, shows that in 41 out of 58 cases, the disease first disclosed itself in the district of Madras, and of these 37 were from the town of Madras itself. All the Reporters are unanimous in pronouncing the dwellings of those afflicted with leprosy as generally extremely filthy and defective in all sanitary requirements. In Cochin, the disease is said by Mr. Day to be most prevalent among the soil slave caste, who live in wretched hovels, and may be said to be more like cattle than human beings in the way they are fed and treated; filthy in the extreme, devoid of morality and almost of common decency. Dr. Shortt says, in the Chingleput District the largest number of lepers come from the populous town of Conjeeveram, 40 miles inland, which has a flat, dry, and sandy soil, but abounding in filth, animal and vegetable, in every stage of putrescence.

On the Western Coast of the Peninsula, leprosy prevails to a great extent. By some writers this is attributed to the dampness of the climate and to the diet of the better classes, consisting almost entirely of fish and rice, whilst the poorer live upon the flesh of enormous sharks and other coarse fish, frequently in a state of putrescence; yet in Burmah the disease is rare compared with the Western Coast of India, although the climates are in many respects similar as regards humidity and rain, and the inhabitants subsist almost entirely on putrid fish and rice with condiments. Were these causes the fons et origo mali, leprosy would be as common among the Burmese as in the inhabitants of the Western Coast of India.

The occupations of the affected in the Lazaretto at Madras and Cochin, are as follow:—

Labourers or cultivators	37	Sailor	1
Soil slaves	5	Weaver	1
Boatmen and fishermen	7	Coachman	1
Toddy-drawers	5	Chuckler	1
Artisans	8	Draughtsman	1
Petty shop-keepers	5	Native soldiers	5
Sweepers	2	Peon	1
Waterwomen	2	Schoolmaster	1
Unemployed (beggars)	10		
Cooks	12	Total	106
Cooper	1		

VII. Poverty, low living, hardship, filthy habits, and debauchery aggravate and accelerate the disease when once it has manifested itself.

VIII. Dr. Furnell says, the people of Malabar believe leprosy to be hereditary. Dr. Day states that out of 46 cases hereditary transmission could only be traced in 19, was entirely absent in 27, and in 6 had evidently passed over one generation to re-appear in the succeeding. Dr. Shortt mentions 6 cases of hereditary transmission, 2 of these being brothers; of 31 lepers whose cases were collected by Dr. Porteous, the mothers of but 2 were affected, and in no case the father; therefore in 2 only out of 31 was it inherited. These 31 lepers had 111 brothers and sisters who were not leprous; 13 of the 31 lepers were married and had 46 children among them, in none of whom had the disease betrayed itself. None of the parents of these 13 were affected; the disease therefore was not in these cases communicated by diseased parents, nor did these parents inherit it from theirs.

Dr. Van Someren in his experience adduces but one case of inheritance in which a mother had two leprous children.

In addition to the 29 cases just quoted, as tabulated by Dr. Porteous, Dr Shortt knew of 26 cases, and Dr. Day many instances where one member only of the family was affected. The conclusion is, therefore, that "inheritance does not constitute a strong predisposition to the disease."

In addition to the above evidence, I may state that in my private practice I have met with tubercular leprosy in three European males, all of whom from their social position had every care and luxury that money could provide.

I fancy that one of these cases is alluded to by Dr. Porteous in his report. One occurred 12 years ago in the son of an officer; the symptoms of leprosy first appeared in numerous dark spots on the face and body when upon the voyage to England; he was then about nine years of age. The dark spots soon assumed the form of tubercles; upon his return to India two years afterwards many of the tubercles, especially those in the inguinal and axillary regions had ulcerated and formed deep, foul, and painful sores; the boy had a slight attack of diarrhœa under which he sank within three years from the first appearance of the disease. His parents were both Europeans; neither they nor any members of their family have shown the slightest taint.

The second case was in a mercantile man, married, of intemperate habits; when about the age of 43, dark spots appeared over the face and body and soon became tubercles, several of which ulcerated, and within 18 months of their first appearance he was carried off by hæmorrhage from the bowels.

The third instance of leprosy in a European that I have met with was in a married officer. I was not his regular medical attendant, but I saw him very frequently, and occasionally professionally. I understand the disease commenced when he was about 45 years of age; two years afterwards the face was one nodulated mass, the hair from the brows and eye-lids had fallen off, the tubercles on his feet and legs, which were numerous, soon ulcerated, leaving irritable sores with most offensive discharges. Seven years after the commencement of the disease he returned to Europe in the winter, and in a few days after his arrival died, it was said from cold, not being able by any artificial means to keep himself warm. This gentleman had a large family and many near relatives, all of whom as well as his parents were and are perfectly healthy.

IX. Syphilis is extremely common among the Natives of India, and all the Reporters who have come in contact with leprosy mention syphilis as no uncommon complication. Among the 58 patients in the Leper Hospital, Madras, 11 had syphilis previous to the accession of the leprosy; but in none of the Reports is any connection traced between leprosy and syphilis.

Mr. Day in his report, and also in a paper in the "Madras Quarterly Journal of Medical Science," endeavours to establish that elephantiasis Arabum is allied closely to elephantiasis Græcorum or leprosy, from the circumstance that nearly all the lepers under his charge at Cochin showed symptoms of elephantiasis; he asserts that elephantiasis is not a local disease but a constitutional one, because the two exist in the same quarter of the globe, and that the same species of fever, elephantoid, occurs in elephantiasis and in leprosy. None of the other Reporters, though some have had an equally large number of lepers to deal with, have remarked a similar tendency to the development of elephantiasis among lepers. It should be stated that elephantiasis Arabum exists to such an extent in Cochin as to have acquired for its designation the name of the "Cochin leg," but this disease is sufficiently common in many other parts of India; the Cochin leg and other forms of elephantiasis may be seen daily in Madras without a trace of leprosy.

X.—Leprosy does not appear to be contagious. In 1853 Mr. Porteous gave a list of the servants who were employed at the Madras Leper Hospital, with the dates of their service, by which it appeared there were 9 servants in the institution who had been employed for periods varying between 2 and 14 years, and all were unaffected with the disease; two of the shortest residents had succeeded relatives who had died in the institution from cholera and dysentery, both after 10 years' service; since then one of the cooks, and one of the peons have shown signs of the disease, but both these servants come but little in contact with the sick, while the ward coolies and sweepers who have most to do with them in dressing their sores, and removing their excreta, have enjoyed a complete immunity from the disease. Under these qualifying circumstances, says Dr. Van Someren, it would appear more correct to regard the malady in the cook and peon as originating in other causes. The same observation is made by Dr. Rean at Chicacole, where lepers are occasionally admitted as ordinary patients ailing from other diseases. A lad was detained in the Cochin Lazaretto upwards of a year who had not got the disease; he was released by Dr. Day and continued unaffected at the date of his report some years after.

XI.—The Natives believe that the disease is transmitted by sexual intercourse. Dr. Furnell quotes from his Native assistants' experience the case of a postmaster who became leprous two or three years after his wife, which was attributed to their intercourse, though Dr. Furnell himself does not believe in this mode of its transmission. Dr. Shortt says that some few instances of lepers living with their wives have come under his knowledge, as well as leper wives living with clean husbands, and in no instance has he seen either party affected. In the village of Palliport, says Dr. Day, a leper took a wife from an unaffected family, she has the disease now, and so have all her children; but another woman lived with her husband,

who is a leper, above 30 years, and remained unaffected. Although I have known instances, says Dr. Van Someren, of either husband or wife being affected, I do not know an instance in which either communicated the disease to the other. Dr. Gillies says, I have known two European males who were married and had issue, and living to old age without communicating the disease to their wives.

XII.—There are no laws in this Presidency which prevent persons affected with leprosy communicating with the rest of the community, and no segregation takes place; but on the whole they are avoided by the community.

As already stated there are three Lazarettos in this Presidency; one at Madras, one at Cochin, and one at Bangalore. As a rule, lepers are not admitted into the General or Civil Hospitals throughout the country, but a leper affected with any intercurrent disease would not be denied admittance.

The Madras Leper Hospital is fully described by Dr. Van Someren at page 6 of his Essay, and that of Cochin by Dr. Day in his answer to Query 12.

XIII.—All these institutions have suitable establishments of medical attendance, ward attendants, washermen, sweepers, coolies, &c., and the same dietary is allowed as in European and Native Hospitals respectively. All are admitted who seek relief, and such as are picked up by the police as vagrants and beggars are brought to the Leper Hospital. They are encouraged in Madras to employ themselves in gardening, which the grounds admit of; many do so and cultivate fruit trees and vegetables, the profits of which are made over to the patients themselves; but many get tired of the monotony of hospital life and seek their discharge after varying periods. There is no law by which they can be detained in the house, but they not unfrequently return.

About 60 lepers in Madras, and between 30 or 40 at Cochin, and about 5 or 6 at Chingleput, are generally under treatment.

XIV.—The disease appears to be stationary in the Madras Presidency.

Dr. Furnell believes he has seen good results follow the Tanjore or arsenical pill, but he has seen no cases of spontaneous cure; neither has Dr. Shortt, nor does he believe a thorough cure is ever effected, the disease only terminating with the life of the patient. Of the 118 cases that came under his treatment during the last five years, he says none were cured, though all benefited more or less in general health, or in the healing of their ulcers.

XV.—Dr. Day says in anæsthetic leprosy the root of the madar plant (asclepias gegantea) sometimes does good, and in the tubercular preparations of bichloride of mercury and arsenic; but, he continues, I have seen no well developed case cured either spontaneously or due to the effects of medicine; the disease often spontaneously ceases for a period, but returns again at some future date, unless some other disease should carry off the patient. Dr. Rean has often found sores heal with the comp. unguentum iodinii, and he adds, I believe that when a certain amount of tissue has been destroyed, there is a tendency to a spontaneous cure.

In the Leper Hospital, Madras, a variety of drugs reported to be efficacious in leprosy have been tried without any benefit.

In 1841, Mr Lawder (quoted by Dr. Van Someren) wrote thus—"In the treatment of "leprosy I have tried almost all the remedies recommended by the different medical authors, "I am sorry to say without any hope of cure, and from what I have seen of the disease "during the last 16 years, I have no doubt of its being incurable. At the same time I "believe many of its most urgent symptoms are capable of being mitigated by medical "treatment, and the lives of the unfortunate sufferers in a great measure rendered comfortable "in comparison of what they otherwise would be."

After mentioning the intestinal and cutaneous irritation caused by the use of the Asiatic pill, Surgeon Davidson states, also quoted by Dr. Van Someren, "when this irritation subsided, "however, the patient appeared to be a good deal better, skin much less unhealthy looking "than before these medicines were given; but the improvement did not seem to be very "considerable, and irritating the bowels and skin seems very objectionable in a disease, in "which there is generally a tendency to ulcerative process in both the skin and the bowels. "There appears to be a general fading of the system."

Surgeon Evan's Report for 1847 contains this paragraph:—"The lepers for the most "part have continued in comparatively good general health. I regret, I cannot notify "any encouraging improvement in the leprous disease itself from the medicines employed. "In one or two cases, however, lately admitted, hydrodate of potass seems to have produced "at least temporary benefit."

Assistant Surgeon Paul says—"In 1855, the therapeutic virtues of the hydrocotyle and "chowl moogree received a fair trial at the hands of Dr. Porteous, and they were found "to produce no amelioration whatever of the disease." This year no specific has been exhibited, and the patients have had little medicine beyond an occasional purgative, or such

medicines as were called for in intercurrent inflammatory attacks. In a few, however, I should state Donovan's solution in small doses was given for long periods, "but I cannot say with "marked or material benefit. The chief benefits derived by the inmates of the institution "are those arising from cleanliness, which, with good and regular food, has a marked "influence on the disease. Miserable objects in every degree of loathsome wretchedness "are admitted, covered with, or rather incrusted, in filth; indeed, many had not washed for "years, under the belief that ablution aggravates the disease; but after the plentiful use of "soap and cold water daily for a time, their sores heal, their skin get more healthy, and "they even gain flesh. Although their present condition is thus rendered more bearable, "the progress of the disease is in no way arrested."

Upon these opinions Dr. Van Someren remarks:—"The testimony of all these medical "officers not only settles the inutility of drugs from which great benefit was expected, but it "shows that considerable improvement in the general physical condition of the patients may "be secured by placing them in favourable hygienic conditions. Good food, pure air, a "rigid attention to cleanliness, and a certain amount of bodily exercise, certainly contribute "more than anything else to ameliorate the health of lepers; and if the Materia Medica be "indented on, it should be for such medicines as are calculated to improve the quality of "of the blood. Chalybeates, the preparations of iodine and iron, and cod-liver oil, promise "the most benefit as internal remedies; while anointing the dry and fissured skin with "emollient oils, the use of sulphur vapour baths, and the application of calamine cerate, "astringent lotions, water dressing, or calaplasms to sores, according to the circumstances "of each case, seem the external measures especially indicated. Reference has been made "to the intercurrent attacks of other diseases, such as dysentery, diarrhœa, albuminuria, and "pulmonary affections, to which these poor invalids are more or less liable, and which "demand other and appropriate treatment; but, looking to the peculiar abnormal condition "of these patients, it is scarcely necessary to insist on the cautions and sparing employment "of such an atonic and depressing drug as mercury, and one also which operates so "powerfully in reducing the proportion of red corpuscles in the blood."

XVI. I have shown in the commencement of this Report the impossibility of giving a satisfactory reply to this interrogation.

XVII. There are two excellent papers by Drs. Day and Van Someron on Leprosy published in the 1st and 3rd Volumes of the "Madras Quarterly Journal of Medical Science;" a copy of the latter of these papers is appended,

Few satisfactory *post mortems* of lepers have been made; the loathsomeness of the disease, the heat of this climate, and the prejudices of the Natives, all conspire to prevent these being frequently instituted.

Lists of Reports and Letters on the subject of Leprosy.

1. Bellary.—By Deputy Inspector General of Hospitals, J. Dorward.
2. Burmah.—Bassein.—By Assistant Surgeon, A. C. Nesbit.
3. „ Henzada.—By Native Doctor Abdool Hakeem.
4. „ Moulmein.—By Assistant Surgeon, G. Marr, M.D.
5. „ „ „ H. Griesbach, M.D.
6. „ Prome. „ F. Barlow, M.D.
7. „ Rangoon.—Staff Surgeon-Major, C. G. E. Ford, F.R.C.S.
8. „ „ Surgeon-Major T. Best.
9. „ „ Deputy Inspector General of Hospitals, E. G. Balfour.
10. „ „ Assistant Surgeon, J Wilkins, M.D.
11. „ „ „ A. Cowie.
12. „ Shouay Gheen. „ D. Kearney.
13. „ Thyetmyoo.—Surgeon-Major, R. R. Sutleffe.
14. „ „ Assistant Surgeon, H. Griffith.
15. „ „ „ A. O. McTavish.
16. „ Tonghoo. „ B. Suffrein.
17. „ „ „ R. O. Hayden.
18. Chicacole.—By Assistant Surgeon, W. H. Rean, M.D.
19. Chingleput. „ J. Shortt, M.D.
20. Chittoor. „ W. F. De Fabeck.

21. Cocanada.—By Assistant Surgeon, E. E. Lloyd.
22. Cochin. „ F. Day.
23. Coimbatore. „ G. S. W. Ogg, M.D.
24. Cuddapah. „ J. T. J- Doyle.
25. Guntoor. „ T. Croudace.
26. Madras.— { Surgeon, W. J. Van Someren, M.D. / Deputy Inspector General of Hospitals, J. M'Kenna, M.D. / Surgeon-Major, H. W. Porteous,
27. Mangalore.—Assistant Surgeon, S. Rule, M.D.
28. Palamoottah. „ J. D. Gillies, M.B.
29. Rajahmundry. „ J. M'Donald.
30. Salem.—Surgeon,, H. R. D. Marrett.
31. Secunderabad.—Deputy Inspector General of Hospitals, J. F. Maule.
32. Tanjore.—Assistant Surgeon, J. Ross, M.B.
33. Tellicherry. „ M. C. Furnell.
34. Vizagapatam.— { „ C. A. Andrews. / Deputy Inspector General of Hospitals, T. Cooper.

(Signed) J. Shaw,
Offig. Prin. Inspr. Genl., Medl. Dept.

No. 30. Order thereon, 7th October 1864, No. 1136.

A copy of this letter, together with the Reports therein alluded to, will be forwarded to the Secretary of State for India, in reference to his Despatch of the 8th December 1862, No. 42.

(True Extract.)

(Signed) J. D. Sim,
Secretary to the Government.

---

1. In the Madras Presidency the disease assumes two forms, the anæsthetic and the tubercular; but these forms occassionally co-exist in one person, and are, in my opinion, only varieties of one blood disease. The malady is first recognizable by its local symptoms.

The anæsthetic form shows itself by tawny discoloration of the skin in spots of irregular outline, commonly about or near the hand or foot; these soon become insensible to pricking or pinching, and this numbness gradually spreads. Then ensues local ulceration about the fingers or toes, commencing, generally, with a bleb, which soon bursts, showing a round glazed ulcer. This may heal, and leave a white cicatrix, or the phalynx anterior to the ulcer may slough away. Occasionally fingers and toes are successively removed by interstitial absorption, until only stumps remain.

The tubercular form begins with increased sensibility and itching in bronze-coloured spots, generally on the face; then follow tubercles about the lips, nose, and ears, loss of hair of face, thickening of ends of fingers and toes; then the tubercles break down, and foul ulcers are formed.

2. This disease appears at all ages, from childhood to senility. It may, occasionally, be recognised by a peculiar smell exuded by the leprous body. The first local symptoms of the anæsthetic form are discoloration and numbness, in spots, on the limbs; of the tubercular, itching and increased sensibility, in spots on the face.

3. A very large majority of lepers are from 20 to 50 years of age.

In India this affection is extremely chronic, not materially shortening life, and very rarely proving fatal by its direct effects, but by inducing disease of the bowels or lungs.

4. In the leper hospitals of which I knew anything, the male inmates outnumbered the females as three to one; but this may arise from an indisposition on the part of the latter to resort to such institutions.

5. It is much more common in the black than in the colored, and in the colored than in the white population. There are no reliable data by which the relative proportions can be even approximated.

6. There is no reliable Census of any Indian population from which accurate replies to these questions can be deduced.

This disease, as well as elephantiasis, is most common on the low, damp, Malabar coast, particularly about Cochin, and affects most the poorer classes; but no rank, caste, occupation, employment, or mode of life affords complete exemption from it. Rice and shell-fish are, there, the staple articles of food. The sanitary condition of the dwellings, towns, and villages is inexpressibly bad, but not worse than in most other parts of India; and this dreadful disease is known, more or less, throughout the whole peninsula.

7. The progress of this disease is certainly retarded by improving the hygienic condition of the sufferers, as regards cleanliness, ventilation, and food; and I infer that the liability to contract it might be diminished by the same process.

8. The disease is hereditary, but in a moderate degree. When I was in the habit of visiting the Madras Leper Hospital, half of its inmates had no relation in any degree affected with the disease.

9. Leprosy is closely allied to elephantiasis Arabum (or Cochin leg), and the two affections frequently co-exist; but I know of no other disease on which it is in any way dependent.

10. The disease is, to a certain degree, contagious, and the attendants on lepers suffer from it in a greater proportion than the general population; but a large majority of them escape, though undergoing any amount of exposure to contagion. Marrying lepers for money is said to be sometimes perpetrated, and with impunity.

11. No restrictions are imposed on lepers in India.

12. That provided in India is lamentably insufficient. Lepers must always be excluded from general hospitals on account of there incurability, if for no other reason.

13. No answer.

14. No answer.

15. Hygienic and dietetic treatment may retard the progress of the disease, but I believe it to be incurable.

16. No answer.

17. No answer.

W. N. Innes M.D., Deputy Inspector General of Hospitals.

Corfu, 1863.

No. 39.

BOMBAY PRESIDENCY.

Extract from the Proceedings of the Government of Bombay in the General Department, dated 21st July 1863.

Read the following papers:—

Letter from the Dr. M. Stovell, Principal Inspector General Medical Department, to the Secretary to Government General Department, dated 20th June 1863, *No.* 1411.

Sir,—With reference to Government Resolution No. 92, of 23d January last, I have the honour to forward the accompanying replies to the interrogatories respecting leprosy, by Assistant Surgeon H. V. Carter, of the Jamsetjee Jejeebhoy Hospital; and as Dr. Carter has, during the last year or two, paid special attention to the subject into which the Committee of the Royal College of Physicians, London, has been appointed to inquire, I thought it would conduce most to the elucidation of the subject if I refered it to him.

2. I will not fail hereafter to forward any additional information that may be obtainable.

Introductory Remark and Replies to Interrogations by Assistant Surgeon H. V. Carter, of Her Majesty's Bombay Army, dated May 1863.

Introductory Remark.—The replies to the following questions have been as much condensed as possible, as it seemed desirable to make them; but further information on almost every

point to which the questions relate will be found in the 8th volume of the Transactions of the Medical and Physical Society of Bombay, new series, p. 1., *et seq.* A copy of this volume will be forwarded, as usual, to the Royal College of Physicians, London; and I have already transmitted to the Registrar of the College a reprint (pamphlet form) of the article above referred to, for the further information of the Committee on Leprosy.

I may perhaps be allowed to add, that very little further knowledge of this terrible scourge is likely to be obtained, unless it is made the subject of special study, as was done a short time back in Norway, with some striking results.

---

1. Leprosy is well known in most, if not all, parts of India; it prevails extensively in the Bombay Presidency, and may be said in some localities to be a common disease.

a. Three forms of the disease may be readily distinguished, viz.:—

1. An eruption on the skin, probably allied to lepra (Græcorum), and accompanied by anæsthesia.

2. Anæsthesia of the skin of the face, ears, and extremities, followed in the latter case by atrophy, interstitial absorption, and, occasionally, ulceration of the benumbed parts, notably of the fingers and toes.

3. Tumefaction or tubercular thickening of the skin, principally of the face, also of the extremities; less marked on the trunk.

The last-named form is that best known in the west, but is not the commonest here. It is generally termed tubercular leprosy. It is the elephantiasis, leontiasis, &c. of the Greeks, the lepra of the translators of the Arabian writers, the jezam, da-al-asad (lion-disease) of the Arabs, and the ructa-kusta, ructa-pitia, maha-viadhi, of Hindoos.*

The second form above mentioned is the most frequent; it is the guleet-kusta, sunbahiree, of the Hindoos, and has been distinguished as anæsthetic leprosy, articular leprosy, &c.

The first-named form is not distinguished as yet by modern writers; it appears to be the leuke of the Greeks, the baras or beres of the Arabs, and, possibly, the berat lebena of the Hebrews. One variety is the white leprosy (or shvet-kusta) of this country; the black leprosy being the tubercular.

In my opinion, the distinction of this form of the disease is not only warranted but necessary.

b. These several forms are only varieties of one common morbid state, as is shown by their seldom occurring separately in cases at all advanced, their being, one or other, almost always combined at certain stages; e.g., the first with the second, the third with the second (may be the first also). The latter or second form appears to be the typical and most invariable.

All varieties occur simultaneously in the same locality, under the same circumstances, and I have known different members of one family to be differently affected with each. A parent, too, affected with one form will transmit another to the offspring.

c. With the possession of the pamphlet referred to, already transmitted, it will be superfluous to detail in this place the symptoms of leprosy. *Vide* pp. 4, 25, 44. I would also mention an article on this subject published in the British and Foreign Medico-Chirurgical Review for January 1863.

2. The first part of this question is answered at page 27 of the pamphlet.

The second part, as regards the eruption, in almost all the cases detailed from page 6 to page 14; with respect to the anæsthetic form, from page 30 onwards, and at page 51 to a case presenting the incipient stage of tubercular leprosy.

With regard to the so-called "prodromè," or general symptoms ushering in the disease, I am unable to confirm what has been advanced by others. Cases of threatening leprosy are rarely seen at a public institution, but the result of all the inquiries I have made on the subject is to the effect that there are no special or invariable premonitory symptoms, so called.

What the patient himself or his friends see, often accidentally, gives the first intimation of the onset of the disease.

3. As the two chief varieties of leprosy appear to be inimical to life in different degrees, questions so general as the above are not susceptible of a precise reply; taking, however, the disease as a whole, its duration may, when not extensive, extend to upwards of 20 years; it is generally much less, 5, 10, or 15 years being perhaps the usual periods; but there is not, to my knowledge, either a limited course, or a uniform termination, to the affection; much will depend upon the outward circumstances of the patient.

---

* *Vide* Table of Synonymes, p. 18 of the pamphlet.

I am of opinion that the tubercular form of leprosy soonest induces a fatal issue, evidencing, as I also think, a deeper taint than the more common, in India at least, viz., the anæsthetic form, in which life may continue for the longest of the periods named above. I have seen no case in which the eruption alone appeared to materially shorten life.

In the town of Bombay the mortality seems to reach its maximum about 30 years of age. I have never witnessed what has been described as the acute form of tubercular leprosy.

4. In general terms it may be said that males suffer much more frequently than females from the anæsthetic form; the same is the case with the tubercular; not so with baras, as it would appear, but my data are limited.

The average proportion of males to females affected may be said to be about four to one.

In a late period of twelve years, in Bombay, 543 deaths from leprosy have been recorded, of which 409 were males, 134 females, being a proportion of three males to one female.

5. Many data, yet wanting, would be required to answer this question. The proportion of the various races in districts where leprosy prevails it would be very difficult, if not usually impossible, to ascertain; but it may be said that no one of the indigenous races is exempt, and, so far as I know, no one of them is especially liable.

The resident coloured population seems as much predisposed as the pure native. The European element is very seldom indeed attacked; one or two instances have been mentioned to me of Europeans (English?) becoming lepers; but of others mentioned by authors the individuals have been natives of countries in Europe where leprosy still prevails.

As regards the Presidency town, the following extract from the mortuary returns, 1860, which is quoted at p. 3, may be added:—

"Proportionally to the total deaths, leprosy is most prevalent among the native Christians, "next among the Marathas and low-caste Hindoos, particularly the latter; then follow the "Musselmans, the Parsees, the vegetable-feeding Hindoos." Jews and Europeans have been exempt from the disease. With respect to this estimate, I must express my opinion that the general average mortality of the various races mentioned above will be found to greatly resemble the comparative mortality from leprosy amongst them, so that it would not be safe to wholly rely on the estimate.

The fact that no one of the Jewish race has died here from leprosy for some years past I have noticed in my remarks on the "Leprosy of the Jews," p. 21.

6. As ordinarily seen, leprosy appears almost confined to the lower orders of society, but its range is by no means limited to any caste or social condition; high caste and well-to-do natives are sometimes lepers, although the instances are rare.

a. The greater number of lepers are inhabitants of small hamlets or rural districts, but many also of the towns and larger villages; these districts are mostly found on the sea-board, but it would be erroneous to suppose that leprosy does not extend inland. I am of opinion that the disease is not essentially dependant on the conditions of a seacoast residence. It is not limited to low altitudes, as it occurs on the Deccan, but it is probable that it would seldom be found to arise de novo in cool and dry localities; at least it may be said that most localities where it now prevails are of an opposite character.

b. I am not aware that the sanitary condition of the dwellings, &c. in localities where leprosy prevails differs in any way from that of Indian rural places generally. It need hardly be said that, according to European notions, it is not favourable to good health.

c and *d*. Nor has it any way appeared that the personal habits of lepers, previous to the appearance of the disease, differs from their neighbours. The same remark applies to diet and general way of (*e*) living; nor do I think that their occupation or employment will be found to exercise any influence; so that it may be said that either information connected with the above circumstances is deficient, or that we are to look for the essential cause of leprosy to other conditions, which, being absent, the disease never appears, and which, being present, it does not fail to appear.

Certain points should, however, be more closely investigated, such as the occurrence of leprosy in districts liable to fluctuations in the supply of food, or remarkable for the kind of grain or pulse, &c. used as food, or of which the inhabitants are great fish eaters,* have the use of salt in abundance, or otherwise, &c.

The geological character of the localities and nature of water supply should be also especially investigated.

---

* *Vide* note page 2 of the pamphlet.

Under these and numberless other points are fairly ascertained, replies to such questions as Interrogatory 6. can be little better than statements of opinion.

7. Leprosy should be viewed as a cachexia of the system, or dyscrasia, comparable in some particulars to syphilis or the strumous; it may therefore be said that depressing or deteriorating influences generally will hasten the progress of the disease. It so happens that the poorer lepers are mercilessly exposed by their friends to exposure and want, and hence, no doubt, it is amongst them we find revealed the most lamentable effects of the disease. I have remarked on this subject in the publication before referred to.

8. Admitting that the proofs of the hereditary nature of struma and syphilis are conclusive, it must also be admitted that leprosy is of the same nature, since the proofs are the same in kind.

I have known several instances like that referred to in the second question.

9. There is no direct evidence that leprosy is either dependant on or connected with syphilis, so far at least as is ascertainable; but I must own that there are considerations which induce me to regard the two affections as in some way essentially related.

The subject is too wide a one for discussion here.

10. I have not met with any evidence of the contagious nature of leprosy, such as would bear sifting, and then be conclusive.

c. Not in my opinion.

11. A harsh custom prevails in the lowest orders of the population of expelling from their doors any of their offspring affected with leprosy. Such unfortunates there swell the ranks of wandering mendicants, or make their way to towns where hospitals exist which will admit them; many reach Bombay. In the dhurumsallas of the country lepers are not segregated; in Bombay they are associated with the blind, and the community generally do not evince anything like a dread of the leper, as they are allowed to wander freely in the streets. They also attend festivals, &c.

12. I do not find that there exists in the Bombay Presidency, nor, so far as I know, ever has existed, an institution like the lazarettos which the Dutch established in some parts, *e.g.*, at Cochin, which is still maintained by the Madras Government. There is no public provision made here for the leprous poor, except in the general hospitals. In some few of these lepers are not admitted, but probably in most they are, though not always as a separate class of patients.

In Bombay lepers are received in both the Native General Hospital (the Jamsetjee Jejeebhoy) and the dhurumsalla, a home for the homeless, under the conduct of the Local District Benevolent Society. In the former case they are not strictly segregated, and in the latter the leprous and blind together form the mass of resident poor.

Recommendations have, at various times, been made to Government, for the establishment of asylums, as, for instance, in 1857, by the resident surgeon at Baroda, and one such might, I think, be fairly claimed for Bombay.

With regard to the latter part of this interrogatory, I cannot furnish any information concerning general hospitals in the provinces. They are certainly more or less well adapted for their purpose, and, so far as I have learnt, the lepers are treated as patients. The same is the case in the Jamsetjee Jejeebhoy Hospital, but the dhurumsalla before mentioned is rather a home than a hospital, although medical treatment is afforded when required by an apothecary in the Government service, who, however, is non-resident; but the majority of leprous "sick" find their way to the Jamsetjee Jejeebhoy Hospital, and many end their days there. In the dhurumsalla a small sum, amounting to two or three pence, with about two pounds of rice, is distributed daily to each leper, which serves for support in certainly the majority of cases, however scanty the supply may seem, and is, indeed, in the present state of things.

There is therefore, I think, room enough in Bombay for better provision for this miserable class of poor, such at least as is afforded in the other presidencies.

13. I must refer to the reply to the last interrogatory for what has been ascertained on this subject. Government does not directly contribute to the maintenance of lepers, though it does so indirectly to some extent. In the Jamsetjee Jejeebhoy Hospital about 60 lepers are annually admitted as patients; in the dhurumsalla the residents number 100, supported by private charity. At a hospital in Ahmedabad, similarly constituted, I believe, to the Jamsetjee Jejeebhoy, 72 cases of leprosy were admitted in 1861. Others are treated at the Guikwar's Hospital, Baroda, &c.

14. The result of my own brief experience and some inquiries I have made is that leprosy is not on the increase at present, but probably rather the reverse.

It would be interesting to ascertain the influence of scanty harvests, and such seasons of public want, also of local changes, as drainage, irrigation, &c., on the prevalence of leprosy; but there is not to be found in official records any data for determining such questions.

I would respectfully submit that if the subject is deemed of importance a special commission be appointed to investigate it. In almost all scientific matter general inquiries have to be specially treated, de novo as it were.

15. Leprosy is a constitutional affection having a peculiar local manifestation; hence it resembles syphilis, struma, &c., and, certainly, not more than they, is susceptible of spontaneous amelioration. I doubt if organic changes, especially in the nerves, are ever entirely restored.

16. The population of the British States under the Government of Bombay is estimated to be 11,790,042, and that of the Native States in the Presidency 4,460,370.

At present, however, I believe, little use can be made of these figures.

An approximate Census of the city of Bombay was taken in May 1849, and the population was then estimated at 566,119; but little reliance, however, is placed on these figures, as the population is remarkably fluctuating, and the numbers must have increased since 1849.

There is at present a complete and well-arranged registration carried on in Bombay, which would seem to leave little to desire on this score. It was commenced, for deaths at least, in 1848; and since that date to 1860 inclusive (12 years) no fewer than 543 deaths from leprosy have been registered, being an average of 45 per annum.

17. On account of the little attention the disease has at any time excited in India (Bombay, at least), few data exist for the determination of this question.

The following facts are chiefly from my own notes:

Placed in order of furnishing most cases, the following districts may be named:—

1. The Concan generally.
2. Guzerat.
3. The Deccan and table-land.
4. Rajpootana and
5. Kattiawar.
6. Kutch.
7. Scinde.

(1.) The disease is certainly common in most parts of the Concan, particularly to the south and east of Bombay. In some villages the proportion of one leper to 80 to 100 total inhabitants is certainly not excessive.

In 100 cases of leprosy now in the dhurumsalla, no fewer than 14 came from a small fishing town 10 miles south and the immediate neighbourhood, 12 from a similar locality nearer Bombay, 10 from another more inland, 10 from a similar fishing town of small size, nine patients from two others on the coast, and so on, evidencing, as I think, a degree of prevalence well warranting the attention of both official and professional men.

Names of places.	
Concan.	Vingorla.
Bombay.	Chiploon.
Herni and neighbourhood.	Mhar.
	Bhewnday.
Alibagh.	Goa.
Panwell, &c.	Bhencal.
Nagotna.	Nausari.
Ouran.	Maundvi.
Rutnagherry.	Bassein.
Bankote.	Salsette.
Shapoor.	&c. &c.

In my notes the names are found of several hamlets of small size furnishing one or more lepers; and, I may add, the experience of the Jamsetjee Jejeebhoy Hospital and the male dispensary under my charge confirm the above remarks.

2. In 1836, Gibson notes, "the disease is frequently met with in its varied and always loathsome shapes, being more common in the southern parts of Guzerat." In 1820, Marshall, in an admirable description of a small district in Guzerat, west of Baroda, states:—"Leprosy is not uncommon, most villages of 100 houses contain two or three cases."

In 1857, Stratton, resident surgeon at Baroda, found leprosy very common, and suggests the erection of a leper asylum and dispensary on the south side of the town.

In the report of the Hutteesing and Premabhai Hospital at Ahmedabad, Wyllie, in 1861, states "that 72 cases of leprosy were admitted, and that the patients often come from "distant provinces, notably Rajpootana and Kattiawar." The proportion of cases coming from Guzerat which I have seen is large enough to show the comparative frequency of leprosy in that province and around.

3. On the whole extent of the table land leprosy prevails, but, as Gibson remarks (of the more southern districts), is "by no means so common as in Guzerat or on the coast." I have several memoranda of cases from Sattara, Sholapore, Belgaum, Poona, Nassick, and we may gain a fair notion, probably, of the extent of the disease from the description of a small village near the last-named locality given in an official report:—"In Khoregaon are 199 inhabitants, men, women, and children, and one man has black leprosy."

4 and 5. To these we may add Khandeish; but leprosy is probably less common in all than in the Concan, &c.

6 and 7. The absence in official works of any reference in these large provinces is rather striking, and would seem to imply a much less frequency of it; a point worthy, I think, of further notice.

Leprosy is very prevalent in the Mofussil, in Oude, Dacca, &c., and, I believe, also in the Punjaub.

Assistant Surgeon *H. V. Carter*, Bombay Army.

Resolution.—Copy of Dr. Stovell's letter and of Dr. Carter's replies in original to the interrogatories drawn up by the Royal College of Physicians might be forwarded to the Secretary of State, with reference to his Despatch No. 34, dated 8th December last.

2. The reply to Interrogatory No. 14 appears to be the only one which requires consideration on the part of Government at present. Before any Commission is appointed, the Principal Inspector General should be requested to circulate copies of the interrogatories to all the Deputy Inspectors, Civil Surgeons, and Superintendents of Vaccination, which he does not appear to have done, and he should be asked to condense and summarise the whole of the information he may thus obtain upon the subject.

An Appeal on behalf of the History of Leprosy, by Professor Rud. Virchow, of Berlin, dated 18th April 1863.

It is now several months since I appealed to physicians, historians, and travellers to assist me in composing a history of leprosy (lepra Arabum, elephantiasis Græcorum), and I must gratefully acknowledge having received very abundant contributions from many quarters. I have already published a portion of those observations, which have especial reference to leprosy in Germany, in the 18th volume of my Archives for Pathological Anatomy and Physiology and for Clinical Medicine; other communications are in the press, and will appear in the 19th volume of the Archives. Many other facts, which relate to foreign countries, and to questions specially of medical, geographical, linguistic, or civilizational interest, I must put aside for the present, on account of their too great bulk.

Meanwhile, however, I cannot dispense with the continual assistance of other investigators; and since a personal correspondence cannot be carried on with unknown friends, I once more choose the way of publicity. If there is still any occasion to refer to the great importance of the subject, a glance at the excellent monograph which Dr. Aug. Hirsch has published concerning leprosy in the second part, which has just appeared, of his Manual of Historico-geographical Pathology, will speedily bring conviction to the mind of everybody. A malady which once pervaded the whole world, which even now attacks thousands in every quarter of the globe, and to the ravages of which the most ancient historical records bear witness, is certainly worthy of the most zealous study.

I will now, first of all, beg leave to repeat the questions which I have already published:—

A. Lazarettos (Leper Hospitals).

Do you know where there are any lazarettos still to be found? How old are they? How many patients do they receive? What are the regulations with respect to admission, and what is the plan followed in the administration of these establishments?

2. What places formerly possessed lazarettos? When were they founded? How large were they? What were their statutes? When were they turned to some other purpose or suppressed?

B. Leprosy.

1. Where does leprosy (lepra Arabum, elephantiasis Græcorum, spedalskhed) occur?
2. Where did leprosy prevail? and when was it first, and when last, mentioned?

3. What forms of leprosy have been observed? (Lepra tuberculosa, anæsthetica, mutilans, articulorum? morphæa?) Are any definite relations known to exist between morphæa and the other forms of lepra?
4. Does the disease occur endemically or sporadically? Is an increase or a decrease in the number of cases observed?
5. To what causes is the disease attributed?
   (a) Inheritance?
   (b) Contagion?
   (c) Climate? (Humidity of atmosphere and soil?)
   (d) Food? (Fat? Fish? Salted, or what kind of fish?)
6. Is there any known treatment for leprosy?
7. Are there any peculiar laws affecting lepers? Solitary confinement? Prohibition of marriage?
8. Are there any literary, private, or official reports concerning the disease?

In continuation, I would remark that there still remain several large gaps in the history of leprosy in Germany; that from Austria, in particular, scarcely any details have as yet been obtained with regard to the state of the lazarettos; and that with respect to what occurs in Westphalia, Hesse, Hanover, Oldenburg, Holstein, and Eastern Prussia, next to nothing is at present known. Is it not allowable to expect that in these countries also sufficient interest will be taken in a matter which can only be settled by the co-operation of many, to enable us to obtain at least an approximate idea of the real state of things?

The foundation of lazarettos (leper hospitals) was essentially an ecclesiastical affair. It rested also in a great measure with the clergy whether lepers were admitted into these establishments, and separated from the rest of the community. But to what extent this was their exclusive right, and especially what was the case in Germany, is still involved in great obscurity; for most authors have, by an illogical juxtaposition of what was separated by centuries and many countries, thrown the whole matter into confusion. With regard to Germany, in particular, it would be desirable that it should be accurately ascertained whether the same ceremonial and the same religious ideas which obtained, in France, for example, prevailed also amongst us. This might perhaps be determined in places where there was a great concentration of ecclesiastical authority, as, for example, in Mayence, Cologne, and Trèves, if the archives, rituals, &c. were consulted. Questions are connected herewith which are of great importance in a civilizational point of view.

Out of Germany, it is especially with regard to the Slavonic countries that nearly all historical information is wanting. When, for example, Richter, in his History of Medicine in Russia, vol. i. p. 245, relates that leprosy first appeared in Russia in 1426, i.e., at a time when it was already beginning to disappear elsewhere, this is in itself extremely improbable, but at the same time, if true, extremely valuable, as regards the history of the disease. Everything, therefore, which is known with regard to Poland, Russia, Galicia, &c., offers twofold interest, because it at the same time involves one of the capital questions concerning the nature of the disease.

Finally, with regard to the geographical distribution of leprosy at the present time, Hirsch and Mühry have already collected a large number of facts; yet even in this quarter there is still a great deal to be done. With respect to the interior of the continents, and especially Asia and Africa, we have scarcely any information; and even concerning China, where the disease is said to be so general, our knowledge is most superficial. From America, too, there is extreme difficulty in obtaining even official documents. In all these instances much might be done, not only by the agency of travellers, but also by means of diplomatic and commercial agents, of merchants and physicians. I only hope that every one will rest assured that any contributions, however small, will prove acceptable.

EXTRACT from the Proceedings of the Government of Bombay in the General Department, dated 19th December 1863.

Read the following papers:

Letter from Dr. M. Stovell, Principal Inspector General Medical Department, to the Secretary to Government General Department, dated 24th November 1863, *No.* 2602.

With reference to Government Resolution No. 1089, of 21st July 1863, I have the honour to submit the accompanying information respecting leprosy, which I have had condensed and summarized from the answers returned to the interrogatories of the Royal College of

Physicians, London, copies of which were circulated to all the Deputy Inspectors General of Hospitals, the civil surgeons, and the superintendents of vaccination, in accordance with the orders of Government quoted above.

2. For the information thus obtained with respect to this disease, in addition to that already so fully and ably furnished by Dr. Carter, I am indebted to the following Medical Officers :—

Drs. Maitland, Wyllie, Steinhaeuser, Lord, J. G. Nicholson, Bean, Mills, Beatty, Martin, Shepherd, Cook, Bell, Johnson, and Kearney; sub-assistant surgeons Burjorjee Ardaseer and Kaikusroo Rustomjee; assistant apothecary V. de Souza; and first hospital assistant Rabajee Moray.

3. The other medical officers to whom the interrogatories were forwarded replied generally, that, having only met with occasional cases of the disease, their experience was too limited to enable them to prepare any report on the subject.

4. But it may be stated that the present reference has elicited but very few additional facts or observations of importance, and that the history of leprosy in the Bombay Presidency is complete in the several published works of Assistant Surgeon H. V. Carter, M.D.

5. A few interesting photographs of the disease, prepared and furnished by Dr. J. G. Nicholson, are herewith forwarded.

Summary of the Answers to Interrogatories.

1. All the observers agree that leprosy is well known in the Bombay Presidency, including Aden, but it is said to be rather uncommon in Sind.

a. Those observers who write from sufficient experience of the disease distinguish two forms of leprosy, and Dr. H. V. Carter (whose replies are much fuller than any others) speaks of three varieties, viz., first, white leprosy, or shvet kusta, probably a variety of the leuke of the Greeks, the baras or beres of the Arabs; it is also called khoor by the Sindees: second, guleet khusta, sunbahiree, of the Hindoos; it corresponds with anæthetic leprosy, articular leprosy, &c.: third, tubercular leprosy, elephantiasis, leontiasis, &c., of the Greeks, the lepra of the translators of the Arabian writers, the da-al-asad (lion disease) of the Arabs, and the ructa kusta, ructa pitia, maha viadhi, of Hindoos. The first and second forms are commonly confounded under the name of white leprosy; the third all agree in naming black leprosy.

b. The unanimous opinion is that the varying forms of leprosy are merely different phases of one common morbid state. It seems to be not uncommon for a leper to be affected with two forms at once. Dr. Bell, writing from the southern Muratha district, while confessing that his experience of leprosy has been extremely limited, says, "I had always been of opinion that there were two forms of the disease, viz., white and black leprosy, but from careful investigation I now find that there is no affinity between them; that which I regarded as white leprosy is a distinct disease, never passing into the jujam, or leprosy proper of the natives. The Mussulman name for it is buras (baras), the murathee kode. In character and appearance it strongly resembles the lepra vulgaris of many authors.

c. In reply to this query, Dr. Carter refers to his pamphlet on leprosy, already forwarded to the Royal College of Physicians. The following is a summary of the symptoms he enumerates, with a few additions from Surgeon Steinhaeuser's replies :—

Form 1.—An eruption on the skin, accompanied by anæsthesia.

Form 2.—Anæsthesia of the skin of the face, ears, and extremities, followed in the latter case by atrophy, instertitial absorption, and, occasionally, ulceration of the benumbed parts, notably of the fingers and toes, with little or no constitutional disturbance. Large circular superficial ulcers may form on the lower extremities. The affected finger and toes become contracted, the joints enlarged, the ends of the fingers broad, flat, or clubbed.

Form 3.—Tumefaction, or tubercular thickening of the skin, principally of the face, also of the extremities; less marked on the trunk. The affected skin is discolored, dark-bronzed, shining, its sensibility much diminished or entirely lost. The mucous membrane of the mouth ultimately becomes affected, and the voice altered. Contraction of the fingers and toes is a frequent symptom, and the phalanges may drop off from ulcerated fissures forming over the articulations, or from sphacelation supervening on ulceration; the entire hand or foot may thus be lost. The constitutional disturbance is much greater in this than in the previously described form.

Dr. J. G. Nicholson speaks of a variety characterized by copper-coloured blotches, with great heat of surface, intolerable itching, and an impaired state of health; it seems probable that these symptoms may have been observed in the early stage of cases which would ultimately belong to Dr. Carter's third form.

2. The general opinion seems to be that the time of life at which the disease most generally manifests itself is between the ages of 15 or 20 and 30 years. Dr. Carter says it occurs in comparatively few cases after 40.

Dr. Carter doubts there being any special or invariable symptoms which can be considered premonitory of leprosy. He says that what is seen, often accidentally, by the patient or his friends, gives the first intimation of the onset of the disease. The following are the symptoms first seen and felt in this disease :—

Anæsthetic leprosy.—Pricking, shooting, burning pain in the fingers, toes, susceptibility to cold, and a feeling of heaviness and weakness, with tremor, in the part. Fever is not a special attendant on leprosy. These local sensations are frequently so slight as to pass unnoticed by the patient, the numbness being then the first symptom observed, and so the disease goes on to more advanced stages.

Tubercular leprosy.—An eruption in the mixed form is the first symptom, then the face becomes tumified, afterwards the trunk and extremities.

3. Dr. Carter is of opinion that the disease has not a limited course. Dr. Wyllie speaks of it becoming fully developed in from 3 to 6 years.

Dr. Carter says that in the town of Bombay the mortality seems to reach its maximum about 30 years of age, after a duration of 5, 10, or 15 years.

Dr. Shepherd, from inquiries among the native practitioners of Surat, writes—"The majority labour under leprosy for 30 or 40 years before they die, so that, taking the age at which it first manifests itself to be from 15 to 20 years, and adding 30 or 40 years to that, the death-age will be between 45 and 60."

4. Dr. Carter says that males suffer much more frequently than females from the anæsthetic and tubercular forms, but that, judging from limited data, it is not so with baras.

He gives the average proportion of males to females affected as four to one; Mr. Shepherd as ten to one; Dr. Wyllie as twelve to one.

5. Dr. Carter says that many data yet wanting would be required to answer this question, but that it may be said that no one of the indigenous race is exempt, while no one of them is especially liable. He further observes that the resident colored population seems as much predisposed as the pure native, but that Jews are seldom attacked, and Europeans very seldom indeed.

Dr. Steinhaeuser's experience at Aden confirms Dr. Carter's statements as to the immunity enjoyed by Jews and Europeans, and tends to prove that leprosy is more common among the mixed negroid races than any others; Arabs, Somalees, Mussulmans (not Arabs) from India, the far east of the Turkish dominions, and elsewhere, Hindoos, Parsees, and Native Christians, who constitute the very mixed and fluctuating population of that place.

6. The unanimous testimony is that the lower orders are the portion of society in which the disease is of most frequent occurrence.

a. Dr. Carter says the greater number of lepers are inhabitants of small hamlets or rural districts, but many also of towns. The districts are mostly, but not exclusively, on the sea-board. The disease is not limited to low altitudes. He further observes that most of the localities where leprosy now prevails are hot and damp, and Drs. Wyllie and Steinhaeuser add, malarious.

b. All the observers are agreed that the sanitary condition of the dwellings of lepers and of their immediate neighbourhood is not favourable to good health, but not different in any way from that of Indian rural places generally.

c. The same remark applies to the query about their habits of life as to cleanliness.

d. Some of the observers make the same reply to this question; but there seems to be an impression on the minds of Dr. Carter and Messrs. Steinhaeuser and Shepherd that there is some foundation for the popular idea that a diet chiefly composed of milk and fish tends to produce the disease. Dr. Steinhaeuser states that under this idea the Somalee tribes, among whom he has seen cases of the disease, never eat fish under any circumstances. In addition to milk and fish, bad grain and oil are spoken of by Mr. Shepherd as predisponents to the disease.

e. All seem to agree with Dr. Carter's remark, that the occupation or employments of lepers will be found not to have exercised any influence in producing the disease.

7. Any conditions or circumstances tending to lower the general health accelerate or aggravate the disease when it has once manifested itself in an individual.

8. Opinions are divided as to whether this disease is often hereditary. Dr. Carter, whose opinion must be allowed to have most weight, thinks it is.

Many instances are spoken of where one member only of a family has been affected, while all the other members remain free from any trace of it.

9. The numerical balance of the observers is decidedly against the belief that leprosy is in any way dependent on, or connected with, syphilis, yaws, or any other disease. Dr. Carter, however, thinks that leprosy and syphilis are related, while Dr. Wyllie takes a similar view of leprosy and scorbutus.

10. None of the observers appear to have obtained conclusive proof of leprosy being contagious or transmissible by sexual intercourse. The natives generally do not think it so; but in the Concan and by the Arabs it is looked upon as contagious; black leprosy at least.

11. There is no restriction imposed or segregation enforced in respect of lepers in the Bombay Presidency, but they are often shunned, even by their relatives, on account of their loathsomeness; and in the Southern Muratha district, where the disease is generally believed to be contagious, lepers are prohibited from coming into contact with any person not suffering from the disease, and in some cases are expelled their castes. When a leper is discovered in a village, it is a common practice for his neighbours to construct a separate hut for him out of the village, and to compel him to live there on alms.

12. With the exception of the "leper asylums" at Rajcote and Bombay, no special public provision is made for the reception and treatment of the leprous poor. They are admitted into most of the general hospitals. There is one asylum (dhurumsalla) in the town of Bombay which they share with the indigent blind, and another in Kattywar supported by the native chiefs. The general hospitals are more or less well adapted to their purpose.

13. The reply to the last interrogatory will show that nothing definite can be stated as to the number of leprous persons maintained at the public expense in the Bombay Presidency.

14. It is a general opinion that leprosy has not been of late years on the increase in the Bombay Presidency; indeed Dr. Carter, and one or two others, believe the reverse to be the tendency at present. Dr. Shepherd says that an impression is gaining ground in Surat that since large wages have been given for labour by the railway company leprosy has been slightly on the decrease.

16. Several of the observers speak with some degree of confidence of the power of hygienic and dietetic measures in arresting or even promoting a cure in leprosy; but all concur in the utter inefficiency of medicinal treatment for those ends.

16. In reply to the query as to the population of the Bombay Presidency, it is stated that the number of inhabitants in British States under the Government of Bombay is estimated at about 12,000,000, but that little reliance can be placed on these figures.

17. In reply to this question, as to the townships in which leprosy prevails most, and the numbers of lepers and the population in each of such townships or districts, Dr. Carter states that, on account of the little attention the disease has at any time excited in India (Bombay at least), few data exist for its determination.

He places the following districts in the order of furnishing most cases:—

1. The Concan generally.
2. Guzerat.
3. The Deccan and Table-land.
4. Rajpootana.
5. Katywar.
6. Kutch.
7. Sind.

In some villages of the Concan the proportion of one leper to 80 or 100 total inhabitants is certainly not excessive.

The sub-assistant surgeon in charge of the Belgaum charitable dispensary gives translations of many of the names applied by natives to different forms and stages of leprosy, and Dr. J. G. Nicholson furnishes four photographs of the disease.

Resolution.—A Copy of Dr. Stovell's letter, with enclosures, printed, to be transmitted to the Home Government, in continuation of the despatch from this Government No. 19, dated 23d July 1863.

No. 40.

THE BENGAL PRESIDENCY.

The very numerous Returns from the Government of India, in compliance with the Despatch of the Right Hon. Sir Charles Wood, Bart., M.P. and G.C.B., Her Majesty's Secretary of State for India, to His Excellency the Right Hon. the Governor General of India in Council, dated 8th December 1862, occupy a folio volume of 500 pages, printed during the present year (1865) at Calcutta, and embrace replies from a vast extent of our Eastern Empire, as will be seen from the following Index, in which the names are arranged alphabetically :—

ASSAM.

Durrung - -	From Sydney Lynch, Esq., Medical Officer.

BENGAL.

Arrah - -	From R. F. Hutchinson, Esq., M.D., Civil Surgeon.
Bancoorah - -	From H. C. Bowser, Esq., Civil Surgeon, dated 6th July 1863.
Beerbhoom -	From A. J. Sheridan, Esq., Civil Surgeon, dated 24th June 1863.
Balasore - -	From Kallypersaud Mitter, Sub-Assistant Surgeon, dated 21st June 1863.
Bhaugulpore -	From A. G. Crewe, Esq., Civil Surgeon.
Bograh - -	From J. Taylor, Esq., Apothecary, Medical Officer of the Gaol and Civil Station.
Bullooah - -	From H. M. Davis Esq., Civil Surgeon, dated 14th May 1863.
Burdwan - -	From Henry P. Williams, M.D., Civil Assistant Surgeon, dated 23rd May 1863.
Burrisaul - -	From E. J. Gayen, Esq., Civil Assistant Surgeon, No. 27, dated 15th May 1863.
Cachar - -	From B. A. Barker, Esq., M.D., Civil Surgeon, No. 26, dated 15th May 1863.
Calcutta - -	From H. B. Stewart, Esq., Officiating Medical Officer, Leper Asylum, dated 23rd July 1863.
Chumparun -	From J. M. Coates, Esq., M.D., Civil Assistant Surgeon, dated Motihari, 10th October 1863.
Cheerah Poonjee -	From J. H. Thornton, Esq., M.B. and B.A., Civil Assistant Surgeon, dated 15th May 1863.
Chittagong - -	From James Wise, Esq., M.D., Civil Assistant Surgeon, dated 18th May 1863.
Cuttack - -	From A. A. Mantell, Esq., M.D., Civil Assistant Surgeon, dated 11th June 1863.
Dinagepore - -	From S. C. Amesbury, Esq., Civil Assistant Surgeon, No. 6, dated 7th May 1863.
Dinapore - -	From D. McRae, Esq., Deputy Inspector General of Hospitals, No. 334, dated 17th July 1863.
Dorundah - -	From G. M. Govan, Esq., Assistant Surgeon, Medical Charge, Her Majesty's 35th Regiment Native Infantry, Dorundah, and Officiating Medical Charge, Civil Station of Rauchee, Chota Nagpore, dated 1st July 1863.
Fureedpore - -	From B. N. Bose, Esq., M.D., Civil Surgeon, dated 20th May 1863.
Gyah - -	From Richard Banbury, Esq., Officiating Civil Assistant Surgeon, dated 2nd June 1863.
Hazareebaugh -	From Samuel Delpratt, Esq., Civil Assistant Surgeon, dated 26th March 1863.
Hooghly - -	From John Squire, Surgeon, late Officiating Civil Surgeon, dated 7th July 1863.
Howrah - -	From Robert Bird, M.D., Civil Surgeon, dated 18th July 1863.
Jessore - -	From Dr. J. W. R. Amesbury, Civil Surgeon, No. 43, dated 16th June 1863.
Malda - -	From R. F. Thomson, Esq., Civil Assistant Surgeon, dated 28th April 1863.
Midnapore - -	From Bernard Kendall, Esq., Civil Assistant Surgeon, dated 17th June 1863.
Monghyr - -	From T. Duka, Esq., M.D., Assistant Surgeon, No. 35, dated 16th May 1863.
Moorshedabad -	From A. Fleming, M.D., Civil Surgeon, dated 1st June 1863.
Mozufferpore -	From N. C. Macnamara, Esq., Civil Surgeon, dated 12th March 1863.
Patna - -	From J. Sutherland, Esq., M.D., Surgeon Major, dated 4th June 1863.
Puruliah - -	From M. J. Ellis, Esq., Surgeon in Medical Charge, dated 30th July 1863.
Pooree - -	From J. J. Durant, Esq., M.R.C.S.L., Civil Assistant Surgeon and Superintendent of Government Dispensary, dated 18th May 1863.
Pubna - - -	From T. Parker, Esq., Civil Surgeon, No. 10, dated 26th March 1863.
Purneah - -	From P. F. Bellew, Esq., Civil Assistant Surgeon, dated 6th March 1863.
Raneegunge - -	From A. Vans Best, Esq., M.D., Civil Assistant Surgeon.
Rungpore - -	From C. W. Waylen, Esq., dated 13th August 1863.
Seebsagur - -	From M. Mookerjee, Esq., Sub-Assistant Surgeon, dated 20th March 1863.
Serajgunge -	From Jadub Chundor Deb, Sub-Assistant Surgeon, dated 25th August 1863.
Serampore -	From T. Bray, Esq., B.A. and M.B., Medical Officer, dated 21st May 1863.
Singbhoom -	From A. J .Meyer. M.D., Civil Surgeon.
Sumbulpore -	From N. Jackson, Esq., Civil Medical Officer, No. 36, dated 16th April 1863.
Tezpore - -	From S. J. Lynch, Esq., M.R.C.S., Medical Officer.
Tipperah -	From James A. Greene, Esq., M.D., Officiating Medical Officer, dated 1st May 1863.

BRITISH BURMAH.

Akyab - - -	From A. Callaway Nisbet, Esq., Officiating Civil Assistant Surgeon, No. 95, dated 17th July 1863.
Sandoway - -	From C. E. Pyster, Esq., Civil Medical Officer, No. 23, dated 17th June 1863.
Kyouk Phyoo -	From Alexander Thomas, Esq., in Medical Charge, dated 13th April 1863.
Moulmein - -	From George Marr, Esq., M.D., Civil Surgeon, No. 135, dated 16th May 1863.
" -	From H. Greisback, Esq., M.D., Assistant Surgeon, 9th Regiment, Madras Native Infantry, dated 23rd June 1863.

CENTRAL INDIA.

Augur - -	From T. Beaumont, Esq., M.D., Assisstant Surgeon, in Medical Charge 1st Regiment, dated Camp Augur, 23rd April 1863.
Bhopawur Agency	From H. J. Cane, Assistant Surgeon, in Medical Charge, Bhopawur Agency and Malwa Bheel Corps, dated Camp Sirdarpore, 6th March 1863.
Bundelcund - -	From J. P. Stratton, Esq., Political Assistant, No. 68, dated Camp Chirkari, 11th March 1863.
Gwalior - -	From P. M. Sutherland, Esq., Assistant Surgeon, 14th Bheel Corps, and in Medical Charge, Gwalior Residency, dated 22nd March 1863.
Indore - -	From H. C. Brodrick, Esq., M.D., Residency Surgeon, dated 6th May 1663.
Nimar - -	From G. Y. Hunter, Esq., Officiating Civil Surgeon, dated Mundlaisir, 23rd April 1863.
Sehore - -	From Charles Thomson, Esq., M.D., Assistant Surgeon, in Medical Charge, Bhopal Political Agency and Levy, No. 10, dated 2nd March 1863.

CENTRAL PROVINCES.

Nagpore - -	From W. W. Hende, Esq., M.D., Civil Surgeon, dated 22nd July 1863.

HYDERABAD.

Hyderabad - -	From J. B. Fleming, Esq., M.D., Residency Surgeon, dated 23rd March 1863.

MUNNIPORE.

Sylhet - -	From H. Beveridge, Esq., on special duty in Munnipore, No. 15, dated Sylhet, 22nd February 1864.

MYSORE.

Bangalore - -	From J. Kirkpatrick, Esq., M.D., Surgeon to the Mysore Commission, dated March 1864.

NIPAL.

Khatmandoo -	From Dr. H. A. Oldfield, Esq., M.A., Residency Surgeon, dated 11th April 1863.

NORTH-WESTERN PROVINCES.

Agra -	From C. Plank, Esq., M.D., Superintendent, Agra Central Prison, dated 21st February 1863.
" - -	From Mokund Lall, Sub-Assistant Surgeon, dated 22nd April 1863.
" - -	From J. Murray, Esq., M.D., Deputy Inspector General of Hospitals, Agra, dated 11th May 1863.
" -	From Bholanath Dass, Sub-Assistant Surgeon.
" - -	From Meer Ushruff Ally, G.M.C.B., Sub-Assistant Surgeon, in Medical Charge of the Thomason Hospital.
Ajmere - -	From T. Murray, Esq., M.D., Civil Surgeon.
Allahabad - -	From J. A. Guise, Esq., M.D., Officiating Deputy Inspector General of Hospitals, Cawnpore Circle, No. 61, dated 24th April 1863.
" - -	From J. R. Jackson, Esq., M.D., Superintendent, Central Prison, Allahabad, dated 27th March 1863.
" -	From R. Cockburn, Esq., B.M., Officiating Civil Surgeon, dated 31st March 1863.
Allyghur - -	From C. E. Kilkelly, Esq., B.M., Civil Assistant Surgeon, dated 14th May 1863.
Almorah - -	From G. E. Morton, Esq., M.D., Civil Surgeon, dated 1st May 1863.
Azimgurh - -	From W. R. Hooper, Esq., B.M., Civil Assistant Surgeon, dated — April 1863.
Banda - -	From W. Keates, Esq., B.M., Surgeon Major, 7th Regiment Native Infantry and Civil Surgeon of Banda, dated 28th April 1863.
Bareilly - -	From T. Corbyn, Esq., Civil Assistant Surgeon.
Benares - -	From J. A. Dunbar, Esq., M.D., Deputy Inspector General of Hospitals, dated 21st March 1864.
" - -	From J. H. Cheke, Esq., M.D., Civil Surgeon.
Bijnour - -	From J. L. Stewart, Esq., M.D., Civil Assistant Surgeon, dated 23rd May 1863.
Budaon - -	From W. P. Harris, Esq., M.D., Civil Assistant Surgeon, dated 21st March 1863.
Cawnpore - -	From J. Jones, Esq., M.D., Civil Assistant Surgeon, dated 25th March 1863.
Dehra - - -	From J. Hutchinson, Esq., M.D., Civil Assistant Surgeon.
Etawah - -	From J. Sheetz, Esq., B.M., Civil Surgeon.

Furruckabad -	From G. Grant, Esq., B.M., Civil Assistant Surgeon, dated 19th March 1863.
Futtehpore - -	From T. T. Sherlock, Esq., B.M., Civil Assistant Surgeon, dated 25th February 1863.
Ghazeepore -	From A. Garden, Esq., M.D., Civil Assistant Surgeon, dated 11th May 1863.
Goruckpore -	From H. Cayley, Esq., B.M., Civil Assistant Surgeon, dated 22nd April 1863.
Humeerpore -	From C. E. Raddock, Esq., B.M., Civil Assistant Surgeon, dated 23rd March 1863.
Jaloun - -	From C. Hatchell, Esq., B.M., Civil Assistant Surgeon.
Jhansi - -	From J. C. Anesley, Esq., B.M., Civil Surgeon.
Jounpore - -	From A. J. Dale, Esq., B.M., Civil Assistant Surgeon, dated — April 1863.
Lullutpore -	From R. K. Buckell, Esq., B.M., Officiating Civil Surgeon, dated 23rd April 1863.
Meerut - -	From J. Wilkie, Esq., M.D., Deputy Inspector General of Hospitals, Meerut Circle, No. 141, dated 26th June 1863.
„ - -	From J. D. Wylie, Esq., M.D., Officiating Superintendent, Central Prison, Meerut.
„ - - -	From Nund Coomar Mitter, Sub-Assistant Surgeon, in charge of Government Charitable Dispensary, Meerut, dated 11th June 1863.
Mirzapore - -	From J. H. Lock, Esq., M.D., Civil Assistant Surgeon, dated 21st May 1863.
Mozuffernugger -	From W. H. Kirton, Esq., B.M., Civil Assistant Surgeon, dated 23rd May 1864.
Mussoorie - -	From W. F. Clarke, Esq., B.M., Assistant Surgeon, in Medical Charge, dated June 1864.
Muttra - -	From H. S. Smith, Esq., B.M., Civil Assistant Surgeon, dated 9th May 1863.
Mynpoorie - -	From G. Bernard, Esq., B.M., Civil Surgeon, dated 30th March 1863.
Nimar - -	From G. Y. Hunter, Esq., B.M., Officiating Civil Surgeon, dated Mundlaisir, 23rd April 1863.
Roorkee - -	From R. S. Thring, Esq., B.M., Officiating Civil Surgeon, dated 12th May 1863.
Seharunpore -	From C. T. Paske, Esq., B.M., Civil Assistant Surgeon, dated — May 1863.
Sreenuggur -	From Rajkisto Ghosal, Sub-Assistant Surgeon.

OUDE.

Lucknow - -	From Secretary to Chief Commissioner, No. 1,395, dated Lucknow, 16th June 1863.

PUNJAB.

Bhutteeana - -	From P. A. Minas, Esq., Assistant Surgeon, in Civil Medical Charge, No. 113, dated 27th August.
Hill States -	From A. M. Garden, Esq., Assistant Surgeon, Superintendent, Vaccination, dated 22nd June.
Lahore - -	From R. C. Bose, House Surgeon, Medical College Hospital, Lahore, dated 17th March 1863.
Loodiana - -	From W. B. Butt, Esq., Assistant Surgeon, in Medical Charge.
Lahore - -	From Assistant Surgeon J. B. Scriven, Principal of the Medical College, Lahore, No. 14, dated 24th March 1864.
„ - -	From Sub-Assistant Surgeon, Ramchurn Bose, House Surgeon, Medical College Hospital, Lahore.

RAJPOOTANA.

Bhurtpore - -	From Assistant Surgeon M. W. Mott, M.D., Political Agency, Bhurtpore, dated 28th March 1863.
Harowtee - -	From Captain W. H. Beynon, Political Agent, No. 50–12G., dated Deoli, 22nd December 1863.
„ - -	From Mahommed Naeem Khan, Native Doctor in charge of Dispensary, Jhallawar.
Jeypore - -	From K. Burr, Esq., M.D., Assistant Surgeon, Jeypore.
Jodhpore - -	From Assistant Surgeon W. J. Moore, Jodhpore Political Agency, dated Cape Mount Aboo, 25th April 1863.
Serohi - -	From Assistant Surgeon T. M. Lownds, M.D., Surgeon to the Rajpootana Agency, dated Mount Aboo, 10th August 1863.
Ulwur - -	From James E. Dickinson, Esq., Agency Surgeon, dated Tejarah, 23rd November 1863.

STRAITS SETTLEMENTS.

Singapore - -	From Surgeon Major J. Rose, Senior Surgeon, No. 49, dated 8th November 1864.

Many of the replies are very elaborate and have been prepared with great ability, while others are comparatively meagre, and a few may be regarded as *nil*.

I. BENGAL (PROPER).

Interrogatory I.

Calcutta.—Leprosy occurs in the district about Calcutta in the form of white patches on different parts of the body, hypertrophy of and tubercules on the skin; with distortion and contraction of the fingers and toes, which frequently after ulceration fall off, either partially or wholly.

a. There are; they are known by the names of "phoolie," "soonbhairie," "khorie,' and "saithburn."

b. These several forms are only varieties of one common morbid state.

c. "Phoolie" is characterised by loss of feeling in some parts of the body, the skin being being hypertrophied and of a glistening appearance, studded with tubercules.

"Soonbhairie" is characterised by distortion and contraction of the fingers and toes and general loss of feeling.

In "khorie" we usually see contraction of the fingers only, with occasionally tubercules: sensation is dull.

"Saithburn" is white leprosy, the body being covered with white patches, or the skin being almost entirely changed in colour.

Pooree or Juggernaut.—Leprosy has been known to prevail in this district for centuries. It is confined mostly, if not chiefly, to the only large town in the district, which is known by the name of Juggernauth or Pooree, and is so called after the great Hindoo pagoda or idol of that name therein situated. For the worship of this idol hundreds of thousands of poor and foot-sore pilgrims can be seen constantly treading the weary way to it, the victims of an idolatrous and designing religion; thousands dying by the wayside from exhaustion and disease; and the remainder usually returning to their homes with the germs of this and various other diseases taken up as it were on the way and engrafted on them, to be more fully developed into action by-and-by, when the period of temporary excitement has passed over, and the body falls into the succeeding and more unfavourable stages of depression and exhaustion. But, again, there are a class of pilgrims who, contracting the disease (leprosy) entirely at their homes, seek a pilgrimage to this place for the express purpose of being cured, as they hope, by offerings and other propitiatory prayers to another idol called Lokenauth (who has also a shrine set apart for him, and whose peculiar attribute is believed to be the healing of diseases of such a foul nature); but the unfortunate wretches soon finding all their expectations vain, and no good to attend their devotions, and now unable to return to their friends, from being looked upon as outcasts, and as beings visited with the curse of the Almighty, are content to remain about this place as beggars, penniless and homeless, and as associates for none but the indigent and dissolute, ready to join in every degrading crime, and early giving way to and sinking under habits of intoxication and other similar vices.

a. There are three different forms or outward manifestations of leprosy as seen m this place, distinguished and known to the people by the names of soonbeyrie or lepra anæsthetica and burra roag, literally meaning big or great disease, or lepra tuberculosa and lepra mutilans, these two forms being classed under one head, and looked upon as merely different stages or states of the same disordered condition of the blood. When a man loses his fingers and toes, and otherwise becomes a cripple or deformed object, he is then called a koorey, which means a leper.

b. These several forms of leprosy are, in my opinion, only varieties of the one common morbid state, and not specifically distinct diseases having no affinity with each other. This opinion is founded on the fact that I have seen numbers of cases where the different forms existed in the same individual at the same time, and others where a direct succession could be traced from one form into that of the other; for instance, commencing in the simple form of lepra anæsthetica in small circumscribed patches on some parts of the body, it has gradually gone on to the tubercular forms, and lastly to that of the mutilans, when from joints dropping off, &c. the unfortunate victims have become confirmed lepers. In some cases, instead of the direct ablation of the fingers and toes, a wasting or atrophy of the extremities takes place, with a shortening or contraction of the flexors of the fingers and toes, causing them to be bent on the palms of the hands and soles of the feet respectively, or otherwise distorted, while a slow destructive process goes on in and about the nails and the last joints, eventually causing some of them to drop off. There is an atrophy of the nervous system also, no doubt, in these cases, for the patient usually walks with a tottering or paralytic gait, and loses all power in the upper extremities and sensibility in the fingers and of the skin in general. His mind is likewise much impaired; a state bordering on fatuity soon appearing.

Cuttack.—

a. There are two different outward manifestations of the disease in this district, the anæsthetic and tubercular. Both are known to all by the name of koostho or khorh. The natives generally make a great confusion of terms as regards these varieties of the disease, but the more intelligent ones clearly define the tubercular as rakto koostho, and the anæsthetic as soon-bat or kall-bat.

b. I consider these forms of leprosy to be merely varieties of one common morbid state.

c. Anæsthetic leprosy commences with cachexia, and the appearance of dull red patches on the trunk or limbs or on both. The patches vary in sizes from a sixpence to half-a-crown. They are usually round or oval in form, with a rough surface, which loses its sensibility, and from which the hairs fall off. These patches continue in their intensity for variable periods, and in time other and more serious changes ensue; the skin becomes anæsthetic, and the patches more or less lost in the surrounding parts; those that are still visible assume a lighter appearance than formerly, and become more insensible; ere long the muscles begin to waste, and the patient becomes weak and cadaverous looking. At last ulcers form upon the hands and feet, the phalanges become diseased, and the fingers and toes, and in some instances the hands and feet, drop off, so that the miserable creature is one of the most wretched and pitiable objects it is possible to conceive. In some cases ulceration extends to the fauces and schneiderian membranes, but to no great an extent. The ulcer which occurs on the soles of the feet is very indolent and highly characteristic. Superficially it is circular in form, and internally conical, the apex of the cone reaching to the bone; it discharges a thin sanies, and attracts flies, which deposit eggs, that soon become a nidus of maggots.

Tubercular leprosy is less common in this district than the anæsthetic variety, but of a much severer type. From what I can ascertain, it appears to commence by the tingling of one or more of the extremities, accompanied by cachectic symptoms; in time patches appear very similar to those in the anæsthetic form, but more generally diffused.

As the disease advances, the face, arms, and legs begin to swell and lose their sensibility; the skin becomes condensed and firm, in parts forming tubercles; the lips, ears, and nose do not escape, and that of the brow loses its hair and hangs over the eyes, giving rise to a constant scowling look. The tubercles vary in size, and when situated on the extremities are very prone to ulcerate; these ulcers constantly secrete a thick whitish fluid; they are indolent in character, and eat deeply into the surrounding tissues; their edges are prominent, irregular, and hard; they usually continue as open running sores for many years, and if healed break out elsewhere. Ulcers likewise attack the soles of the feet, fingers, and toes, and these drop off as frequently as in the anæsthetic variety. The mucous membrane of the nose, fauces, &c., suffers severely in some cases; the nose from exfoliation of the bones becoming depressed and more distorted than ever; the voice is generally husky, and sometimes nearly lost. Bullæ appear to occur in both varieties, more generally in the anæsthetic, and seem to indicate a very cachectic condition.

Burdwan.—The leucopathic form of leprosy in this district is thus described:—In the second form (lepra albida), there is merely absence of colouring matter, varying from specks the size of shot to that of large patches, which spots, on being pinched or pricked, are found void of sensation, which generally extends a little way around their margins. The face mostly partakes of the characteristics above mentioned, with partial or entire loss of eyebrows. The patches are mostly confined to the forehead, calves, ankles, feet, hands, and occasionally to the glans penis alone; are dry and mostly devoid of hair; if any exists it is thin, scattered, and ultimately disappears. Previous to loss of colour there is considerable itching experienced in the part, with a dull feeling and dryness. The patches about the hands may or may not ulcerate, and I have seen death from diarrhœa at the age of sixty or sixty-five, when there was no ulceration in any part of the body; the lungs containing tubercle in a hard and softened state, with unusual ashy paleness and knottiness of the liver.

Furreedpoor.—Leprosy is not unknown in this district, although it may not be so common here as perhaps in some of the neighbouring or other districts in Bengal or elsewhere in India. Dr. Rose thus defines this protean disease:—After a preliminary stage or state of more or less protracted general malaise, with especial prominence as regards the functions of the skin and nervous centres, some discolouration or eruption of the surface followed, accompanied, or even sometimes preceded, by progressive dysæsthesia or anæsthesia, or both combined, and subsequently by more evident disorganization of the same structure (skin), finally tending to or terminating in destruction of the distal ends of the body and certain parts of the face.

With respect to the symptoms indicative of and dependent on a disturbed state of the nervous system, "which is always more or less involved in the disease," Dr. Rose observes:—These symptoms are partly referable to the central organs or the system generally, or localized in their periphery. Of the first class, a sense of occasional undefined languor and lassitude, without any appreciable cause, is not uncommon, with a general indisposition to labour, and undue sleepiness; fatigue induced by slight exertions, and an inward feeling of heat or chilliness are also noticed. I need scarcely observe that persons with a strong predisposition to leprosy, and now and then when in the first stage of it, are generally acutely sensitive, with a corresponding mobility of the muscular fibre, both of volition and of reflex action, and that their psychical manifestations are sometimes wound up to the highest pitch, alternating with those of a depressing character, so as occasionally amounting almost to a species of hypochondriasis. As a general rule, these people are more miserable and spiritless than hopeful or lively. General itchiness, pricking, and a sort of universal muscular vibration or shaking, are occasionally noticed in a few instances. Many of these symptoms which precede the disease may continue and become confirmed during its after progress.

Of the symptoms more referable to the peripheral portions of the nervous system, the following enumeration may be sufficient:—They relate both to sensation and motion, which are at first apparently exaggerated, but then gradually lowered, till at last, in the course of the structural changes that supervene, they may be entirely annihilated, specially the capacity for sensation or peripheral consciousness.

Morbid hyperæsthesia is indicated either by an abnormal susceptibility to physical impressions, as those of heat, light, electricity, touch, &c., vulgarly known as being extremely irritable and nervous, or by diseased perceptions independently of the operation of physical agencies, such as burning of the hands and feet, a sense of external warmth or heat, hot bodies passing over the surface, pricking and itching, shooting, darting, cutting, and as if scintillating pains, formication, gnawing and dull aching of the muscles of the extremities, and of the brachial and sacral plexures of nerves, &c. Sometimes the plantar surface becomes so tender and sore that the miserable sufferer can hardly put his feet on the ground, and not unfrequently blisters are excited by attempting to walk while in this state.

Hyperæsthesia applied to mobility is seen in the occasional tremors and vibrations of the muscles of locomotion, sudden startings of the body, and twitches observed in the face and elsewhere, and tonic spasm of the flexures and lateral muscles of the fingers and toes, which become sometimes so rigidly twisted and bent forward as to require considerable force to again pull them straight. In a majority of cases there is a tendency to a slow and permanent contraction of the digital muscles, with progressive wasting from inaction, commencing at the small toes or fingers, and gradually extending to their fellows outwardly, and thus giving rise, as the disease

advances, to that frightful distortion of the hands and feet so painfully characteristic of this repulsive malady. Besides being shortened and hooked forward, the fingers and toes may permanently be twisted outwards or inwards, or just one or two of them may be so contorted, and then, if adjoining, they might cross each other, one finger or toe being drawn over its fellow next to it.

The peripheral nerves, however, suffer more frequently from an impaired state or lowering of their activity, as exemplified in the feelings of heaviness and weight, of cold or chilliness, of tingling, pins and needles, numbness, succeeded step by step, generally, by complete anæsthesia. These symptoms at first show themselves in the extremities over the distribution of the superficial nerves at either their inner or outer aspects, whence they creep on and all round, until the whole extremity is perhaps enveloped as it were in the paralytic affection. The anæsthesia afterwards encroaches upon the trunk, and will thus become general. Generally speaking, at the commencement, the loss of cutaneous sensibility is confined to a few circumscribed spots where the patches of eruption may present themselves, as on the elbows, upper part of the ulna and shins, back of the hands and feet, fingers and toes, sometimes the front and back of the trunk, &c. Not unfrequently the anæsthesia, before it has settled down into a permanency, is only of a transitory character, coming and going off at uncertain intervals.

Dr. Rose describes the most common different kinds of cutaneous eruption occurring in leprosy, as the papular, the tubercular, the bullar, and the squamous:—

1. The papular form consists of an eruption of small circular, elevated flattened points, or of even larger papulæ, sometimes reddish, distinct or closely clustered together, seated on an erythematous base of various shapes and sizes, generally slightly raised at the borders and depressed in the centre. These patches appear chiefly on the forehead, face, anterior part of the trunk, back, and on the outer aspects of the limbs. Their evolution is at first attended with much tingling, pricking, and a hot burning pain; these, however, soon subside, followed by anæsthesia, while the eruption gradually degenerates into a thick continuous squamous formation, in which the whole body is often more or less incased. Sometimes, as the disease advances, and in particular situations, as the face, forehead, nose, and ears, the papulæ will grow larger, more closely set and irregularly prominent, giving that swelled mammilated appearance to the features so remarkable in certain cases of this variety of leprosy, and which is not unfrequently mistaken for its more formidable congener, viz., the genuine tubercular malady.

Various vesicular and pustular eruptions, as herpes, eczema, strophulus, and porrigo, are frequently present at the same time.

2. The tubercular eruption consists of various sized and irregular shaped tubercles on the surface, sessile or somewhat pedunculated, scattered or crowded together, generally smooth, shining, soft, and insensible, and are either livid, dark brown, or fawn-coloured; they are usually preceded by reddish insensible patches, and occur most frequently on the face, nose, ears, lips, eyebrows, and chin, causing, with the thickened rugose state of the intervening skin, that frightful distortion of the features so remarkable in this form of leprosy.

3. The bullar or pemphigoid form is characterized by the eruption of some bullæ resembling pemphigus, generally coming on without any warning or knowledge of the patient, but, if occurring during the earlier stages, it may be preceded by some tingling and pruritus. They seldom appear more than few at a time, and are chiefly confined to the extremities, especially below the ankle and wrist joints. Their mode of termination is either by drying up and scabbing, or by ulceration and cicatrization. Sometimes the ulcers thus produced become gradually deeper, with a constant thin ichorous discharge, and never heal up until considerable portions of the feet or hands have been destroyed. The accidental erosions and burns to which the deadened limbs of lepers are liable cannot be confounded with this genuine eruption.

4. The squamous form is the most frequent and universal in leprosy in tropical latitudes, and, from our knowledge of the disease in India, we might say that a full three fourths of the cases ordinarily met with in this country are of this description. Three principal varieties of this eruption may be distinguished; viz., in one, the patches are of a circular shape, the same as in psoriasis circinata; in the second, they are irregular, and cover large surfaces, as in psoriasis diffusa; and lastly, in the third, they occur in bands or lines most curiously twisted as in psoriasis gyrata.

In the first form the scaly patches are circular, varying in size from that of a shilling to a dollar, more or less rough, and raised at the circumference, but smoother and depressed in the centre, and appearing at first a few and scattered on the limbs, afterwards more numerous on the back and rest of the trunk. In some cases the circles after a time may break up, and disappear, followed by the diffuse form, and in others these two varieties may be variously intermingled; sometimes the patches will go on increasing till large surfaces may be affected. The accompanying anæsthesia is either limited to the eruption, or may extend to other parts, even at a considerable distance from it. The eruption is originally papulæ in character, the papulæ being somewhat flattened and each covered with a scale, which is successively renewed.

Chittagong.—Leprosy is very common in this district, much more than in any other part of India in which I have been.

As far as my observation has gone, there are two distinct varieties or manifestations of the disease in India, differing in their external characters, in their severity, and in their frequency.

a. Lepra tuberculosa.—It first appears in a discoloration of the skin, which becomes of a dark-reddish or crimson shining colour This is generally attended by pain. A hard point usually forms at one part, raising the cuticle, which soon ulcerates; a thin sanious discharge is thrown out, which hardens on the surface, and forms a crust, from beneath which the purulent discharge continues to flow; the surrounding skin has its sensibility diminished.

In some respects it is like the tubercular form of syphilis. The distinguishing characters are, that in the former the tubercles are soft, tawny, and attended by anæsthesia of the surrounding skin; while in the latter they are hard, dark red, and their appearance can be generally traced to some antecedent venereal ulcer.

b. Lepra anæsthetica.—This is far more common than the first: it is so frequent among the inhabitants of the Chittagong District that it is scarcely possible to pass along any frequented road without meeting some one affected by the disease. It commences, I am told, generally by a burning sensation of the part; occasionally no uneasiness is felt. Portions of the skin are suddenly affected with loss of sensibility, and the dark colour of the skin is altered; the pigment appears to be gradually absorbed; in some entirely, in others only partially; the colour of the skin varies from a dusky olive to an almost pure white. These patches generally lose their hairs, are free from perspiration, and of a lower temperature than the surrounding surface; their shape is sometimes very irregular, at other times circular; in size they vary from the size of a rupee to that embracing the whole limb.

Mozufferpore (*Tirhoot*).—Leprosy prevails more or less in every town and village in Tirhoot. Mr. Macnamara, who has treated not less than 2,500 of the poor affected with leprosy at the dispensary under his charge during the last five years, describes three forms of the disease, the leucopathic, the anæsthetic, and the tubercular.

In the first form, although the change in the colour of the affected parts appears to be simply due to an absence of pigment in the skin, (which, together with the hair upon it, becomes perfectly white, but continues to perform its functions as in health,) there is reason to believe that it is allied to leprosy. The following is one among many cases of leucopathia which makes Mr. Macnamara think so. "A rich zemindar applied to me about a year ago suffering from this form of the disease, his arms and face being perfectly white. He was the eldest son of his father, who had died from the second or ulcerative form of the disease. My patient's only sister was affected like himself, and his brother in a similar way to his father. His only son, a lad of fifteen years of age, is now under my treatment for the third or tubercular form of the disease. This son was born prior to the leprosy having manifested itself in the case of the father, since which he has ceased to cohabit with his wife, and, as far as I can ascertain, she has no symptom of the disease."

In the advanced stage of the anæsthetic form, vesicles appear usually on the hands and feet first; the blister bursts, and leaves an unhealthy painless ulcer, which gradually extends and eats down to the bone; a slow form of mortification comes on, and joint after joint of the hands and feet are destroyed; the nose and lobes of the ears drop off; the patient suffers little or no pain, and the progress of the complaint is often fearfully slow; he becomes the most repulsive object on the face of the earth, and gradually subsides into rottenness and dust, for a considerable part of the body has died and been cast off long prior to the unfortunate man's dissolution. A fate not uncommon for these poor creatures is to be eaten alive by the jackalls when they are no longer able

to defend themselves, and the worse they become the more they are shunned by their own countrymen; and there being no hospital or asylum for them to go to, their fate is frequently such as is above described, or else they take poison and kill themselves in this way.

In the tubercular form, the disease usually runs its course with far greater rapidity than the last described form, and is frequently attended with great pain. The patient at the commencement of his illness notices a shining oily appearance of the skin; but at this stage, in place of the part having lost its powers of sensation, it is very painful to the touch, and becomes swollen from the deposit of leproid matter, small tumours then form, usually about the face, nipples, arms, and legs; they gradually increase in size, and are often tenably painful; ulceration comes on. The termination of the disease is much the same as in the second form, but is usually far more rapid, a diathesis similar to that of cancer being established; in fact the tumours are not at all unlike a series of small cancers spread all over the surface of the body. This form of the disease often follows syphilis; and had it not been distinctly and clearly described long before syphilis was ever heard of in India, I might have been inclined to consider it as a form of leprosy dependent on a syphilitic taint in the system.

Dorundah.—Dr. Govan describes the different forms of cutaneous eruption which he has witnessed in cases of leprosy; the whole symptoms and progress of the disease, commencing as it does with symptoms of prickling, burning, and numbness, &c., and terminating in ulcerative absorption and atrophy, lead one to look upon the nerves, if not the original source, at least to be among the parts primarily affected.

Form A.—Called by the natives soonbaharee.

Commences with a thickening of the integument of the fingers or toes; sometimes, missing over one or two fingers or toes, it will attack the next; it then spreads up the hands or feet; it will now stop, and appear at a point higher up; the thickening of the integument now appears in different parts of the body in patches of an irregularly circular form, having something the shape of ringworm. In the interior of each patch of thickened integument there are reddish eruptions, which are concealed by thickened epithelium, but can be brought into view by rubbing this off; the eruption consists of pimples containing a serous fluid; these patches are devoid of sensation; they frequently unite into large circular masses.

Form B.—Called by the natives bohuq.

The integument of heels or palms of the hands begin to thicken and crack, displaying the red flesh underneath; this will heal up; afterwards the point of the nose, ears, malar protuberances, &c., become thickened and flabby; after a time peculiar markings appear on the surface of the body, which I can only describe as being exceedingly like the markings out of different countries as seen on a map, and the colour of the spaces thus marked out are of an orange or dark mahogany colour; the orange-coloured patches are exceedingly insensible to the touch or prick of a pin, as compared with the surrounding skin; these patches are in no way elevated above the surrounding integument.

Form C.—Qooba mucshur.

One case of the following description I have seen:—There are over the surface of the body irregular patches of elevated and thickened cuticle; upon these there was strong black hair growing: these patches were deadened and insensible.

Form D.—Called by the natives jozam or burs.

The disease commences by rose coloured patches appearing on the tips of the fingers, toes, lips; these spread, and meet others, which break out on other parts of the body, until more or less of the whole body, sometimes the whole body, becomes of a rose colour; the cuticle is always in a scurfy state and falling off in scales; the hair also becomes white. Sometimes the subject of this disease is born of the peculiar colour above mentioned.

Patna.—Leprosy is well known in this district, and has been familiar to the people of this part of India for ages: their writers on medicine enumerate 18 or 20 forms of the disease as prevalent, but it is obvious that these are mere varieties of the same morbid state.

Dr. Sutherland considers that the development of the disease is always preceded by a cachectic condition, which he calls a leprous taint, or diathesis.

The characters of this taint are as follows:—A rough, harsh, and scurfy condition of the skin, chiefly of the hands and feet; it is rigid, wrinkled, dry, and harsh, and a hard pointed substance drawn over it will leave a white line, like a pencil drawn over a

slate; the heels are horny, cracked, and fissured, and the soles of the feet are thickened and fissured, but in a less degree; the toe nails are uneven, tubercular, much thickened, or almost wanting, their ends being thin, uneven, or ragged. Persons affected to the above extent may remain in that state for years, the diseased condition not extending; but if subjected to privations, such as bad food, or food in insufficient quantity, defective clothing, impure air, laborious and exhausting occupation while the person is badly nourished, leprosy of the anæsthetic form will frequently be the result.

That this leprous taint is extremely prevalent among the rural population of the district appears from the following facts:—

Within the last six months I have had to examine 2,348 men, intended for the new police of the city and district of Patna. These men appear before me in a state of nudity, with the exception of a cloth about the loins; traces of leprosy are thus easily observed. The average age of the men examined was 23 years. I found a leprous taint or diathesis to exist in one out of every ten, and this proportion was rejected as unfit for service.

When serving with the native army I found repeatedly that men who had in early life the characters which I regard as a proof of the existence of a leprous taint, and which I have already described, frequently had to be invalided in after years for leprosy.

Among 348 male prisoners (Hindoos 292, and Mussulmans 56) in the Patna jail, 17 Hindoos and 2 Mussulmans were affected with leprosy.

Midnapore.—Mr. Kendall describes, besides the tubercular and anæsthetic forms of the disease, another form, the morphæa alba lardacea (the dhobul khoosto of the natives), which is distinguished by the appearing of white marble-like glossy spots, either deficient in or entirely devoid of sensation; the patches are on a level with the surrounding skin, and feel hard and dense to the touch; the patches are generally devoid of hairs, or the hairs, when present, are white, very small, and weak.

Serajgunge.—Sub-Assistant Surgeon Jadub Chunder Deb observes that leprosy is known in this and in every district of India. "I do not know any place in India where leprous people are not found or seen."

The forms of leprosy in the district of Serajgunge are,—

1*st.* There is one variety of leprosy called by the natives dhobul or setterong (means white), which is a white affection of the skin. This differs from other varieties in not having scales, but consists of smooth shining circular patches, in which hair grows white and silky, with acute sensibility. This is incurable; it commonly commences on the palm of the hand, sole of the foot, lips, and then it extends all over the body. The natives of this country fear to touch these people, and neither dine with them for fear lest they get such disease.

2*nd.* There is another variety of leprosy, called by the natives moharoug or koot, and also called nalsy and jojam by the Hindostanee hakeems. This sort of leprosy is almost always fatal; it commonly commences on the face, nose, and ear by red patches; the skin of the face, nose, and ear become red and thick, with elevated edge and little or no sensibility; then it extends over the extremities; the skin of the palm of the hand, sole of the foot, fingers, and toes are thickened, inflamed, and covered with thick scales and crusts, which ultimately ulcerate and discharge offensive matter. In some of the worst cases the fingers and toes are sloughed off.

3*rd.* There is another variety of leprosy in this district; it commences generally with dusky red patches with elevated edges, and covered with thick crusts or scales. When removed the skin appears red and shining, with little or no sensibility.

b. In my opinion these several forms are only varieties of one common morbid state, and they are not distinct diseases having affinity with each other.

Chumparun.—Dr. Coates thus describes the advanced stage of the disease, when the bones become affected, and which is known to the natives by the name of korhi:—Its real commencement is in the periosteum, surrounding the shafts of the phalanges of fingers and toes. The periosteum becomes detached from the bone, and while doing so the tissues between it and the skin become infiltrated with exuded lymph, at first soft but ultimately hard and firm; and if more is thrown out at one side of the finger than at the other (according as the periosteum is affected at one part in preference to another), on the lymph hardening the finger is bent to the opposite side from the joint next to it, and firmly fixed in the new position. All this occurs without pain, and thus

ends that attack for that time. Next time the serum that is exuded between the periosteum and the bone, together with the surface of the bone which has exfoliated, find their way to the surface; the skin over the part being thick becomes elevated into a sort of bulla, which at last bursts, and an abscess is formed. The pus is of an extremely pale colour, and is accompanied by much serum, thin and clear; it has a peculiar and indescribable odour. The centre of the ulcer is of a pale glossy colour, and the edges bright red. From this red colour of the edges this stage of the disease is often called rakta kor. Attack after attack of this nature exactly succeed each other, and bone after bone becomes engaged; the ends soften and the shafts exfoliate; and while in this condition, if the sufferer knocks accidentally his finger or toe against any obstacle, the part breaks off. Some blood and grainy serum come away, and then the part dries up, leaving a thick scab over it until perfectly healed. In this manner joint after joint is lost. But if the affected finger is not broken off, the finger shortens at each attack from the entire shafts exfoliating, and the ends becoming absorbed until the finger or toenail, or what may remain of it, is found as far back as the base of the second phalanx. Before the process has proceeded thus far, the tendons often take on that softening and suppuration, which proceeds along up their palm and sole up to forearm and leg as far as their muscular origin, and this suppuration then extends to the intermuscular cellular tissue, and diffuse suppuration among the muscles of the forearm and leg is the result. By this time the radius, ulna and tibia and fibula become engaged; softening of the ends and exfoliation of the shafts go on, but only for a very short time; for this extensive suppuration has so far exhausted the unhappy sufferer that death from exhaustion rapidly supervenes, hectic accompanying of course.

Interrogatory II.

(*a.*)

Calcutta.—From the age of 20 to 30.

Pooree.—The disease generally begins to manifest itself between the ages of 4 to 26, as may be seen from the list of cases given in the accompanying table. I have never seen it in a child younger than five years of age, although the parents were affected with it.

Beerbhoom.—The disease generally appears between the ages of 18 and 30, or about the period of puberty; seldom before.

Malda.—Between 18 and 30; and in one or two instances it has shown from 10 to 12.

Cuttack.—The disease occasionally manifests itself in children as early as the fifth year, but the more common time appears to be between 20 and 30.

Chittagong.—The tubercular form of leprosy appears at any time of life. In one case that I know it first showed itself about 25 years of age. The anæsthetic manifests itself also at all ages; young boys of 12 and 14 are often affected. As a rule, however, it begins about middle life. One of the largest zemindars in this district is a leper. It began with him about his fortieth year. An intelligent baboo, who has this form of the disease, tells me that he is 57 years of age, and that up to his forty-eighth year he was quite free from it; that it first made its appearance on the lower lip and on the soles of his feet; that eight months afterwards it showed itself in the axilla; since then it has ceased to spread, although he has done nothing for the cure of his complaint.

A "dhobie" tells me that up to his twenty-ninth year he was not afflicted with any affection of the skin; now his hands and feet are covered with anæsthetic patches.

Mozufferpore.—As a general rule, I do not think any of the forms of leprosy manifest themselves before the age of puberty.

Huzareebaugh.—Leprosy is not frequently apparent as a disease of childhood, seldom making itself manifest before the age of 20.

Arrah.—The disease generally, I believe, manifests itself with or after puberty, *i.e.*, from 12 to 15; but I have known of cases occurring in childhood.

Midnapore.—Leprosy prevails at all ages, from infancy to extreme old age; but it appears to be much more common after than before the period of puberty.

Serajgunge.—The disease manifests itself in all ages of life.

Chumparun.—The following are the only statistics I have been able to collect since making minute enquiries on this subject:—

Out of 180 lepers between the ages of		10	and	20	it began in	21	patients.
,,	,,	20	,,	30	,,	67	,,
,,	,,	30	,,	40	,,	67	,,
,,	,,	40	,,	50	,,	24	,,
,,	,,	50	,,	60	,,	1	,,

(*b*)

Bancoorah.—Leprosy, which prevails to a great extent in this district, begins by various signs.

a. 1st, of sensation.—Long before any visible signs, the individuals about to be the victims of leprosy feel, in some cases, a peculiar kind of creeping as if of ants crawling about the member or part to be affected; others lose sensation; while others again feel a burning or smarting pain, like that after the sting of a wasp.

2nd, Visible signs.—In some cases the members to be affected with leprosy, such as the ears, nose, lips, fingers, &c., become hypertrophied, and the voice becomes thick and hoarse; in other cases the first visible sign is that patches of circular ulceration manifest themselves like ringworm in appearance; while in other cases a peculiar kind of absorption of the pigment takes place, leaving the cuticle quite fair.

Moorshedabad.—The disease, which is common in the districts of Moorshedabad, generally commences with a sensation of heat or burning of the skin, which is shortly followed by the eruption of small, smooth, and prominent spots (papulæ and tubercles) of a dark red colour arranged in a circular manner, and more or less elevated above the surrounding healthy skin; these patches gradually extend, and are sometimes covered with dry, white scales. The usual seats of the disease are the fingers and toes, ankle, knee, and elbow joints; the back and shoulders are also frequently affected. Diminished sensibility of the part attacked is an invariable symptom. As the disease progresses, small circular ulcers form, which discharge a sanious fluid; these are always difficult to heal, and when they occur on the feet or hands generally go on eating away the phalanges, or, in more aggravated cases, the whole hands or feet.

Pooree.—The earliest symptoms usually observable are the local discolorations of the skin, either about the face or extremities, occurring in the form of slightly raised patches, with loss of sensibility, or sometimes, when it begins in the tubercular form, an hypertrophy of the skin of a dark color, covering the alæ of the nose, lobes of the ears and face, first shows itself, conjoined to an unhealthy or diseased appearance.

Beerbhoom.—The earliest symptoms observable are circumscribed, isolated, pink or purplish colored scaly spots of a circular or ovoid form, attended generally with a sensation of numbness; partial or total loss of cutaneous sensibility; dryness and itching of the skin, often accompanied with sensations of formication, pricking or tingling over the entire surface, but particularly of the extremities, and often of burning in the palms of the hands, soles of the feet; change of color of the skin to a darker or lighter hue, and in most cases there exists a peculiar white shining appearance of the tip of the nose, lobes of the ears, &c.; general malaise and relaxation of the system.

Sumbulpoor.—In some cases the earliest symptom is discoloration of the skin, in others anæsthesia, in some both, and again in others the skin becomes dry and scurfy. Others have stated that the first symptoms are boil-like swellings, discharging an ichorous fluid; splitting or cracking of the tongue is also considered an early and sure sign of leprosy; and I must say that, of the many cases I have examined, comparatively few in whom the disease has been at all well marked have been free from this symptom.

Monghyr (*Behar.*)—The youngest leprotic patient I ever saw was the Mussulman boy, Tohoorie (Case VI.), twelve years of age; in him the disease is said to have begun twelve months ago. It commenced with local anæsthesia in two patches on the right thigh and hip; they are now the size of a hen's egg. On examining him, I found discolouration and dryness of skin, not only on the seat first affected by the disease, but also on the back of the left hand; the fingers and toes being swollen and the skin discolored already; I expect ulcerations to take place soon on those localities.

The earliest symptoms I go by in suspecting leprosy, which the sufferer tries to conceal as long as he can, is a slight but even (not tubercular) hypertrophy of the

toes, a peculiar shining appearance of the integument over them, unevenness of the nails, and fissures on the soles.

Midnapore.—In lepra tuberculosa the earliest symptoms are raised patches, having a coarse tubercular appearance, not unlike that presented by a thick-skinned orange, and affecting primarily the nose, face, ears, and eyebrows; the patches are usually more or less roundish in form, but this is more apparent when the spots are situated on the trunk or extremities, and is less marked when situated on the face; the size of the spots varies much, say from half or three quarters of an inch in diameter to several inches, involving occasionally the whole of the face, forehead, and ears; on their first appearance these spots have generally an erythematous or purplish hue, which afterwards gradually disappears.

The patches are generally attended with increased sensibility, the patient complaining of a slight tingling or pricking sensation.

In lepra anæsthetica the earliest symptoms are the occurrence of patches devoid of sensation, and usually appearing first on the extremities; these patches are distinguished by a partial bleaching of the skin, and a furfuraceous appearance caused by desquamation of the cuticle; the patches increase in size, and the loss of sensibility gradually extends until it reaches the trunk, and in severe cases I have seen only a small portion of the trunk retaining its sensibility, and that only imperfectly.

Rungpore.—The first symptom is almost invariably partial loss of sensation in some part of one or both of the lower extremities; in most cases that have come under my observation, this has first occurred in the right hip, soon extending to the foot, accompanied sometimes with formication or tingling on the skin; these symptoms gradually increase, the hands and arms being next affected; at this stage the fingers often become contracted or bent over at the last joint. The health is otherwise generally good. Ulcers often break out on the toes, which in many cases are entirely eaten away. These sores may extend over the whole body, leaving when healed a white scar.

Chumparun.—In the anæsthetic form, the first and most constantly noticed symptom is that of tingling running along the nerve from the affected part up the extremity, increased by touching, striking, or pinching any part of the skin over the course of the nerve. I have often observed this myself in a nerve which is just becoming the seat of leprosy; tapping it anywhere along its course makes the whole tingle; but the advanced cases have no such symptom, as soon as anæsthesia is established this hyperæsthesia of the nerve entirely subsides. It is frequently overlooked by the patients themselves, who, not dreaming of becoming subjects of such a disease, take little or no notice of this symptom at the time. At the commencement of the subsequent attacks in other extremeties it is frequently present, and it was in them I first noticed it.

The second symptom is the gradual loss of sensation in the patch of skin affected. While this is in progress, if any part of the diseased patch be pricked or pinched it is felt not so much in the spot touched as in the whole patch.

Serajgunge.—In many cases the disease commences with an intense burning sensation all over the body or particular parts of it; for instance, one arm, one leg, the face or back. This burning sensation is so distressing, particularly during the hot months of March, April, and May, that nothing but blood-letting relieves the patient, as, when I was at Bareilly, numbers of leprous people used to come to me to be bled. This burning sensation remains sometimes two or three years, and then the disease sets in with small, round, reddish, and shining elevations of the skin, at first smooth, but within a short time exhibiting thin white scales on their tops.

Interrogatory III.

Moorshedabad.—The middle period of life. Aggravated cases are seldom seen in young people, and I do not think that the disease itself causes much mortality, most lepers dying from diseases the result of want and exposure, such as diarrhœa, cholera, dysentery, or phthisis.

Pooree.—The period at which the disease usually proves fatal is subject to much diversity, and depends much on the form of it, and the habits, constitutional peculiaritites, and the means of good or bad living enjoyed by the individual. A great deal, in my opinion, depends on these two last circumstances; poor paupers and half

nourished individuals seeming to die much earlier than persons in little better positions of life, and who are thus able to indulge in more nutritious and wholesome articles of diet, though of course this does not always hold good.

Balasore.—The disease attains its full development at the age of 35 to 45, and within 5 to 10 years after its appearance. It generally proves fatal at the age of 40 to 50.

Furreedpoor.—The disease appears generally to attain its full majority during early manhood or about the age of from 30 to 40, and the time usually required for this purpose would seem to range from five to fifteen years. But these things evidently depend very much upon the form of the disease which it assumes in particular cases; for instance, the sthenic varieties, such as the tubercular, mammilated, and rash forms, as a general rule, commence early, and arrive at the height of their development quickly; on the other hand, those of an asthenic character, as the chromatogenous and purely scaly kinds, not only appear late, but maturate at a comparatively more advanced period of life. Death generally takes place between the tenth and twentieth year of the attack, and the thirtieth and fiftieth of the age of the patient. Exceptions of course occur to both the above rules; I have seen a child affected with tubercular leprosy at the early age of 8 years.

Tipperah.—The disease seems to attain its full development between the ages of 30 and 45; and judging from the cases I have examined, a fatal termination would take place about the age of 50 years.

Patna.—The disease does not usually attain its full development before the age of 40, and does not, unless complicated with other morbid conditions, prove fatal before the age of 50.

Midnapore.—The period of life at which the disease usually attains its full development depends on the period of life at which the attack first commences; and this appears to be most usual between the ages of 20 and 40 years.

The tubercular form seldom proves fatal before the third year, and, as a rule, not till the seventh or eighth; the average duration would probably be about ten or eleven years.

The anæsthetic form runs a much slower course, and I have very recently seen several patients who have been suffering from it for from twenty to thirty years; one case exceeding the latter period.

Rungpore.—I think the disease can hardly be said to obtain its full development within any particular time; sometimes it never gets beyond a certain point. A man may live leprous for many years, the only symptoms being partial loss of sensation in the extremities or bending of the fingers.

Interrogatory IV.

Calcutta.—Out of 58 lepers examined by me, 44 were males, 14 females.

Bancoorah.—It is more frequent in the female than the male; about two thirds of the lepers are of the female sex.

Moorshedabad.—I think it is equally common in both sexes.

Pooree.—It is more frequent in the male sex than in the female in this district, and in the following proportion of 5·25 males to 1 female.—*Vide* Table of Cases. The preponderance of the affected males over the females in this district may be owing, in some measure, to the circumstances that the greater portion of them are pilgrims who have come from other parts of India, of whom males form the majority.

Raneegunge.—I do not think so, as, although we see more males affected: this I consider owing to the females being kept more at home, and seldom, if ever, coming for treatment.

Beerbhoom.—The disease is much more prevalent in the male sex.

In what proportion I cannot say, from my own knowledge; but by intelligent natives I have been informed that the proportion is about five to two. I have not often seen the disease in the female sex, and their greater immunity from it may be owing to their being less exposed to the vicissitudes of the weather, and less dissolute in their habits.

Sumbulpoor.—I do not think the disease is more common in one sex than the other, but I have no data enabling me to give a positive opinion.

Cuttack.—The disease is undoubtedly more common in the male than female sex, but in what proportion I cannot say. It would be a very difficult thing to ascertain this point with any certainty, as the women are so excluded from the public eye.

Mozufferpore.—The disease is equally prevalent in both sexes.

Arrah.—Leprosy is eminently a disease of the male sex; in my opinion at least 95 per cent. of those attacked are males.

Bhaugulpore.—The disease is not, as far as my experience goes, and from the inquiries that I have made, more frequent in one sex than another.

Monghyr.—I have no reason to suppose that sex makes any difference in the frequency of the disease. The absence of all exact statistical data regarding the population of this country, and the seclusion of the female sex, make any opinion on the subject a mere guess.

Interrogatory V.

Calcutta.—It is confined almost entirely to the purely black population.

Raneegunge.—Decidedly more common amongst the native races of India, Burmah, and China than amongst the temporary residents, even making every allowance for their relative proportions; it is not rare among half breeds, especially the mildest variety; but I have been repeatedly asked to prescribe for leprosy, among this class, which was decidedly secondary syphilitic symptoms.

Sumbulpoor.—There are only a few Europeans, all officials, resident in Sumbulpoor, and none of these are affected; as regards the natives, all castes and classes seem to be equally affected, with this exception, that I do not remember to have seen a man of the syce caste suffering from leprosy; this is a very low caste in Sumbulpoor.

Furreedpoor.—Certainly the colored or the indigenous population is the most liable to the disease. I cannot state what is the ordinary relative proportion between the affected of those two classes of inhabitants, viz., the native and foreign, in any part of India. Mahomedans appear to be more obnoxious than the Hindoos.

Chittagong.—I have never seen or heard of a case of leprosy in a pure European.

At Chittagong there are about 850 Roman Catholics of Portuguese descent who have become almost natives in their colour and habits. The natives distinguish them from pure Europeans by the opprobrious term "Feringhees." Their ancestors were the old Portuguese colonists of India. These married with natives, and a race of half castes was the offspring. I cannot discover whether any new immigration has taken place since Chittagong came under British rule, but from the effeminacy and smallness of stature of the present race I should imagine that breeding in and in has caused them to degenerate. Now a days they never marry with natives, and only occasionally is fresh blood introduced from some Portuguese colony. Their habits approximate very much to those of the Hindoos and Mussulmans; they live in the same badly ventilated thatched houses, surrounded by the same jungle and in the same bazaars. They, however, dress more in the European fashion; but their food is, with few exceptions, similar to that of the natives. They eat beef, generally young and very lean. Very fat pork, improperly fed, is their favourite animal food. They use a considerable quantity of country spirits of very inferior quality. Mr. J. E. Bruce, Salt Agent at Chittagong, informs me, that during his residence of 29 years here he has only known two severe cases, and one slight one among these people. Monsieur Fonimond, their priest, says that leprosy is a very rare disease among them. In addition to the 850 above mentioned, there are about 50 native Christians who have no Portuguese blood. Leprosy is quite as rare among them as among the Feringhees; their habits and mode of living are similar. Leprosy is, therefore, much more common among the black population than in either of the others.

Mozufferpoor.—The Hindoos, Mussulmans, half-caste, and native Christians are all, as far as my experience goes, equally effected with this disease. I have never met with a case of the kind in a British-born subject.

Arrah.—Leprosy is entirely confined, I think, to the native population, and is unknown among the Eurasians and Europeans.

Dorundah.—I have seen an apparently greater proportion of cases among the Assamese than among the population of this district. I have never seen an instance of the disease among the European population, but it occurs among the Eurasian or half-caste population.

Patna.—The disease is extremely rare among Europeans in this country; it is more prevalent among Hindoos than Mussulmans; the latter, as a general rule, live better and adopt a more varied diet than the former.

Interrogatory VI.

Calcutta.—In the very lowest. Poverty, filth, and very frequently complication with syphilis, I think, seem to favour its development.

Bancoorah.—*a.* The disease, as far as my experience goes, is more rife in towns or large villages, where the population is great, than in small rural villages, or in parts of the district thinly populated. The larger villages or towns in the district (where leprosy prevails) are generally situated on high ground, but surrounded with rice-fields, which are flooded during certain seasons of the year, and of course must evolve malarial exhalations. The supply of water, both for drinking and ablution, is obtained generally from "tanks" or reservoirs, which in some seasons of the year become overgrown with a species of vegetation, which, from observation and experiment, I can assert to be a fertile source of scabies.

b. The dwellings of the class in which leprosy prevails are small mat huts, about 10 feet high, and consisting of one room, generally not so large as 10 feet square, in which a whole family live, cook, eat, and sleep, with no furniture, and with little or no covering of clothes; the houses are generally dirty, and the surrounding neighbourhood is as much so from the accumulation of garbage.

c. They are extremely dirty in their habits, seldom or never bathe, and certainly never change or wash the little clothing they wear to conceal their nakedness, but simply allow it to rot and fall off.

Pooree.—It is chiefly confined to the poorer people, and to those who are either pilgrims, having come from other and remote parts of India, bringing the disease with them, or to the ill-fed, and those who live in low and squalid habitations, where vice and filth of every description is rife. The rich and well-to-do, also, in some instances, are the subjects of it. A good case in illustration of this occurred a few years ago in that of the late Rajah of Pooree, who died from it at the age of 25, a confirmed leper. The unfortunate victims of it are generally to be seen wandering about the streets and native bazaars, begging for sustenance from door to door, objects alike of pity and disgust from the hideous deformities presented by many of them.

c. The people are generally, with a few exceptions, such as the highest caste Brahmins and those nearly allied to them, dirty and uncleanly, seldom even washing their bodies, and wearing the same clothes till they nearly drop off. This is particularly the case with the poor and labouring classes, who, from poverty and lazy habits bred up from infancy, are the worst. In addition to these habits, they adopt another equally dirty practice, *i.e.*, of anointing the whole of the body with a mixture of turmeric powder and mustard oil, which they do with the idea that it acts as a safeguard against cold and rheumatism.

d. The ordinary diet of the poor people chiefly consists of boiled rice, vegetable curry, or fish, either fresh or dried, with a very few condimentary spices, and a little mustard or castor oil* in place of butter or ghee.

Balasore.—*b.* The dwellings poorly low, and built in a plan with total disregard to cleanliness, ventilation, and light.

c. No care is taken of their persons, clothes scanty, and soiled by dirt and oil which they rub with turmeric; bathing in cesspools, the water of which is impregnated with remains of putrefied vegetables and animals. This also serves for cooking and

---

* It is a notorious fact that the poor people of this district actually use this oil as food, habit seeming to inure the system to its ill effects.

other purposes, except drinking. Sleeping on the damp floor, with but straw and scanty clothing to protect the body from the injurious effects of damp.

d. The ordinary diet, coarse rice, dried fishes, and vegetables. Way of living, fishing, and exposing to the influence of sun, rain, cold, &c.

Beerbhoom.—b. Sanitary laws or precautions are utterly disregarded by the great mass of the inhabitants; they may be said to revel in filth and foul air, and to luxuriate in the midst of reeking manure heaps, stagnant cesspools, &c., the water of which latter is not unfrequently used for every domestic purpose, whether for personal ablutions, cleansing of filthy rotten rags, often saturated with the emanations from bodies affected with the most loathsome forms of skin disease, syphilis, scrofula, &c., and for cooking purposes; even the calls of nature are frequently complied with on the verge of those foci of contamination, and with the water of the same pool the mouth and breech are indiscriminately laved.

d. The food is of the poorest, often of the most unwholesome and innutritious description, exclusively vegetable, consisting for the most part of the coarsest kind of rice, to which is added, by those who can afford it, a small portion of the poorest and least nutritious pulse and green vegetable, and is often eaten without salt, or if this article is procurable it is always largely mixed with dirt, and I fear often adulterated with something still more prejudicial to health; other condiments, particularly of the warm class, so essential to a rice-eating people, are almost unknown to the poorer classes of the people. Those articles of diet, particularly the pulse, are often damaged from damp or other causes; and to the use of this article in this state inveterate cutaneous eruptions have been ascribed,* even to some kinds of this article in a sound condition, and which from their cheapness are almost exclusively used by the most indigent, similar and even deleterious effects are attributed. The food thus used by the most indigent classes may be said to be of a most unwholesome and innutritious character.

Sumbulpoor.—In the cases above given it will be observed that there are persons of very various castes and occupations, and I may add, that, with the exception above given, I have the notes of others of nearly every caste in existence in the district.

c. The higher classes and inhabitants of towns generally are decidedly clean, as bathing is an institution; the lower classes are however filthy, and the colour of their bodies is quite obscured by dirt and oil rubbed in layer upon layer.

d. The ordinary diet of the people of this district consists of rice, dhâl, wheaten flour, maize flour, meat, ghee or clarified butter, sugar, curds, cheese, and vegetables, and fruits in endless variety, though not of very good quality.

They also almost without exception consume spirit, and many take opium, and not a few hemp.

Cuttack.—The disease is most prevalent in the lowest classes of society, for dirty habits and bad living appear greatly to foment it.

a. Damp places favour the development of the disease; but as regards its greater prevalence in urban or rural districts, I am unable to get statistics.

b. The sanitary state of the dwellings of the poor in Cuttack and its neighbourhood is of the worst kind; they build their houses from mud, which is dug close to them, and the holes thus left become the receptacles of all kinds of filth, and after the rains dry up spread malaria in all directions.

d. As regards the diet of leprous persons, I find they live chiefly on rice, pulses, and vegetables, and occasionally flesh. All agree in saying that the eating of fish increases the disease; and it is only when they have given up all idea of being cured that they become callous, and make it an article of diet.

Furreedpore.—There is nothing remarkable in the ordinary diet, and in the general way of living, of the people of the district which may be suspected to have any peculiar effect either in bringing on or continuing the disease. They are, however, extremely fond of fish, which abound everywhere, and of which they are great eaters; but I do not see that they are on that account the more subject to its inroads than their less piscivorous brethren in the neighbouring districts.

---

* Dr. Best of Raneegunge remarks:—Among the poorer classes of this district, the cheap kesaree dâl is much used, and I cannot help remarking that the symptoms of its noxious influence much resemble some of the primary manifestations of leprosy. Thus we have pain and weakness of the knees and ankles, burning of the hands and feet, general feverishness, pain at the pit of the stomach, and, if persevered in, we have scaly eruptions of the skin and pains all over the body.

Chittagong.—The hill districts are much more healthy than the valleys. The tribes inhabiting these parts are remarkably fine races; they are short, thickly-set, muscular, and large-boned; they are variously called Chukmas, Kookies, Mughs, and Tipperahs.

The houses of the Chukmahs are peculiar, and well adapted for the damp, hot, malarious climate in which they live. They are on piles, and are entirely built of wood, being raised about eight or ten feet from the ground. A ladder is the only approach to the chambers, which have generally two doors, and in the dwellings of the better classes one or two windows are found. Between the floor and the ground all the filth and refuse of the household are cast; water accumulates unheeded, and the calls of nature are attended to in the same spot. With such noxious emanations rising from beneath their feet, it is no wonder that smallpox and cholera occasionally commit great ravages. The Chukmas are a cleanly race, as far as daily ablution can make them so; but their clothes are filthy in the extreme, and are generally worn until they fall to pieces. They live tolerably well; their food consists of from half to three quarters of a seer of rice daily; with this, when the expense can be afforded, chicken, goat's flesh, wild boar, deer, and tiger's flesh are added. Fresh fish is eaten when it can be procured, but the most delicate and recherché fare is the half rotten, dirty, dried fish called "sukhti." This is a mess prepared by salting fish, and then drying them in the sun's rays; it is very apt to cause diarrhœa, and to counteract this tendency they use large quantities of chillies and other condiments.

Fevers of a malarial type, at certain seasons of the year, attack almost the whole population; spleen disease, however, is rare; smallpox occasionally visits them; this year it has been severer than usual. Cholera makes its appearance at uncertain intervals. During the present month (April 1863) it is carrying off considerable numbers. Syphilis has not entered their country up to the present time. Gonorrhœa exists. Skin diseases are very common, as might be inferred from finding that they lived on such unwholesome food. The native doctor at Kassalong informs me that scarcely a single adult is to be found who is not subject to some herpetic eruption; it generally attacks the abdomen, loins, and shoulders.

Among the Chukmas leprosy is found in both its forms, but it is unfrequent.

The Mughs, another race, inhabit the district around Chittagong and the villages along the sea coast. This is the most robust tribe in this part of the country. They are short-necked, have prominent cheek bones, and their eyes are small. Their eyebrows are angular. They are chiefly fishermen, cultivators, and weavers. In religion they are Buddhists. To kill any animal is therefore forbidden to them; but any that has died, even of disease, and however putrid it may be, is greedily devoured. They eat everything, and do not look with abhorrence on either lizards or snakes. They also indulge in native spirits. They are a people of strong animal passions, and are very revengeful. Their favorite article of diet is a half-decayed mess of fish, dried in the sun and salted, called "nga pie;" of this, flavoured with condiments, they eat daily enormous quantities. Like the Chukmas, they live in houses raised on piles. In the sub-division of Cox's Bazaar, which is chiefly inhabited by Mughs, fevers, rheumatism, and catarrhs are prevalent. Skin diseases are as prevalent as among the other hill tribes; herpes, scabies, and psoriasis are found among all classes. Leprosy, from what I can learn, is very rare; not nearly so common as it is among the inhabitants around Chittagong.

Tipperah.—The circumstance which I have seen most favorable to the development of the disease is syphilis, aggravated by want and proper treatment. In this district syphilis of a bad form prevails. During my short residence here I have had many cases under treatment, all chancres of a phagedenic kind, invariably followed by secondary syphilis. This can in a measure be accounted for by the fact of the natives tampering with themselves, and using their own remedies before applying for medical aid. In the treatment of syphilis they use mercury largely; to so great an extent as to damage the system permanently in many, and lead to a fatal termination in some. I have seen one fatal case, from sloughing of the cheek and necrosis of the inferior maxilla, from excessive salivation in a man with enlarged spleen, who was salivated for syphilis. Five of the above-mentioned cases of leprosy had syphilis, and had undergone treatment for the same at the hands of native practitioners.

Mozufferpore.—The disease is certainly most common among the lower classes; but considering the vast excess of these over their richer brethen, I doubt if the actual proportion of lepers is greater among the poor than the richer classes.

a. There are a vast number of lepers throughout the whole of Nepal and the

Province of Tirhoot. This district is situated between latitude 25° 26′–26° 42′, longitude 14° 58′–87° 11′, and is bounded on the north by the mountainous country of Nepal, which separates it from the Himalays, and on the south by the river Ganges. The country is undulated, and like other parts of the valley of the Ganges is remarkably fertile. It abounds in lakes and fine rivers, by means of which the drainage of the Himalays pass into the Ganges. These streams overflow their banks during the rainy season, *i.e.*, between June and September, and lay the district for miles under water. The climate is mild and moist, as compared with some other parts of India, the maximum temperature being for the year 87°, the minimum 69°, and the mean 75°. The soil is formed from an alluvial deposit, and in many places is saturated with muriate of soda, sulphate of soda, saltpetre, and other salts; as a consequence a vast number of the inhabitants suffer from goiter. During the last six months no less than 6,000 goitre patients have been under treatment at this dispensary, the largest tumours being quickly cured by the application of the biniodide of mercury.

d. The population may be divided into four classes. The first composed of Brahmins, &c., including about 40,000 of the 3,000,000 inhabitants of this district; they consume daily in the morning about a pound and a half of bread made of wheat with four ounces of dâl (a kind of pea), an ounce of butter with vegetables and salt, and half a pound of fish or flesh; in the hot season they often take milk in place of animal food; in the evening they eat a meal, consisting of a pound and a half of rice with about the same quantity of dhye, or the curd of milk, and two or three ounces of dâl with butter and vegetables; sugar, spice, &c. are all added to improve the taste of the above articles of diet.

The second class, or Koornees, constitute about 80,000 of the population of Tirhoot. They usually take two meals a day. In the morning they consume a pound or a pound and a half of bread made of Indian corn and barley, together with three ounces of dâl and one of butter, to which they add usually, on three or four days of the week, half a pound of fish and flesh and vegetables. At night they take a pound and a half of rice with two ounces of dâl and a little butter, and half a pound of dhye. They drink more or less spirits according to taste.

The third class, which, if we include the lower order of Mussulmans with it, amount to nearly 2,000,000 people. They usually eat in the morning a pound of bread made of Indian corn and barley, or a pound and a half of rice, together with three ounces of dâl and a few vegetables; frequently to this they had some fish. In the evening they usually take a pound of rice with a few vegetables and salt. They drink spirits.

The fourth class, of the Mussulmans. These live much like Christians, and, with the exception of spirits and pigs' flesh, consume the same articles of food as we do.

Arrah.—It is almost entirely confined to the poorest of the poor and the lowest of the low; it is fostered, though not necessarily produced, by poverty. Those who have lived out here only know the straits to which the poor of the land (I don't mean beggars) are put to for food of any description, and these are they on whom leprosy fattens; yet the rich of the land are also victims, and with them it cannot be attributed to bad food. I do not believe that the disease is occasioned either by locality (*a*) or sanitary causes (*b*), but principally by the ordinary diet (*d*) and general way of living, influenced of course by the occupation (*e*) or employment, and indirectly by the habits (*c*) of life.

Bhaugulpore.—It occurs most frequently in the poorer classes, and is most common amongst the beggars in this country.

d. Their ordinary diet consists of vegetables and rice, and now and then fish, which is generally eaten when it is almost putrid. It is thought by the natives that leprosy is caused by eating bad rice; but I cannot give a decided opinion on this subject; but there is no doubt but that diseased rice, which the poorer class frequently eat, has a very detrimental effect upon the constitution.

Monghyr.—The natives here have an impression that oily aliments and fish diet favour the developement of the disease.

Gyah.—The diet of the poor of this district (in which the disease is common) is above that of the poor of Bengal generally; it consists of wheat, rice, dâl (pulses), fish, sometimes meat, and a variety of vegetables, among which the potato is not uncommon.

Patna.—*a.* The disease appears to be greatly more common among the rural population than in the city of Patna. The district is a low alluvial plain, liable to periodical inundation.

b. The dwellings of the lower classes are low thatched or tiled huts, with a small door on one side only; windows are not known, and there is no roof or other ventilation. The Hindoos plaster their walls and floor with cow dung. This adds to the coolness while it probably injures the salubrity of their huts.

d. The diet of the lower classes among whom leprosy is most prevalent consists, almost exclusively in this part of India, of rice and the pulses; but the poorest and most needy in the rural district subsist chiefly on a vetch, lathyrus sativus, an extremly unwholesome and indigestible article of diet, well known to produce paralysis of the lower extremities; it is cheap, 100 lbs. being sold for a rupee.

The pulses (or dâls), although rich in gluten, are heating. Natives in good health digest them; but in sickness, where any tendency to diarrhœa or dysentry exist, they disagree; and I have repeatedly seen relapses of dysentry follow on dâl being taken as an article of diet in early convalescence. Most of the pulses are cheap, from 40 to 60 lbs. being sold for a rupee; they are therefore easily obtainable by all classes. That the use of them as an almost exclusive article of diet causes leprosy in the predisposed is, I think, rendered highly probable, by what I have stated elsewhere as to the greater prevalence of leprosy among the rural population who consume the pulses in greater proportion than the inhabitants of cities. As the subject is of some importance, I will give the names of eleven species of dâls consumed by the natives of this district.

1. Urhur.—Cajanus indicus.
2. Ord.—Phaseolus radiatus.
3. Mat.— „ mungo.
4. Mung.— „ aconitifolius.
5. Mussaur.—Ervum lens.
6. Koorthee.—Dolichos biflorus.
7. Kessari.—Lathyrus sativus.
8. Gram.—Cicer arietinum.
9. Ankari.—Vicia sativa.
10. Sem.—Dolichos purpurea.
11. Muttu.—Pisum sativum.

The lower classes of the urban as well as the rural population use the Indian corn and the millets as an article of diet, mixed with the flour of wheat, and made into cakes. Melted butter is taken with them, but the poorer classes can afford very little of the latter, and sometimes use an acrid and impure oil in lieu of butter.

There are five species of millet in common use. They are

1. Koodo.—Paspalum scrobiculatum.
2. Bagaa.—Panicum spicatum.
3. Jamar.—Sorghum vulgare.
4. Kangune.—Paspalum scrobiculatum.*
5. Cheena.—Panicum miliaceum.

As far as I can ascertain, they are less nutritious than wheaten bread, being somewhat deficient in nitrogen, but they have no decidedly injurious effect on the constitution, and are easily digested.

Fish, as an article of diet, is used by every class of the natives; and in a country where decomposition is rapid it often happens that it is sold in a tainted state to the poorer classes. The use of tainted fish is believed, I think justly, to be a cause of leprous disease. Hot spices are mixed largely with the food of all classes of the natives when they have the means of purchasing them; and the lower orders of the Hindoos indulge freely in the use of a spirit distilled from coarse sugar and the pulpy corolla of the mowah, Bassia latifolia, or in the intoxicating juice of the Palmyra palm, Borassus flabelliformis.

Leprosy is not uncommon in the middle classes of natives; and this is not surprising, for, although their food is better, the state of their dwellings, as regards ventilation and cleanliness, is little better than that of the poorest class who live in huts.

Chumparun.—Their food is chiefly rice, fish and pulse are taken also, and vegetables are freely indulged in, as they are considered cooling. To the leprous patients the following articles of food are injurious. They certainly serve to bring on the attacks and increase the severity of them:—

Urid.—Phaseolus max et radiatus.
Khesári.—Lathyrus sativus.
Sein.—A flat bean, and keraö a small pea.
Sárú, a sort of rice, and jou, barley, fish, flesh, sweetmeats.
Baingan.—Solanum melongena.
Alina.—Convolvulus batatas.
Luthni.—Dissooria largeneria.†
Kohar or kohra, rape oil, and rice spirit, or indeed any spirit of any sort.

* Should this not be Panicum italicum?—Kungoo (Bengalee).
† Probably, Dioscorea Lagenaria.

These certainly increased the suppuration of the korhi cases, either by over stimulation or by inducing dyspepsia, and the skin sympathising with the disordered state of the bowels. I have fed some of the patients on flesh myself, to test their own statements, and found that it increased the severity of the attacks. The other articles are certainly injurious, as they injure the powers of digestion, and alter and vitiate the secretions.

Interrogatory VII.

Calcutta.—Poverty, privation, and neglect, and syphilis, especially when complicated with the use of mercury.

Bancoorah.—If a man suffering from leprosy, but "well to do," is suddenly reduced to want, the disease is augmented; whereas, on the other hand, if the poor and needy are taken care of, washed, clothed, and well fed, the malady seems to be arrested in its ravages; if not altogether, certainly its progress is less rapid.

Pooree.—Poverty, excess of bodily labour, deprivations or distresses of any kind, chiefly those caused by long journeys or pilgrimages to Juggurnauth, insufficient nourishment, absorption of impure airs, such as from living in unhealthy localities, confined habitations, &c., laying out in the open air, and exposure to inclemencies of season, chiefly during the monsoons and cold weather; indulgence in intoxicating drugs, such as the preparations of hemp and opium; dissipations of all kinds, particularly excess of venery (as was the case with the late Rajah of Pooree, who, as I said before, died from this disease and syphilis at an early age), want of proper medical and other hygienic means, and the abuse of remedies, such as mercury, which is sometimes prescribed by the ignorant quacks in the early stages of the disease, mistaking it for syphilis, not to mention the existence of a scrofulous or syphilitic taint; these then seem to be the most common aggravating circumstances of the disease as I have seen it among the people here. Instances of each particular one mentioned have repeatedly come under my notice, as they have been treated at the Pilgrim Hospital. I may mention that, of all the causes I have enumerated, sufferings from long journies, such as caused by bad food, bodily exhaustion, and exposure to inclemencies of season, seem to exercise the most deleterious effects in aggravating the disease, and hastening it on to a fatal termination. Many a life has been frequently prolonged under such circumstances from proper treatment, nutritious diet, and proper shelter afforded them in the Pooree Pilgrim Hospital, where these unfortunate sufferers have constantly been taken in.

Hazareebaugh.—The disease appears to be both aggravated and accelerated in its development by the excessive use of stimulants, such as ardent spirits, and by the indulgence in extra quantities of salt with the food, as well as by eating sweetmeats, also if the physical strength be over-taxed by laborious occupation of any kind.

Monghyr.—Poverty decidedly, and its accompanying evils. Almost all the leprotic patients have the impression that some previous illness, especially cutaneous disease and syphilis, has preceded or aggravated their affliction; probably an exhausting disease caused the first manifestation of leprosy they have noticed.

Gyah.—Any circumstances tending to weaken the constitution generally, as damp, unwholesome air, a less nutritious diet than usual, depression of spirits, &c. These two latter have a marked effect in advanced stages of the disease. When leprous patients do not come much into contact with other people, when virtually they have become outcasts, and have to shift for themselves, then the symptoms become aggravated and the course of the disease more rapid.

Seraigunge.—This disease, when it has manifested itself in an individual, is accelerated or aggravated, in my opinion, by indulging too much in drinking alcohol, venereal pleasure, and exposure to intense heat; this I have seen in many individuals.

Chumparun.—When the well-to-do farmer of middle age finds himself becoming leprous, he covers up the part, abstains from all stimulating food, drink, and spices, shuts himself up, keeps the part covered and concealed as long as he can, takes the simplest and most cooling diet, and runs into no excess of any kind. This man will have the attacks very rarely, and the progress of the disease will most probably stop at the sunbahri (anæsthetic) stage, and never go on to the kor form. If, on the contrary, he is poor, and has to beg or work, or take to stealing, he eats the cheapest and

therefore the worst food, and badly cooked; he drinks the rice spirit, and exposes himself to the sun and the weather; takes to travelling from one sacred shrine or part of a river to another, and lives an improper life; his attacks will be frequent, korhi will early establish itself in him, and run its loathsome and fatal course.

Interrogatory VIII.

Calcutta.—I believe the disease to be hereditary, though from the statements of the lepers examined by me the reverse would seem to be the case.

Moorshedabad.—The general opinion is in favour of its hereditary character. Lately I had an opportunity of seeing a leprous infant whose father was suffering from the disease in the tubercular form on his back and shoulder. Instances are frequent when only one member of a family is affected.

Pooree.—Yes; the disease does often appear to be hereditary, as may be seen from the accompanying table, where out of 105 cases 31 give a strong suspicion of hereditary descent, from the circumstances that either one or both of their parents, or other near relatives or friends, have had the disease before them, and the patients themselves could give no other reasonable or probable cause for it. My own opinion is, that even a much larger per-centage of the cases owe their existence to this cause than appears from the table.

Many instances are mentioned by the people where only one member of a family was affected, while all the other members remained free from any trace of it. I have also seen several cases of the kind myself.

Sumbulpoor.—The disease does not appear to be hereditary as a general rule; but it is somewhat singular that two brothers, or a brother and sister, may be, and often are, affected, when their father and mother and ancestors and other brothers and sisters were not, and are not, affected; but there are also numerous instances in which only one member of a family has been affected, as far as could be made out.

Jessore.—If the disease is hereditary it sometimes makes its appearance very late in life, for I have often seen mothers affected whose children seem strong and perfectly healthy.

I have known very many instances where only one member of a family has been affected, while all the other members remained free from any trace of it, although living together.

Furreedpoor.—Notwithstanding its undoubted power of transmission from parent to offspring, it is also a noted fact that it is often capable of spontaneous origin, and that these idiopathic cases are just as numerous, if not more so, especially in the tropics, as those which could be alone traced to parental influence.

Mozufferpore.—I am quite convinced the disease is hereditary. I know of many cases of leprosy in which some of the members of the family have been free from the disease, but in these instances the children have, for the most part, been born prior to the symptoms having been developed in the case of the parents.

Arrah.—Hereditariness is the predisposing, and bad food the exciting, cause of the disease; the fact of its appearing amongst the rich and wealthy shows that it must be hereditary. There are instances of the father being a leper, his children free from the disease, which reappears among his grandchildren.

Monghyr.—If we are to put confidence in the general assertion of the lepers themselves, it would appear that in by far the greater number of cases the disease is not hereditary.

Patna.—All the forms of leprosy are hereditary; numerous cases prove this; but natives almost always from motives of shame deny that leprosy exists in their family. I have known several instances where only one member of a family was affected with decided leprosy; but a careful inquiry will often show that a leprous taint or diathesis exists in some of the other members of the family, although the disease has never been developed.

Rungpore.—It is in many cases hereditary; sometimes in a sort of modified form, and this will often be apparent from birth; thus the offspring of a leprous parent may be born with bent fingers or toes, or certain members, as fingers, ears, or arms, may be entirely wanting.

I have seen many cases where the diseased person was the only one of the family so affected.

Chumparun.—I have found it hereditary among the few, but it is most distinctly acquired in the large majority of the cases that occur both here and in the Terai.

Interrogatory IX.

Calcutta.—Leprosy appears to be often dependent on and connected with syphilis.

Bancoorah.—I do not believe that leprosy is in any way dependent on syphilis, but I am not so confident as to the yaws. * * * The natives of this district attribute, in some cases, the beginning of leprosy in one member of a hitherto free family, which afterwards becomes hereditary, to the abuse of mercury.

Moorshedabad.—I believe leprosy is very often connected with, if not dependent on, syphilis; and the abuse of mercury is general in native practice.

Poonee.—I have no reason to believe so. * * * On the other hand, there is no doubt that the existence of syphilis is a most aggravating circumstance, and presents one of the worst states of system possible for the supervention of leprosy, certainly inducing a more rapid destruction of the bones and the other structures, and also presenting, from the existence of two poisonous matters, as it were, in the system, a highly rebellious case for treatment.

Cuttack.—I do not think so, but I do believe that leprosy is apt to be more violent in a person who has had syphilis. The poison I look upon as perfectly distinct, although some of the symptoms of the one occasionally resemble those of the other.

Furreedpoor.—Leprosy is essentially an independent disease, having no relationship or connexion whatever with other maladies.

Chittagong.—Leprosy is not connected with syphilis. * * * What can be more conclusive on this point than the fact that among the Chukmas syphilis is unknown, yet leprosy is to be found?

Pubna.—I do not think that leprosy is connected with syphilis, but I believe that it is connected with scrofula in some cases.

Serampore.—In cases of secondary syphilis, in which mercury has been administered over and over again, the disease has not unfrequently degenerated into leprosy.

Bhaugulpore.—I have very good reason to know that leprosy is dependent on syphilis, for I have known several cases that have been preceded by syphilis.

Gyah.—The difficulty of attempting in this district to connect any disease with syphilis is very great, because nearly all the natives have had syphilis, and have taken mercury largely for it.

Patna.—I have seen several cases where secondary or tertiary syphilis simulated leprosy, and such cases have been mistaken for leprosy; a leprous taint or diathesis existed in these cases, but the disease superinduced was syphilitic.

Rungpore.—It very often appears to be dependent on syphilis for its development; a secondary syphilitic sore will often, through want of attention and cleanliness, apparently assume the characteristics of a leprous sore.

Chumparun.—With syphilis it has no connexion whatever, though many of the people think so. The hakeems try to describe seven varieties of leprosy, but they have never been able to give me a distinctive description, and several of the cases they showed me I at once detected to be secondary and tertiary syphilitic skin affections; and questioning the men at once proved my diagnosis.

Interrogatory X.

Calcutta.—Never. Healthy men have dressed the ulcers of lepers and washed their soiled bandages for years without a trace of the disease appearing on them.

c. Yes.

Bancoorah.—Yes, when the disease is in the stage of ulceration; but there must be actual contact either of the person or clothes worn by the sufferers, or from bathing in the same reservoir.

c. A case is mentioned where a man, none of whose family, he said, were lepers, became affected after marriage. "Soon after the birth of his first child, he discovered his wife to be a leper, and very shortly after became one himself."

Moorshedabad.—It is reputed to be so, but I can give no proof of such being the case.

Ranegunge.—I have repeatedly heard of such, but cannot, of personal knowledge, give examples.

c. Yes; decidedly, in the severer forms.

Sumbulpoor.—*a.* On the subject of contagion there appears to be some room for doubt. I have never known or heard of a case in which simple contact on one occasion has produced the disease but by prolonged liability to contact with, or close proximity to, diseased persons, there is reason to believe that the disease has been reproduced. The natives of Sumbulpoor do not themselves believe that leprosy is contagious.

c. I have not been able to obtain any proof of such transmission.

Cuttack.—I have met with one undoubted instance in which the disease was communicated by contagion.

a. The disease was in its last or ulcerating stage; the fingers and toes had nearly all dropped off.

b. The following is the history of the case:—Agadoo Doss, aged 30, a Brahmin, states that none of his family had ever suffered from leprosy. His parents are both dead, and his five brothers and sisters, who are all living and quite healthy, have made him an outcast in consequence of his disease. He is a married man, but never lived with his wife. He has never had syphilis. When about 12 years of age he suffered from fever, but until he got leprosy remained quite healthy. He caught the leprosy from his master, a merchant, whose bearer he was for 12 years. His duty was to wash and dress this merchant's sores, and lift him in and out of bed. The merchant died three years ago of leprosy. At the time of his death he was covered with sores, and had lost several of his fingers and toes. The bearer was attacked within 12 months of his master's death; it commenced as patches on the fore-arms, which gradually spread over the body; at the same time anæsthesia of all the affected parts set in; the skin of the face, nose, ears, lips, and brows became thickened, the conjunctivæ red, and a sore broke out on the right foot. This is his present condition, and the disease is still advancing towards its worst phases. He himself feels quite certain that he caught the disease from his master.

c. The disease does not appear to be transmissible by sexual intercourse.

Chittagong. Never; the natives will not allow that it can be communicated to healthy persons by an unhealthy one.

Tipperah.—No; though a belief prevails among the natives that it is contagious.

Mozuffierpore.—I know of many cases in which there was a clear proof of the contagious nature of the disease. A very good instance of the kind was related to me by my sub-assistant surgeon this morning. He has lately come down from Almorah. During the year 1852 he first became connected with the hospital established there by the mission for lepers; at that time the chokedar and his mate were healthy men, and though constantly with the patients in the establishment they lived at the entrance gate leading into the hospital compound; in 1856 both of these men were inmates of the hospital, suffering from the very worst form of leprosy. There was not the remotest reason to suppose that the parents or relations of these men were affected with the disease, and there is only one way of supposing they got it, and that was by contagion.

a. I believe leprosy is alone contagious when the ulcerative stage has commenced, and it appears as if the disease took a very long time to affect the system. It is not a matter of days, or even months, but often of years.

The parents of female children having leprosy will frequently destroy their offspring.

c. Yes; there can be no doubt about it.

Arrah.—As far as I can ascertain, it is not known to be contagious or infectious.

c. I cannot ascertain; the hakeems say no.

Monghyr.—I can adduce no case of the disease as the result of contagion. I know, however, a very intelligent native practitioner who was not afraid of giving his only daughter in marriage to a man of 20 years, although he was born of leprotic parents, and himself showing already symptoms of the affection. This case would tend to prove that, in the opinion of even educated natives, leprosy is not contagious.

Patna.—I have never been satisfied with the proof that the disease is infectious, and suspect that, in the supposed cases of infection, a leprous taint previously existed, and that the disease was inherited, or arose from circumstances in the condition of the affected person independent of infection. Natives will often touch leprous patients without dread of infection.

c. I have not met with or heard of any well-authenticated case of the sort.

Midnapore.—Never. There is now living in the town a woman whose husband has been suffering from leprosy for many years, and all of his children are also lepers; the woman herself is quite free from any trace of the disease, although she has constantly attended to her husband and children, and the discharge from the ulcers has frequently come in contact with her hands.

All the evidence I can get goes to prove that leprosy is not transmissible to the female by sexual intercourse. It is common among the poorer classes to meet with a leprous man living with a healthy wife and begetting children; yet I have never been able to hear even of its suspected communication to the wife.

Where only one of the patients is a leper, the children born to them do not necessarily become leprous, yet the majority are attacked with leprosy.

Chumparun.—No; nor does a leprous husband give it to his wife by sexual intercourse. Of this I have known several unmistakable instances.

Interrogatory XI.

Calcutta.—Yes; they are to be seen at all the bazaars, where some of the principal beggars are lepers.

Burdwan.—Yes; segregation is enforced only in the gaol.

Moorshedabad.—Yes; but their own relatives consider them unclean, and treat them accordingly; they are turned out of house and home, and made to shift for themselves.

Pooree.—Among the respectable part of the community a leper is not allowed to sit in the same room or house with a pure individual, who will not also on any account suffer him to even touch his clothes or his body.

Again, when a leper dies, no respectable person is to attend his funeral. This is done not so much for the sake of preventing infection, but because, as he is looked upon as a being specially afflicted and visited by the curse of the Almighty, it would be sacrilegious to pay him any respect, or join in any religious ceremonies over his remains. In like manner, to show the same contempt for his body, and extreme impurity and foul nature of the disease, the body of the unfortunate creature is not, according to the rites of the Hindoo religion, burnt, and the ashes from it cast into the sea or river, but buried, and that too by low-caste individuals, such as sweepers, &c. This is about the greatest indignity that the corpse of a Hindoo could be subjected to, and is never done, I believe, in any other case or disease, except when the individual has departed from his religion. It must, however, be remembered that these restrictions are not always enforced, a great many people or families taking no heed of them whatever, permitting intercourse of every kind between diseased and healthy members, and even marrying and giving in marriage among them.

Raneegunge.—No restrictions by law, but the people avoid them, and consider they are the most depraved of the human race.

The general expression is, "God has punished them for some great sin they have committed;" and it is very difficult to get anything further out of them.

Mozufferpore.—There is no law to prevent persons affected with leprosy residing in the district or mixing with the community, but the people have such a horror of the disease, especially as it gets worse, that they will turn their own relations out of doors to die on the roadside.

Midnapore.—Leprous persons are usually placed on one side of the house, away from other members of the family, and are obliged to cook and eat their food separately.

This applies only to those that are tolerably well to do in the world, as among the poorest classes the only measure of restraint is that they are obliged to eat out of a separate dish.

Chumparun.—They are allowed, and the only separation imposed on them is that of caste. The man of high caste is turned out of it, and looked on as having angered the gods, and disgraced them and him; his daughters, though not lepers, cannot get married, nor can they be readmitted into caste. If he is of a low caste, he often remains with his friend. If a father and a husband, he retains his position as both, though even he and they are looked down upon by the others, and his daughters cannot get married in his own caste, unless at an enormous expense on the part of the father.

Interrogatory XII.

Calcutta.—There is an asylum for the reception and treatment of the leprous poor, who are not admitted into the general hospitals or dispensaries. The asylum is composed of several detached buildings, well ventilated and dry; some capable of holding from 18 to 20 beds, others from 12 to 14; the males being left strictly apart from the females. Their diet, when not under medical treatment for any particular disease unconnected with leprosy, is the ordinary food of the country, and what they have been accustomed to in their own homes. Those able to walk about do so on the premises, and are allowed to go out on leave. There is a native resident doctor and dressers with other servants for their comfort, and the medical officer attached to the institution sees them daily.

Pooree.—There is no special hospital or infirmary for the leprous poor; but there is a large and well supplied Government dispensary and pilgrim hospital kept up in one building at this station, into which a certain number of lepers who apply for relief are admitted, and supplied with medicines and food at the Government expense.

As it would be injudicious to accommodate infected patients in the wards, the lepers, when admitted, are kept in the verandah, where they receive all the attention necessary. Each patient has a separate mat allowed him to form part of his bedding, which is destroyed when he leaves, and if necessary a few pieces of old clothes to cover him and a blanket; his sores are well cleansed and purified by disinfectants of either chloride of zinc or lime, and dressed with poultices of charcoal, &c., or other medicines as required. No separate or special provision, as I said before, exists for these people; the only difference made with them is that they are kept out of the general ward, where all other cases of acute and interesting diseases are admitted, and every intercourse between them and the other sick prevented as much as possible.

Jessore.—There is no separate infirmary for them in this district; they are admitted into general hospitals and dispensaries.

Bhaugulpore.—The leprous poor are admitted in the dispensary as in-patients when they are in a very diseased state, and if not they are treated as out-patients.

Dorundah.—I am not aware that any public provision is made for the especial reception and treatment of the leprous poor. There is a charity hospital attached to the civil station of Ranchee, supported by the voluntary contributions of the residents of Dorundah and Ranchee, the Government furnishing a native doctor and medicines only. Into this hospital, which is under my superintendence, a limited number of leprous poor obtain admission.

Chumparun.—No special one; they are treated in the exterior department of the dispensary among other patients.

Interrogatory XIII.

Calcutta.—There are at present 48 lepers in the asylum; 33 men and 15 women.

Pooree.—It would be impossible to state with any degree of accuracy the number of leprous persons who are maintained at the public expense,—or rather more correctly, as no public provision exists here for them in the shape of an asylum,—the number of lepers who lead a life of mendicity, living entirely on the public charity, as their numbers vary so by constant additions and departures among the pilgrims, who constitute the chief class of people who have the disease among them. I find from the

only rough data at my command, obtained through the police, that there are about 200 persons of all ages who are living either partially or wholly on public charity as lepers. This, though I believe to be incorrect, and below the actual number to be found in Pooree, still may be looked upon as a near approximation to the truth.

Bullooah.—Many are maintained by private charity; none at the public expense.

Dorundah.—About fifty leprous patients are treated yearly in the charity hospital at Ranchee; some twenty live by alms received from residents of Dorundah and Ranchee.

Midnapore.—About fifteen cases are supported from the proceeds of a fund left for the benefit of poor of this station by the late Mr. Peearce. The cases that are supported are those in the advanced stage, and, from the loss of fingers, &c., are totally unable to provide their own subsistence.

Interrogatory XIV.

Bancoorah.—Respectable and intelligent natives, on whose veracity I can depend, assure me it has been a good deal on the increase, and they attribute this increase to the fact that the lepers are allowed to communicate promiscuously "without let or hindrance" with the rest of the community.

Pooree.—From what I can gather from the people and the hospital records, I may state that the disease does appear to be on the increase, though not to any great extent; still, if so, this is a fact of great significance, and shows that whatever circumstances do give rise or are obnoxious to it are more active and sure in their effects now than they were before. Of these I believe I am correct in stating that indigent poverty, caused by severe calamities of season, and the high prices of provisions prevailing in consequence, are the chief. The people are also poor from the cheapness of labour in this district, so that the majority of them are insufficiently fed and badly clothed. This state of things has prevailed more during the last few years, not only at Pooree, but nearly in all parts of India, and has, I have no doubt, contributed much towards the increase of diseases of the nature and character of leprosy, not only at Pooree but elsewhere. Rice, the staple article of the people's diet, has risen considerably in price. Where formerly it sold at 40, it now sells at 18 and 20 seers per rupee. Dhall or pulse, and mustard oil, with which the poor chiefly cook their food in place of butter or ghee, have also risen in like proportions. The consequence is, that the majority of the poor people live on plain boiled rice and salt, and that too in insufficient quantity.

Beerbhoom.—I believe that the disease is on the decrease, owing to a greater degree of prosperity among the people of the district generally; and this result, in my opinion, may be ascribed in a great measure to the construction of railways through the district, which has thrown large sums of money into circulation, and given profitable employment to large numbers of the population, thus enabling them to procure more of the comforts and conveniences of life, better food, and better protection against the inclemency of the weather or change of season; moreover, to relieve with a more liberal hand their poorer and more destitute fellow countrymen.

Jessore.—From minute inquiries I find the disease has gradually been decreasing in this district for some 20 years, attributable to the clearing away of jungle, drainage, &c., and therefore getting rid of a great deal of malaria; also the country being in a high state of cultivation instead of a swamp inhabited by wild buffaloes, which it was 30 years ago

Chittagong.—From a table drawn up from the admission book of the Chittagong charitable dispensary, from its institution in 1846 to the end of 1862, and recording the number of lepers treated yearly, their proportion as compared with other sick, &c., it appears that the number of cases of leprosy treated during the first two years more than double those in any of the succeeding ones. This is to be explained by the establishing of the dispensary, which attracted those suffering from leprosy, in the hope that some cure might be known there. From the gradual falling off in attendance, it may be surmised that treatment being found unavailing, the lepers ceased to come. From the large proportion of incurable, we learn that those who are grievously afflicted are the only ones who seek for European aid. I cannot obtain information to show whether the disease is more common now than it was formerly.

Hazareebaugh.—From inquiries, I believe the disease has neither increased nor decreased to any noticeable extent within the past 20 years.

Patna.—There is no ground for believing that the disease is on the increase, and I am of opinion that every improvement in the physical and moral condition of the population will cause a decrease in the number of persons affected.

Midnapore.—I cannot speak from personal knowledge, but two native doctors now under me, and who have been in this district all their lives, say that it has very materially increased within the last thirty years.

Rungpore.—I cannot from personal knowledge venture an opinion as to the increase of leprosy in this district, but on inquiry of the natives I am informed that it has increased greatly of late years.

Serajgunge.—To my knowledge, inquiry, and incumbency at several stations, the disease of late years, say during the last 15 or 20 years, is neither on the increase nor decrease in any district.

Chumparun.—More attended my dispensary during the famine year, 1861. It may be that these patients come more numerously to the dispensary during and since that time than previously.

Interrogatory XV.

Calcutta.—I have hitherto observed no satisfactory or encouraging results from the hygienic, dietetic, or medical treatment of leprosy. I do not believe that it ever undergoes a spontaneous cure.

Bancoorah.—The disease seems to always run a certain course, despite all known remedies; but the best plan I believe to be, simple poultices besmeared with "chaool-mogree" oil, rigid cleanliness, with tonics and a generous diet; in fact, as far as my experience extends, good nourishment seems to be the chief requisite in its treatment.

Moorshedabad.—Good food, suitable clothing, and protection from the inclemency of the weather, have a most beneficial effect on many cases of leprosy. These dietetic measures, coupled with cleanliness, and the medicinal use of arsenic, iodide of potassium, and, probably, mudar root powder (Calotropis Hamiltonii and gigantea), have a decided effect in checking the progress of the disease, and may in some few cases, when not too far advanced, effect a cure.

Pooree.—The effect of pure air and good diet combined is no doubt remarkable in keeping the disease to a certain extent under control, as may be seen from the fact that, immediately the patients leave the hospital and go back to their dirty hovels, and live on all kinds of bad and impure food, the sores which had healed over for some time, and showed no tendency to break out afresh, inflame and ulcerate again, with a tendency to increase and implicate other structures, all going on as badly as before. I am not so sure, though, if diet has the same effects over the disease in its earlier stages; we do not admit cases of it generally till it is far advanced; but to judge from what I have seen of it out of hospital and among the people it does not appear to have the same controlling power over it, the disease seeming to go on in its usual course from slight to worse.

The most that can be said to have been accomplished by medicines has been an arrest of the destructive process for a time, and, may be, if taken in hand in its earlier stages, a stoppage to its further progress altogether. I may safely state that I have never seen a true case of leprosy yet cured, either by the aid of medical, hygienic, dietetic, or any other means, or by any inherent curative or spontaneous action in the system.

As to the effects of the chaool-mogree oil, it has been much over-rated; and I must confess to having seen but little good from it, either in its internal or local use, the sores healing as readily, if not better, under the use of other remedies. It is an oil of a highly nutritious character, and so may do good by supplying deficient nutritive materials, but does not, as far as I have been able to ascertain, possess any specific effect over the disease, which I do believe is to a certain extent possessed by arsenic and mudar, especially when they are administered in combination.

Maldu.—I have known it to be much benefited by cleanliness, generous diet, and general tonic treatment, and free and fresh circulation of air; the baths being pure, fresh or tepid water, frequently repeated according to seasons.

Bhaugulpore.—I have found in the lepra tuberculata virulenta the potass. iodid, liquor potassæ arsenicalis, and acid nitric, very useful. The Hindoos have several remedies for this disease. The following has been found very useful:—

R. Protoxyde of arsenic, gr. lv.
Mudar powder, oz. iv., gr. lxxx.
Black pepper, oz. ix.

This is made into 800 pills, and two of these are given every day.

Monghyr.—I saw several cases obtaining considerable relief from hygienic measures, well-regulated diet, and the use of arsenic, asclepias gigantea, but especially the oil and poultices of the seeds of Chaulmoogra odorata (Pangiaceæ). In case No. II., Lawsonia inermis applied in poultices proved beneficial. I saw indolent leprotic ulcers which threatened to detach toes and fingers completely healed up under chaool-mogree. The scars, however, were wanting in pigment, and affected with anæsthesia. But this satisfactory condition, such as it was, did not last many months, because, without any apparent stimulus, small blisters formed on the scars or other parts of the body, followed by unhealthy looking ulcerations, which, if healed over, were again succeeded by others. These temporary cures, however, I observed merely in young subjects, and where the constitution was not broken down. I know of no case in which a spontaneous cure occurred.

Midnapore.—In the cases treated by me I have always allowed a liberal diet, and the remedies that I have found to be most useful are cod liver oil, liquor arsenicalis and chaool-mogree oil. These are the only three remedies I place much confidence in, although I have used several others, but without much apparent benefit.

In lepra anæsthetica I have found counter-irritation along the course of the spine most useful. I usually apply it after the native fashion; viz., by application of a heated iron, and the sores resulting I either keep open for some time, or else renew them in an adjacent spot; and under this plan of treatment, combined with one or more of the remedies above mentioned, sensation very soon becomes restored, and the patient is comparatively cured; but I should hesitate to say that I have ever seen a perfect cure, as, I believe, the disease is very liable to recur.

I have tried the powder of the bark of the root of the asclepias gigantea, but consider it much inferior to the three remedies named above.

Leprosy, I believe, never undergoes a spontaneous cure. It, however, remains in abeyance for many years in some cases.

Chumparum.—I give arsenic internally to excite centrically the polarity of the spinal cord, as it were; while I gave sulphur vapour baths, friction to the parts which had lost their sensation, thus stimulating eccentrically the proper functions of the affected nerves.

The disease, thus attacked from within and from without, invariably yielded when the patient was long enough under its influence. The result was that 20 were cured of combined sunbahri and korhi; the sensation returning to the patches, and the colour and function of the skin and its glands becoming as natural as they had been. 55 were relieved, and were improving daily, but could stay no longer at the dispensary from their homes and farms; 12 stayed so short a time that they were put down under the head of "no better." 25 were patients in the advanced stage of korhi, and were incurable. 102 left in a day or two; they were travellers, and were set down under the head of "ceased to attend."

When the patients lived pretty near, and could come to me in January or February, or when they felt that an attack was approaching, I have put a stop to the coming on of it by the above treatment. The sensation often returned to the fingers and toes up to as far as to where the thickening commenced; this deposit and the cracked condition remained unaltered.

I have never known any case to cease from spreading longer than three years; but then I have not had a case under my observation longer than that time. They get better of the attacks of themselves, but I don't think a spontaneous cure is really affected.

Interrogatory XVI.

Calcutta.—The estimated population of Calcutta at the census taken in 1850 was 415,063 inhabitants. There is no registration of births and deaths.

Pooree.—The present estimated population of the town of Pooree or Juggernauth may be safely given at 28,000 to 30,000 souls; and out of these the number of lepers, as

they are seen, at 200 at least. More no doubt could be found, but owing to the in-door confinement of females, &c., which is common to all Indians, the exact number cannot be arrived at.

Interrogatory XVII.

Calcutta.—The farther spread of the disease can only be prevented by the sexes being kept apart, as far as in our power lies; and good shelter, wholesome food, and attention to personal cleanliness will always tend to the mitigation of leprosy.

Pooree.—Mr. Durant has sent three photographs of lepers, showing the tubercular and mutilating forms of the disease.

No printed books or records of any kind descriptive of the disease as it occurs in this district exist, nor have any other works bearing on the vital statistics of this district ever been written, as far as he is able to find out.

Beerbhoom.—With regard to the predisponent or exciting causes to the disease, prevention, mitigation, or cure, I believe that poverty, filth, dissolute habits, &c., &c., to be the principal predisposing causes, and that the best means of prevention, mitigation, and cure would be the spread of civilization, and with it more of the comforts and necessaries of life, less poverty and greater morality; the introduction of conservancy or sanitary laws into every district throughout the country, strictly administered under the directions of health officers; the establishment of proper hospitals and asylums for the reception of the sick poor and lepers, supported at the expense of the large landed proprietors of each district, as are such institutions in Great Britain. When such changes and means of amelioration have been accomplished, I have no doubt the disease will become quickly extinct, as in other countries where it once prevailed, and has disappeared before the advance of an enlightened civilization, national prosperity, and its concomitant advantages.

Mozufferpore.—I have made five post mortems upon the bodies of leprous patients, my attention being more particularly directed to the nervous system; and neither in the nerves themselves, nor in the brain and spinal cord, have I been able to detect any lesion, either with the naked eye or by the aid of the microscope.

Hazareebaugh.—Leprosy has been supposed by some to be possibly caused by eating a peculiar pulse called by the natives "teyorâ." Another species of the same dâl has certainly been proved to have a deleterious effect on those who make use of it continuously; I mean the "kheysari," the chickling vetch or lathyrus sativus; indeed its very name in Sanscrit, "khanjakuri," implies "lame-making."

I believe in the districts of the Upper Provinces, especially the Punjab, where the disease is particularly prevalent, the inhabitants of those parts, besides consuming very large quantities of salt with their food, make use of a peculiar description of that article called the "loharrea" nemuk; whether there is any thing in its composition that causes it to act as a predisponent or excitant to the disease may be worthy of investigation.

Monghyr.—The only data, as to numbers, I had in my power to collect, are the following two; viz., the result of the examination of the prisoners in the gaol and the village police staff:—

Among 358 prisoners there were 28 lepers, giving a per-centage of 7·82, and among 134 village policemen, five, consequently 3·73 per cent. The prisoners give a safer index to go by than the latter, because, not only is here the female population left out altogether, but no leper would, ipso facto, be employed as a watchman, if in an advanced stage of the disease.

Patna.—I have no exact data to enable me to reply to this question. That a leprous taint is very common among the rural population of the district of Patna is proved by the following facts:—Within the last six months I have had to examine 2,348 men, intended for the new police of the city and district of Patna: these men appear before me in a state of nudity, with the exception of a cloth about the loins; traces of leprosy are thus easily observed. The average age of the men examined was 23 years. I found a leprous taint or diathesis to exist in one out of every ten, and this proportion was rejected as unfit for service.

When serving with the native army, I found repeatedly that men who had in early life the characters which I regard as a proof of the existence of a leprous taint,

and which I have already described, frequently had to be invalided in after years for leprosy.

Of 348 male prisoners, 292 Hindoos and 56 Mussulmans at present in Patna gaol, 17 of the former and 1 of the latter were found to be affected with leprosy. While writing this report 32 watchmen belonging to the city of Patna were sent to me to be passed, if efficient, into the new police; the average age of the men was 36. I found among the persons examined two cases of leprosy advanced to the ulcerative stage, and one case of incipient leprosy. The affected mixed freely with the other men.

II. NORTH-WESTERN PROVINCES.

Benares Circle.

Interrogatory I.

Benares.—a. There are three forms, viz.: the anæsthetic, the tubercular, and the discolored.

The two first forms are, in my opinion, varieties of one common morbid state, and generally show themselves first as an eruption, with more or less disturbance locally of the nervous system. The third form is a specifically distinct disease; there is no nervous lesion and no deposit; its character is rather negative, being shown by the absence of the pigmentum nigrum.

The third form commences by a mottled appearance of the skin, generally in the face or hands; the spots affected gradually become rose-pink, or nearly white; it is unaccompanied by any want of sensibility or constitutional disturbance.—(*Dr. Dunbar.*)

Ghazeepore.—Leprosy is a very common disease in this district. The general characters of the anæsthetic form (soonbeharee) are these:—The eruption on the extremities or trunk, or on the head and face, of spots, circular at first, but afterwards irregular in shape, varying in size from that of half a split pea to a patch of from six to eight or more inches in diameter, of a reddish colour in recent cases, but subsequently several shades lighter than that of the surrounding healthy skin; their border raised about one half to three fourths of a line above the surface, granular to the touch, like a circle of grains of sand, and from one to two lines broad; within this outer margin, surface of skin smooth, thinner than normal, seemingly depressed below the surrounding healthy surface; hairs absent or stunted; rarely scales or desquamation; no cracks; occasionally a few isolated tubercles.

The lesion of sensibility is thus noticed:—In very many cases at the very commencement there is an exalted or deranged condition, indicated by tingling and constant itching. As the disease advances these symptoms disappear or are less observed, and the surface of the spot becomes first numb and afterwards entirely devoid of sensation (anæsthesia). As long as the circular outline is retained, the anæsthesia is confined in a marked manner to the part within the raised margin, sensation ceasing at the border of the spot; but in the large irregular spots this limitation of the anæsthesia to the part visibly affected is lost, and you find diminished sensibility or total anæsthesia extending some distance beyond the tubercular or visible margin.

In the tubercular form (kohr), the skin of the forehead and eyebrows is raised and prominent, the brows overhanging the orbits, the hairs absent or stunted. The colour of the skin is either red or many shades lighter than that of the surrounding parts. Sensation is deficient or much diminished; there is no distinct margin, but the skin is considerably raised, and somewhat nodulated to the touch. The ears are similarly affected, especially the lobules and margins of the helix; the colour is red, the part much thickened by deposit, and the sensation diminished or absent. The nose, especially at the alæ, is similarly affected, and in cases of long standing the skin of the cheeks and lips are also diseased and raised into folds. The expression given to the countenance is peculiar, hardly to be mistaken, and far from pleasing, there being an almost entire absence of expression. The mucous membrane of the gums, mouth, fauces, and pharynx is found in a similar condition, and in one marked case (a prisoner in gaol) all the teeth but one have dropped out within a few years.

On the arms, and especially the legs and trunk, this deposit in the skin is more extensive, appearing as broad long patches of skin, raised, nodulated, dry, hard, and

fissured on the surface, having much the appearance of the skin of one of the pachydermata. Sensation is entirely deficient or nearly so.

The muscles, especially of forearm and hand, are wasted and almost powerless; the bones prominent; the fingers thin and distorted; and the interosseous spaces strongly marked. As the powers of extension and flexion become less and less, and the muscles more or less rigid through atrophic degeneration, the flexions exert their natural sway, and the fingers remain more or less fixed in a flexed position. Similar changes go on in the nerves and muscles of the legs. At first the patient complains of weakness, inability to stand long, and when walking he drags his legs. The sensation is lost, and the muscles shrink. The skin of the toes and feet often inflames from exposure to fire, as that of the hands does. As the disease advances we find further changes indicative of deficient nerve power. At the base of a finger or toe an ulcer is formed, either the result of a burn or injury, or the sequence of a pustule. It does not heal, but spreads; the discharge is thin and ichorous; the subjacent bone becomes carious, and ultimately the finger, toe, foot, or hand is lost. Similar changes go on in the nose and nasal bone, and not unfrequently you find the nose entirely wanting.

These two varieties or forms of leprosy are one and the same constitutional effection, differing only it its local manifestation.

The third form (churruk) consists only of white patches of the skin; there is no anæsthesia and no appreciable deposit.

Azingurh.—Leprosy is not so prevalent in this as in some other districts, and but very few opportunities has occurred of learning anything about this disease.

Jounpore.—Leprosy is known in this district, but the disease is rare. In my own practice I have only met with a few cases, and from inquiries made of those residing in the district, several of whom are old inhabitants (Europeans), I find the fact of its rarity confirmed.

Goruckpore.—Leprosy occurs in this district under several forms, which do not seem generally to have distinct names. The disease is called most commonly in the early stage soonbeharee, signifying anæsthesia. In after stages, when thickening and ulceration come on, the name juzam (an Arabic word) is generally used, the common people using the word korh; leprous people being generally known as kori, and looked upon with hatred by the common people, as being under the curse of God; but the people do not on that account eject them from their houses, or refuse to associate with them.

Elephantiasis of the extremities, called by the natives filpal, is very uncommon up here. Elephantiasis of the scrotum equally so, and they are not supposed by the people to be in any way connected with leprosy.

Mirzapore.—It occurs here in three different forms:

1st. That in which fingers and toes are more or less destroyed, called in Hindee korh, in Persian juzan, and in Bengalee mohabad.

2nd. That characterized by local anæsthesia, called in Hindee soonbeharee.

3rd. That distinguished by pale rose-pink spots, called in Hindee phool ajeetbun, in Persian bars.

The two first forms are constantly met with in the same person, and are varieties of one common morbid state; the third form is a distinct disease.

Cawnpore Circle.

Allahabad.—Leprosy is very common in these provinces. It is very rare, however, for any prisoners affected with the disease to be admitted into the gaol; hence my experience is small.—(*Dr. Jackson.*)

The forms of leprosy observable here are, lepra tuberculosa, anæsthetica, and alba.

b. The two first are, in my opinion, only varieties of the same morbid state of the blood, for they both eventually terminate in the same way, viz., in mutilation of the extremities. The white form appears a distinct disease, for it never, as far as I am aware, ends in mutilation, nor has it any symptoms in common with the others. white spots are certainly seen in those forms, which at first sight appear to resemble those of the latter; but on closer observation they are found to be hard glistening circatrices of ulcers formed during the progress of the disease, whereas the spots of the white form are simply change of colour without any ulceration, and they are more snowy white than the others.

c. The first form, when fully developed. is characterized by a thickened and nodulated appearance of the skin, more especially of the nose, ears, and face, causing

great distortion of the features, loss of hair of the beard and upper lip, and gradual loss (partly by ulceration and partly by interstitial absorption) of all, or almost all, the fingers and toes, and sometimes even, it is said, of the hands and feet also, but I have never seen such a case. The anæsthetic form eventually goes on to the same amount of mutilation, but the skin of the face and body has a natural and healthy appearance. White leprosy, as most generally seen, consists of snowy white spots of various sizes and shapes over different parts of the body and extrimeties; the inside of the lips also often turn white, and occasionally the whole surface of the body becomes affected.—(*Dr. Cockburn.*)

Furruckabad.—Leprosy exists and has existed in the district of Furruckabad from time immemorial.

a. It consists of two varieties, named respectively elephantiasis anæsthetica and elephantiasis tuberculosa; both are known in Hindostan by the common designation of korh. There is besides a peculiar affection of the skin, characterized by irregular shaped patches of a white colour, which is frequently confounded with leprosy, though it has no connexion with it, being merely an unsightly blemish not attended with any danger to health. I allude to that condition of the integument closed allied to albinismus, and known by the names of chloasma album, vitiligo, leucopathia, &c. In the East it is called besas.

b. The two forms of leprosy above mentioned appear to be merely modifications of the same disease; they co-exist under apparantly similar causes, and neither form exists apart from the other. People are also found affected with both varieties at the same time, and instances are not wanting in which one form is seen changing into the other.

Etawah.—Leprosy is well known in this district. It occurs under four forms; the ulcerated, the tuberculated, the fissured (when the skin is swollen, discolored, and deeply fissured,—nose, lips, ears, and face much swollen and disfigured), and the white (consisting of mere patches of white on different parts of the skin). The ulcerated is the true hereditary form of the disease, and out of numerous families I have known, both Europeans and natives, I shall briefly describe one.

A native wealthy family I have known for some years; the males, four brothers, have all been lepers; the women I have never seen, In these brothers a gradual development took place in the system, until the more severe form of the malady broke out in ulceration of the fingers and toes, the several joints of which gradually fell off. One of these brothers came under my treatment for dry gangrene of the toes. Strange to say, by treating him with stimulants, quinine, and a generous diet, the gangrenous parts sloughed away, and the patient recovered. About six months after, dry gangrene commenced in one of his fingers; no line of demarcation was formed, and the whole of the arm became gangrenous. This poor man, after suffering for about four months, expired.

These brothers have a numerous family of children in whom there is no development of the disease at present, but the boys all look pale and strumous.

Futtehpore.—Leprosy is well known among the native population of this district. The cases of this disease that have come under my observation from time to time are travellers who have been compelled by the ulcerated state of their feet and hands to seek aid at the charitable dispensary here, where they remain until they get a little better, and then proceed on their journey. On admission they show the usual ulcerated state of the extremities, having sometimes lost one or more fingers or toes from the disease.

Agra.

Leprosy is found in all parts of the North-Western Provinces and Central India.

a. The disease appears in various forms. The characteristic native name is korh, but for practical purposes these may be considered varieties of the same morbid state.

The ordinary form is indicated by a glossy puffing of the face and ears, loss of sensation of parts of the body, and painless fœtid sloughing ulceration of the extremities.

White patches on the skin and irregular puckered tumours forming over the body and on cicatrices of wounds. Elephant leg and great scrotal tumours (found most commonly near the coast) belong to the same family.—(*Dr. Murray.*)

Leprosy is well known in Agra.

a. There are three distinct forms of the disease: namely,—1st, anæsthetic; 2nd, tubercular; 3rd white leprosy.

b. In my opinion the two first varieties are caused by one common morbid state of the blood; the last one is a distinct disease, having no affinity with the other.

(*Meer Ushruff Ally.*)

Banda.—Leprosy is very frequent in this district. It may be divided into the black and white forms, varieties of one common morbid state, although in appearance these two forms are very different, and also to a great degree in their effect on the general health and constitution.

1st. The black leprosy, called by the natives (kala korh or juzam), is the most offensive and distressing form of leprosy. At the commencement the body generally is swollen, the skin feels harsh and stiff, and there is always numbness of the extremities, which numbness extends gradually to the whole surface of the skin, the face looks bloated, the ears externally are red and swollen, the hair on head and eye brows gradually falls off, the cartilages of the nose ulcerate, and in time the nose flattens, the voice becomes hoarse, rancous, and the breath fœtid from disease of the cartilages; the nails split in pieces, and the skin cracks and ulcerates.

2nd. The white leprosy (sufaid korh or baras), to external or outward appearance is less offensive, and, I believe, does not undermine the health so speedily as the black form. The skin at the commencement whitens in patches; generally, I believe, where bones are near the surface, such places as the angles of the jaw, or tibia, &c., being usually disfigured by the disease. On parts affected the hair becomes white. The skin all over the body becomes rough, and, I think, harsh and stiff, as in black leprosy. The white patches have in some a creamy appearance, in others a glistening white colour. It is said the skin does not perspire in this form of leprosy. In many cases the palms of the hands and soles of the feet become benumbed. It is doubtful if the skin cracks and ulcerates in this form of leprosy. In the majority of cases it does not, but in some the disease terminates, as in the black form, by ulceration and falling away of the bones.

Jhansi.—The disease exists in this city. Having only met with one or two isolated cases during a residence of eight years in India, my attention had not been directed towards this disease until the receipt of these questions.

Ajmere.—There are not many cases of leprosy in this district. Skin diseases, it is true, are very prevalent; they assume various types and characters, from a common herpetic eruption to the most inveterate form of lepra, but there are fewer cases of lepra here than in most other districts.

The native hakeems recognise two kinds, korh and juzam; these, however, appear to be only varieties of one common morbid state.

There is no mistaking a case of bonâ fide leprosy when once seen. Large scaly patches, shiny and circular, are found all over the body; the skin is cracked, and has a very disagreable odour; there is often a very fœtid discharge from the nostrils; ulcers form about the finger and toe nails, and it is not unusual for a patient to present himself with several fingers and toes eaten away, the stumps in some cases looking as though they had been gnawed by some animal.

Meerut Circle.

Meerut.—Leprosy is well known in this district.

a. Two forms have been personally noticed by me.

b. In my opinion the two varieties are results of a common morbid state.

c. Primarily loss of sensation in the part affected; abnormal thickening of nails and skin of phalanges when it attacks the extremities; and subsequently absortion of the tissues, followed by ulceration and loss of the member. In this variety there is frequently no discolouration.

In the other variety loss of sensation is followed by absorption of the colouring matter of the skin, leaving a white surface, which gradually increases. Many of these cases, however, do not appear to progress further, but the white patches remain unaltered to extreme old age.—(*Dr. Wylie.*)

The different forms of leprosy appear to me to be the varieties of the same common disease, juzam, the blood being in all deteriorated; the proportion of its albuminous materials is largely increased, while that of its red particles is notably diminished. I have observed that though in some of these forms of leprosy the sensibility of the skin may be exalted, yet, in the great majority of cases, and at some period

of the disease, complete loss of all sensation constitutes a prominent symptom of the malady.—(*Nund Coomar Mitter.*)

Allighur.—Leprosy exists in the district of Allighur, but not to any great extent. It is generally seen in two varieties, which are known by the natives as pucca and kutcha korh. The former appears to be caused by a diminution of the natural pigment of the skin, which produces patches of a glistening white colour. The latter is always attended with ulceration, and the discharge of a thin liquid from the parts affected.

Bareilly, Rohilkund.—There are a number of lepers in this city and district. The disease appears to be of two kinds, viz. :—

Tubercular leprosy :—these are dusky, dark tubercules of various sizes on the face, ears, and extremities; they are irregular, and have a shiny, greasy appearance; they are occasionally insensible, but sometimes the sensibility is increased; the face is often deformed; the superciliary ridges are swollen; the hair of the eyebrows and eyelids is lost; the ears enlarged and deformed; the nose altered and disfigured; the nostrils dilated; the voice hoarse and nasal; after a time these tubercles soften, burst, and discharge matter, which drives up and forms dark scabs; the fingers and toes often ulcerate and fall off.

White leprosy—this appears first on the face, hands, legs, and arms, in white, smooth, patches; the affected surface is not itchy, swollen, or painful, but the toes and fingers are sometimes benumbed; in others they are stiff and shiny; sometimes ulcers form on them, and they ultimately sphacelate and fall off.

Ulcers also form on the alæ nasi, discharge viscid matter, and cause caries of the bones. There is rotundity of the eyebrows and ears. As the disease advances it often terminates in tubercular leprosy. In fact, the two forms of the disease appear sometimes to pass into each other. Want of feeling or sensation is not a prominent phenomenon, but a few complained of it.

Mussoorie.—Leprosy is known amongst the hills and valleys surrounding Mussoorie,* but as far as my experience and information go, it is both far more uncommon and exists in a much milder form than at lower elevations of the British territory, say from the sea level to 2,000 feet.

The only form that has come under my notice at Mussoorie is that known as lepra tuberculosa. This attacks either the face or the upper or lower extremities.

Commencing with erythematous patches, followed by the appearance of shining livid tubercles of variable size and irregular shape (these are more apparent on the face than in the extremities), the skin becomes thickened, tumid, rugous, and cracked: its sensibility at first increased, eventually becomes diminished, at last is almost absent; the beard and eyebrows fall off; the ears, indurated, hypertrophied, and studded with tubercles, add much to the hideous appearance of the ridged and tuberculated forehead and face.

The white, hard, and horny palms or soles become deeply fissured; the swollen fingers or toes are almost inflexible; the nails are deeply indented with longitudinal furrows, and are much thickened; their lower surface is incrusted with a furfuraceous deposit; the voice is harsh and hoarse.

---

* The following information concerning Mussoorie may be acceptable :—

Mussoorie { Latitude - - 30½°
Longitude - - 78°

Situated on the outer range of the Himalayas, which rise at this point almost abruptly from the plains to a height of from 6,000 feet to 8,000 feet; the succeeding ranges are about 10,000 feet, with a deep intervening valley.

The snowy range is some 75 miles distant; the highest point visible about 29,000 feet; the perpetual snow line on southern aspect about 17,000 feet.

Both the Mussoorie and the succeeding ranges are remarkably steep and ridgy in their conformation, consisting of compact limestone, alternating with beds of soft slate and clay.

European population fluctuates much: last year (1862) between April and October it averaged about 1,300; between November and March, 250.

Native population is very numerous, but I am unable to give any idea of the number.

It consists of two classes, *viz.*, native servants from the plains; natives from the surrounding hills and valleys. These latter born and reared at an elevation of from 3,000 feet to 15,000 feet.

Average rain-fall - - - - -		90 Inches.
Average snow-fall - - - - -		18 „
Average temperature between 6 A.M. and 6 P.M. for the whole year.	Maxima -	65° 5′
	Minima -	45° 1′
Average temperature of November, December, January, and February	At sunrise -	41°
	At 4 P.M. -	46°

Dehra.—Leprosy is met with in the district of Dehra Dhoon.

It is much more frequently met with in the hilly regions of this district than in the valley of the Dhoon itself. Residence in the dry summits of the hills does not afford a greater immunity from the disease than living in the valleys, so that one must look to the sanitary condition of the dwellings and the habits of the people inhabiting them for both the predisposing and exciting causes of the disease.

Scharunpore.—Leprosy is well known, and consequently rather a common disease in the district of Seharunpore.* It is met with in the following forms:—

1st.—Scaly leprosy.
2nd.—In circular elevated patches in different parts of the body.
3rd.—White leprosy.
4th.—Tuberculated, but seldom met with.

The second and third forms are thus described:

The second variety presents itself in the form of distinctly circular elevated patches, with well-defined margins on different parts of the body. These patches have a reddish appearance, and when they attack the forehead, nose, lips, and ears, produce considerable œdema of the parts around. This appears to constitute the second stage of the complaint. The third stage is ushered in by ulceration, which generally commences on the sole of the foot, and between the toes and fingers, leading to separation of the parts of the small joints. The ulceration seldom extends to the ancle or wrist joints.

The white spots of the third variety are of a silvery hue, rather depressed than elevated, appear on any part of the body, vary in size from that of a pea to the palm of the hand; often coalesce, retaining at the same time their crescentic form, and are unattended by any uneasiness.

Roorkee.—Leprosy is known in this neighbourhood, but is not so prevalent as in many parts of India.

Sneenuggur, Gurhwal.—Leprosy is known in the district of Gurhwal in two forms, the tubercular, which is the most common, and the anæsthetic.

In the tubercular form there is development in the skin and in the mucous membrane of the mouth, fauces, and nares of erythematous patches, patches of discolouration or maculæ, and tubercles. The erythematous patches are at first of a red or purplish hue, of various sizes, and generally round or oval, most deeply coloured in the centre, and fading towards the circumference. After the existence of the patches for some time, the redness of the centre subsides, and gives place to a brownish stain, while the circumference spreads for a short distance, and forms a ring with a well-defined border; later still, the redness disappears entirely, and leaves behind it a brownish stain, which is more or less permanent. Sometimes the central portion of the patch becomes bleached and quite white and smooth. The centre of the erythematous patches is harder to the touch than the surrounding skin; the epidermis frequently desquamates over it; the tissues of the skin become thickened and more and more condensed and elevated above the surrounding skin, sometimes remaining flat, sometimes attaining by continued thickening the form of a tubercle. The tubercles present the dull red and purplish hue of the erythematous patches for some time, but sooner or later assume the brownish tint of the discoloured skin, or become whitish; the tubercles remain unchanged for a considerable time, or become inflamed, soften, and ulcerate, giving out an ichorous discharge; those in the fingers, toes, and tip of the nose ulcerate early. The discharge from the ulcers, especially from those near the joints, sometimes concretes over the surfaces of the ulcers, and forms thick crusts like those of rupia; at other times, principally in the hands and feet, the ulcers remain open, become deep and excavated, are bordered by irregular prominent edges, and secrete an abundant ichorous fluid; the conjunctivæ become conjested, thickened, and form an elevated ring round the cornea, which becomes opaque. Advanced cases, in which the eyes have been destroyed by softening of tubercles in the conjunctivæ, have not been seen here, the patients generally dying from constitutional irritation before that process commences. The schneiderian membrane undergoes corresponding changes; the nasal passages are obstructed by the thickening and swelling of the lining membrane, and broken up by softening and ulceration; the nasal bones

* The district of Scharunpore lies at the foot of the Sewalik range of hills, in latitude 30° north, and about 1,000 feet from the level of the sea. It is watered by numerous rivers, which spring from the hills, and which often flood the country in the rains. The Eastern Jumna and Ganges Canals also pass through it. Parts of it are covered with jungle, especially towards the hills. It is decidedly damp and very malarious.

become denuded, and the nose gets flattened and distorted. The mucous membrane of the mouth and fauces exhibits congested patches and ulceration; the voice becomes hoarse from thickening of the lining membrane of the larynx.

In the hands the nails become thick, rough and discoloured, and the fingers more or less numb; the numbness also exists in different other parts of the body.

The anæsthetic form is not common; it is chiefly seen in those who are not aborigines of the place, but have come from other places, and taken residence here. Insensibility and atrophy are the distinguishing features in this form of leprosy. The skin of the patient becomes pale and shrunken, countenance anxious, and there is insensibility in different parts of the body, especially in the extremities; the fingers are numb, and there is occasional flush of redness in the skin of the nose and cheeks, which assume a shrunken appearance. After a time discoloured patches appear in the different parts of the body; first, generally in the hands and back; the skin over these patches is numb; subsequently, bullæ of large size are developed suddenly, and without pain, which burst in the course of a few hours, discharging a viscid yellow fluid. The bullæ leave behind them inflamed ulcerated surfaces, the secretion from which forms a thin crust, which after a time falls, and is followed by a second, which in its turn is succeeded by others. For several years fresh and fresh crops of bullæ continue to be formed. When the ulcer heals, its place is occupied by a cicatrix, of which the skin is white, smooth, and less sensitive than the surrounding skin, and destitute of hair. The soles of the feet and the ends of the toes are the especial seats of such ulcerations.

When the disease still advances, severe pain is felt in the ends of the fingers and toes, which swell and become livid. The whole foot becomes œdematous; ulcers break out in the ends of the fingers and toes, which fall off one by one. After some time the pain ceases, the ulcers heal, and fingers and toes left shortened and distorted. But after a time similar process is repeated, and the remaining portions of the fingers and toes are expelled, and other organs are destroyed.

The two forms are varieties of one common morbid state, and not distinct diseases. In many cases there is a blending of the two forms, and the characters of both are seen in the same individual.

Almorah.—Leprosy is very common at Almorah. It occurs in the anæsthetic and the ulcerative forms. I am disposed to consider both these types as essentially belonging to the same morbid condition, but I believe that the first may exist without the other, and may not run into the second or severer form, even after a great number of years. In every form of leprosy, after a time, the mucous tissues of the mouth, nose, and fauces, often also the conjunctivæ, partake of the diseased condition of the skin. I am not aware that the natives have distinct names for different kinds of leprosy; all are known by the one appellation, korh.

Mozuffernuggur.—Leprosy is not so common in this district* as in some others in different parts of the country. It occurs here under different forms; viz., the tubercular form (juzam); the non-tubercular form or anæsthetic (soonbeharee); the leucopathic or chalky whitening of the skin, without tubercle or lesion of the sensibility (baras); and the elephantiasis or Cochin leg (filpa). There is a variety of the baras known as bohaq, in which the skin, instead of turning white, takes a red or brownish tint.

These four disorders are considered by the native medical authorities and by the people as varieties of one common morbid condition, and the manifestation of the particular form is by them attributed to the state of constitution or temperament of the individual. The propriety of this view, especially in reference to a common origin, appears at first doubtful; for, although it is true that some of the forms, as juzam, filpa, and probably soonbeharee, present in parts of their course certain generic characters, as, for instance, each at the onset having an inflammatory, acute, or subacute stage, and each in the later progress leading to peculiar changes in or disorganization of the tissues, indicative of a common cause, yet others, it is seen, as baras and the sub-species bohaq, so differ from these in general character, as, for

* The district of Mozuffernuggur forms a portion of the northern extremity of that part of the upper division of the great Gangetic valley known as the Daob; it measures in superficial extent about 1,617 square miles, and, as lately computed, contains a population of 646,000 souls; it consists throughout of a slightly undulating plain of rich alluvial soil, dry and absorbent, interspersed with patches of sand blown into hillocks; watered by the Ganges and Jumna, and intersected by canals, it is highly cultivated, and covered by an extensive sub-tropical flora: the chief products are cattle, grain, cotton, vegetables, oils, sugar, indigo and other dye stuffs. The only manufacture is that of coarse woollen stuffs and blankets.

instance, neither, so far as known, presenting at the onset any febrile or inflammatory symptoms, or even in the after-stage leading to infiltration of the part or structural lesion, unless indeed a glossiness of surface may indicate the one and a mere absorption of colouring matter the other, as to lead to the belief of a totally distinct or separate origin. It must, however, be remembered, that some of the forms, and those apparently the most opposite, as filpa and baras, are sometimes found combined in the same person, and that it is no uncommon occurrence for juzam and soonbeharee, or juzam and bohaq, to be found together. It is not improbable, therefore, that further investigation may tend to strengthen the prevailing opinion that a close affinity exists amongst the different forms of the disorder, a belief which has for a length of time been firmly established in the public mind.

Budaon.—There are about 50 lepers in the city of Budaon, which contains a population of about 26,369 inhabitants; and about 200 lepers in the whole district of Budaon, with a population of 693,627. The predisposing causes are defective sanitary state of dwellings, want of personal cleanliness, all the ordinary causes of cachexia, exposure to heat, bad diet, especially an excess of fish, beef, and treacle, syphilis and sexual excess, hereditary transmission.

Interrogatory II.

Benares.—Generally in the middle period of life and in advanced age; seldom in childhood. Earliest symptoms are burning in the skin, feeling of insects creeping on the part, and numbness of the affected part.—(*Dr. Cheke.*)

Jounpore.—The disease does not appear to be confined to any particular age in its manifestation.

The earliest symptoms the patients describe are a tingling and itching of the skin, followed by numbness, increasing to loss of sensation, and inability to feel a pinch or even a prick; a stuffed-up sensation in the nose similar to that experienced from a bad cold, the nose itself after a time becoming depressed and flattened. On examination patches of eruption are manifest, which become more or less developed; and in the black leprosy (Form No. 3), a hard, cracked, and fissured appearance of the skin of the fingers and toes; a shrivelling and falling away of the nails; a flexed position (as of clutching) of the fingers and toes, and inability to extend them, followed by ulceration, sloughing, and total loss of them.

Allahabad.—The tubercular and anæsthetic forms generally appear between puberty and middle age, but the white form is not uncommon in childhood. The earliest symptoms in the tubercular form are slight discolouration and thickening of the skin of the cheeks, nose, and ears, and loss of sensation in some small portion of skin in the anæsthetic form. White leprosy at its commencement has somewhat the appearance of common ringworm, then the epidermis falls off in thin minute scales, leaving the skin beneath of a snowy whiteness.—(*Dr. Cockburn.*)

Cawnpore.—In a well-marked case it is generally ushered in by an erythematous state of the face and extremities, accompanied with a burning sensation of the whole body. This is succeeded by more or less discolouration and numbness, with puffiness and tuberculous swelling in the parts affected, especially the alæ of the nose and the lobes of the ears. As the disease advances the swelling increases, the suppuration or abrasion takes place; dissolution of the skin will take place from the slightest injuries, such as taking up a bit of charcoal or chillum, or the slightest blow; injuries are the more likely to occur from the loss of sensation.

Agra.—It rarely appears before puberty. The earliest symptoms are loss of sensation of some part of the body, generally the extremities. Muscular action often continues beyond the point where sensation ceases.—(*Dr. Murray.*)

The symptoms usually observable in the early age are as follows:—Appearance of eruption in patches of various tint and elevation; sensation increased or diminished; shining and glossy appearance of the face; swelling and thickness of the lobes of the ears and the alæ of the nose. Weakness of the muscles, especially that of the hands and feet.—(*Meer Ushruff Ally.*)

Jhansi.—The following is the history of a case of tubercular leprosy:—Dhamoodhah, Decannee Pundit, aged 41. Eight years ago he perceived a numbness in his hands and feet; there was not much change for two years, except the fingers becoming

cramped and bent; then the nails began to fall off, first from the hands then from the feet. Soon tubercles appeared on his face and on the lobes of his ears; his features became changed from caries of the bones and consequent falling in of the nose; distressing ozæna has existed for some time. Several of the end joints of his fingers and toes have fallen off, leaving open sores; he has large sores on his knuckles, also on his elbows and knees; he has no feeling in his arms from the elbows, nor in his legs from the knees; he has felt no wish for sexual intercourse for two years; he had syphilis in 1847, but does not attribute the leprosy to it in any way; he can bear no heat of the sun, and during the day is continually pouring cold water over himself; his eyesight is very bad; he does not sleep well, and has very little appetite.

Meerut.—The age for development of the disease varies greatly, but I have not myself seen any case in which it occurred before adolescence, say 16 years of age.

The invariable symptom first complained of by patients labouring under this disease is the loss of sensation in the skin. This condition they call sun (senseless).

(*Dr. Wylie.*)

Dehra.—The patient's chief complaint at the onset of the disease is of general uneasiness; a feeling as of small insects creeping over his skin, and complete or partial anæsthesia of the parts affected; and the skin wears a rough appearance, and is often shiny.

Sreenuggur.—The disease generally manifests itself after puberty. The earliest symptons observable are a feeling of langour, lassitude, and indisposition by the patient to any exertion; depression of spirits; a sensation that worms are creeping over the different parts of the body, and of burning in the palms of the hands and soles of the feet. Formication and burning of the palms of the hands and soles of the feet are the earliest symptoms, and in many cases harass the patients for a considerable time before the true nature of the disease becomes manifest. These latter two symptoms are very prominent in the anæsthetic form and slight in the tubercular. Numbness of the fingers and a sensation of coldness in the extremities, when the disease has made some progress, are often complained of.

Mozufferuggur.—Tubercular leprosy commences with inflammatory or febrile symptoms, and affects chiefly the face, hands, and feet. At first there is general swelling in the part, accompanied by spots of discolouration or dark shining patches, which are followed by more or less tubercular thickening of the shin. As the swelling subsides the part becomes studded with small permanent nodules, seen mostly in greatest number on the alæ of the nose, the external ears, and the extreme phalanges of the fingers or toes; after a time the cuticle dries or hardens, and cracks into scales, which in places fall off, leaving the part tender or perhaps covered with excoriations. The nervous sensibility is heightened at the onset, but subsequently diminished,

In the anæsthetic form of the disease, the prevailing symptoms are often obscure, though there is sometimes noticed a degree of constitutional irritability, followed by a glossiness or redness of the surface and other indications of increased vascular action.

In many instances, however, it appears difficult to fix on any precise time at which the disease may be said to have first made its appearance. No pustules or tubercles form on the part, but as the irritability and redness subside the cuticle cracks into small bran-like scales, which soon desquamate, and leave the skin hard, rough, and fissured.

Interrogatory III.

Benares.—This varies according to the form of leprosy. The disease is developed in the first and second forms in from three to eight years, and proves fatal in from twelve to thirty years; the third form, or whitening of the skin, is not a fatal disease.

(*Dr. Dunbar.*)

Goruckpore.—The disease, usually commencing about middle age, goes on increasing, and I believe usually proves fatal towards the natural decline of life,—about the age of 50. In some cases it is much more rapid; and in others I have known it has gone on for 20 years and more, making almost imperceptible progress.

There is now a man in the Dispensary Hospital, about 50 years, who has had leprosy for 20 years; the greater part of both feet have fallen off, and his hands and fingers contracted and more or less covered with white cicatrices. The disease has not advanced for five years; and I have lately extracted cataract from one of his eyes, and the wound in the cornea healed rapidly and well.

Cawnpore.—It is very seldom in itself attended by fatal results, but it commonly induces a predisposition to other diseases, such as dysentery, diarrhœa, low fevers,

atrophy, &c., from which the patient generally dies. Lepers seldom live beyond 45 or 50.

Etawah.—I am not certain at what time it proves fatal, but I have known both Europeans and Natives live up to the age of 60.

1st. A Dutchman, who had been nearly all his life in India. In this individual the ulcerated form was fully developed, and he lived up to the advanced age of 60 years.

2nd. An Englishman, in whom the disease was partially developed, lived up to 52. This individual had been many years in India, had a numerous family, in all of whom the hereditary taint was more or less developed.

3rd. I have known numerous natives of India live beyond 50, suffering from the worst form of leprosy.

Agra.—The disease is slow in its progress, lasting for many years, gradually getting worse for 10 or 12 years, whilst the fatal termination is generally caused by the supervention of dysentery or diarrhœa.—(*Dr. Murray.*)

Banda.—In cases of leprosy following syphilis, I believe the disease runs its course with great rapidity.

Leprosy, when not connected with syphilis, does not appear to shorten life very materially.

Roorkee.—The disease usually attains its fullest development at about the 35th or 40th year, and a leper does not usually attain to more than 50 years of age, unless he emigrates to the cooler climate of the hills, where I am told they live to a good age.

Sreenuggur.—No good data upon which to answer this question; but it will be nearly true to say that between 30 or 40 years of age is the period of life at which the disease of the tubercular form attains its full development, and within two or three years; and between 30 and 50 is the period of life at which the anæsthetic form attains its full development, within five or six years; and in those periods of life, after the duration of the disease of about 10 years and 20 years respectively of the two forms, that it usually proves fatal.

Mozuffernuggur.—The result of an extensive enquiry under this head seems to show that dissolution rarely happens until after the disease has existed for some years, and the sufferer has passed the period of middle life. It appears also that the persons affected are, as a rule, carried off, not by the leprosy itself, but by the intervention of some secondary cause, chiefly diarrhœa and dysentery; and this coincides with what was observed in the Mozuffernuggur poor-house during the famine in 1860–61, at which time the lepers throughout the district, with other distressed persons, were collected together and fed by public charity for many months. On this occasion many of the lepers died from diseases of the bowels, and a few from cholera, but none appeared to sink from what might be termed the direct effects of the disease itself.

Interrogatory IV.

Benares.—In the six reports sent in by the civil surgeons in the Benares circle, all agree in stating that it is more common in the male sex; and Dr. Garden gives some statistics, but they are not to be relied on, as females can and do conceal the disease, and are themselves prevented from appearing in public when belonging to any but the lowest castes and poorer classes.—(*Dr. Dunbar.*)

Cawnpore.—The disease appears to be pretty equally distributed between both sexes. Some authorities say that women are more frequently attacked on account of the greater coldness of their blood. Where poverty much abounds the women are poorly nourished, and hence may, under these circumstances, become more frequently victims to the disease.

Furruckabad.—Men appear to be much more frequently afflicted with leprosy in this district. From the returns of lepers furnished by the police, which are believed to be correct, it would seem that it is almost the exception for a woman to have the disease. Of 418 confirmed lepers, only 17 were females. It is necessary, however, to add, that the proportion of women to men in the district is in the ratio of 16 to 19.

Agra.—The greater number of cases are in men, but the proportion is not known. (*Dr. Murray.*)

Meerut.—In the province of Kumaon Dr. Morton mentions that the last census was taken in 1853, when at that period there was a population of, males 193,691,

females 173,632, total inhabitants 367,323; of whom were lepers, males 1,332, and females 378. The disproportion of infected between the sexes being very marked, I am inclined to believe that the females are under estimated, as from Dr. Adams's table of patients admitted into the Leper Asylum at Funchal, Madeira, from 1802 to 1803, it appears that during that interval 526 were males and 373 females. But assuming that the total number of lepers in the province of Kumaon be approximatively given, it is at once obvious that lepers must be more numerous in the Himalayas than in the plains, which by general rumour appears to be an undoubted fact.—(*Dr. Wilkie.*)

Interrogatory V.

Benares.—Dr. Cheke states that he has seen cases in Europeans, but none of the other observers have, nor have I.

Dr. Garden has seen one marked case in an Eurasian. Dr. Cheke says in a general way he has seen cases in Eurasians, but none of the others have.

I have seen leprosy only among natives.—(*Dr. Dunbar.*)

Goruckpore.—It appear to affect Hindoos and Mahomedans almost equally, but is found chiefly amongst the lower and poorer classes. It occurs both among high caste men who eat only vegetables, among those who eat meat, and among the low caste men who eat anything. I understand that there are three Mahajuns in the city who eat no animal food now suffering from the disease.

Cawnpore.—I think more frequent among Mahomedans than Hindoos. It is much more common among the very poor, but the richest do not escape; one of the reigning rajahs has it now. It appears never to occur amongst Europeans in this country. The sub-assistant surgeon at this station informs me that he has met with it in Eurasians, but it is very rare in any but the black population.

Etawah.—I have seen the disease more frequent amongst the natives of India. I shall here enumerate the number of well-known cases I have seen in the European, the half-blood, and the native

1st. I. I., three brothers, all lepers of the ulcerative form; children all diseased; wives free (half-blood).

2nd. J. W. C., a man; no ulceration. A numerous family, all tainted with leprosy (European).

3rd.—Harrach, a Dutchman; the ulcerated form; no family; wife free from the disease.

4th.—G. C., a native family of four brothers, three of whom had the ulcerated form of the disease; one brother free. A numerous family of boys; all look pale and strumous.

5th. Gungadhur, late Rajah of Jhansi; ulcerated form; said to be hereditary; no children; his wife, the famous Ranee of Jhansi, was free from the disease.

Agra.—The disease is more frequent among Hindoos than Mussulmen; the relative proportion is fifteen to one.—(*Meer Ushruff Ally.*)

Scharunpore.—I have never seen or heard of the disease of leprosy in a European or Anglo-Indian in this district. It mostly attacks the lowest orders of Mussulmans, especially artizans, who have much to do with mercury in its various forms. The poorer classes of Hindoos are not exempt from the disease, but it is far less common with them than with the first mentioned.

Almorah.—I have never heard of the disease amongst the European or Eurasian class, nor can I at this moment recall any instance of a Mussulman leper. As a rule, the Mussulman eats meat and lives better than the Hindoo.

Interrogatory VI.

Benares.—None of the reporters have any means of giving precise answers to this interrogatory. Leprosy does not seem to be confined to any one locality more than another. The dwellings of the natives are all equally wanting in sanitation; the poorer classes are generally more dirty. But leprosy seems to be affected more by the diet and mode of living than by any other cause; but, nevertheless, men in good circumstances, able to afford not only the necessaries but also the luxuries of life, become affected with leprosy. These have, however, most generally the disease in its 3rd form. —(*Dr. Dunbar.*)

This disease exists most among the poor ill-fed classes, but also among the rich; and in these cases I believe a venereal taint is the primary cause.—(*Dr. Cheke.*)

Ghazeepore.—From the statement appended to this report, in which the numbers of lepers of each caste are given, it would appear that all alike are equally liable to the disease, from the highest to the lowest. But on this point I cannot speak decidedly, as I can obtain no return of the numbers of each caste in the district, and without that no exact comparison can be made. The largest number of lepers occur in those castes that are most numerous.

Allahabad.—a. As far as my experience goes, I am not aware that climate or locality have anything to do with the prevalence or otherwise of the disease (*b. c.* and *d.*), but it is generally believed and acknowledged that want of cleanliness, both in habitations and person, and bad food, favor the occurrence of the disease.

c. I am not aware that any particular occupation has such influence.—(*Dr. Cockburn.*)

Furruckabad.—I am not aware that any circumstances in particular favor the development of leprosy in individuals or groups of individuals.

Lepers are frequently met with in the neighbourhood of the Ganges; but this is principally to be attributed to the fact that the majority of Hindoos, on being attacked with the disease, forsake their homes and relatives, and betake themselves to the banks of the sacred river, where they subsist on charity, and end their lives on what they consider to be holy ground.

Mynpoorie.—a. In the district or colony of Mynpoorie the ulcerating disease, black leprosy (juzam) chiefly occurs in the poorer, dirtier, rural villages; the entire district is inland, almost perfectly flat, alluvial, of sandy clay, and malarial throughout its length and breadth, half covered in the rainy season with water, which gradually disappears before the next rainy season sets in.

b. The sanitary condition of the dwellings of the inhabitants is wretched in the extreme, generally throughout India surrounded by accumulations of filth; close, low, mud buildings, with scarcely any ventilation.

c. Amongst the poorer classes in which black leprosy is most common personal cleanliness is certainly at a minimum; the six colder months of the year wearing the same clothes night and day, without washing for months together, and seldom washing their persons thoroughly.

d. The ordinary diet is cereal grains and pulses ground and made into unleavened cakes, and eaten with a little clarified butter, or with vegetable curried stuffs, or sometimes with fish, one meal a day sufficing.

e. Field labour, grinding and preparing grain, working at sugar and oil mills.

Banda.—I believe the disease is not at all confined to poverty, for I have heard of several Rajahs and Newabs who are sufferers from it; but the disease is decidedly more frequent amongst those who are exposed in their work to most heat. I do not think locality (excepting places where great heat and dryness of atmosphere prevail) has much to do with it. Banda is a notoriously dry and hot climate, volcanic, and I believe on this account, and its dust, that leprosy is of so frequent occurrence.

Judging from the dirtiness of the natives generally, and their women in particular, one would say that the women should suffer most, which is not the case. The general food of natives is atta, flour of wheat, or bajra, or jowar, with rice at times. The different dâls or pulses are universally eaten, and meat is more plentiful here than at many places, besides deer and game, which abound. I believe that the flour of bajra and also of jowar is very heating; mussoor-ka-dâl has also the character of being heating, and without doubt meat and fish increase the pain in leprosy, producing a tingling hot feeling in the extremities; but whether such food causes the disease I cannot say.

Jhansi.—The higher castes of natives, the Brahmins and Pundits, appear in Jhansi to be more subject to both forms of the disease than the lower. These classes or castes of natives seldom have any employment, except taking care of the numerous tombs and other places of religious worship; they are for the most part situated on the banks of the numerous tanks of stagnant water in or around the city. Their habits are extremely cleanly; their ordinary diet is confined to farinaceous food; their dwellings are in general more cleanly than those of other classes of natives.

Meerut.—In the lower classes of society it is very frequently observable, particularly in those who are accustomed to eat putrid fish and meat, and other unwholesome food, &c. &c. Inhabitants of low and damp localities are more subject to the disease; and other circumstances, such as dirty habits of life, living in low, dark, and ill-ventilated huts, &c., accelerate the development of the disease.—(*Nund Coomar Mitter.*)

Mussoorie.—I have seen a great deal of the Beloochees, Wuzeerees, Affghan, and other Pathan tribes, besides Ghoorkas and other Hindoo tribes. All these northern people are notoriously dirty, compared with the inhabitants of the southern portion of India; yet leprosy of either form is far more common among the latter.

Dehra.—The dwellings of the natives in the hilly regions of the district of Dehra Dhoon are of the most wretched description; they are truly hovels, more fitted for wild beasts than for men. One wretched room of paltry dimensions suffices for a family; a low and narrow door is the only means of entrance and exit, and the only source of ventilation; the roof is low. The air in these huts is never purified; and on entering one of them the foulness and fœtidness of the atmosphere is stifling and oppressive. Outside the huts is a collection of every species of filth.

The inhabitants are extremely dirty. They scrupulously avoid the use of water. Their hair and bodies are covered with vermin; and numbers of them sleep and eat in the same vitiated atmosphere.

Their diet is simple, and consists chiefly of the cheap cereal grains; but they smoke to excess, and use the commonest varieties of tobacco.

Their habits are idle in the extreme; they are only driven to employment by the necessities of nature, and they spend the greater portion of their time in warming themselves seated round a fire exposing to its influence their hands, feet and faces, and to this habit I attribute in a great measure the prevalence of leprosy.

As a rule, the disease is chiefly confined to the lower orders or poorer classes of the community. Cases occur now and then among those better off in the world, and where it seems to be derived from an hereditary taint; they are not, however, very common.

Scharunpore.—The dwellings of the population at large are of a most wretched description. The towns are still worse than the villages. Any one in the habit of threading their narrow, confined streets, and inhaling the peculiar nauseating effluvia emanating from them, must wonder how it comes to pass that the people are not extinguished altogether by plague and zymotic diseases of every kind. The state of native dwellings is a vastly important one, well worthy of the earnest attention and consideration of Government. From the want of energetic and systematic sanitary arrangements spring, I believe, those frequent and violent epidemics so peculiar to eastern countries.

The inhabitants wear the same clothes day and night, and wear them too till they drop off from sheer age. During the hot months they require but little covering; not so, however, when the temperature falls to near freezing point. They may then be seen going about shaking in every limb, and, as a natural consequence, they suffer from rheumatism, bowel and pulmonary complaints.

Mozuffernuggur.—Debility, in whatever form or however induced, tends to promote its accession. The chief predisposing cause is no doubt hereditary taint; but other states of body, as an infirm constitution, or a condition of system similar to that which favours the spread of scrofula, will also promote the ravages of this disorder.

The houses of the poor have an appearance of wretchedness and poverty, being nothing more than low huts, built with mud, and roofed with light bamboos and dried grass. No attempt is made at ventilation or the admission of light beyond an opening in the wall, which serves the purpose of a door. Nor is drainage in any way attended to; the refuse matters with the surplus rainfall find their way to the lowest point, and there collect and stagnate.

Budaon.—In this district it is most common among the Mussulmans, the latter circumstance appearing to depend upon their dirtier habits, and their eating more beef and fish than the Hindoos.

Interrogatory VII.

Benares.—The disease seems to advance more rapidly under the influence of bad food and poverty, owing to which the sufferers are exposed to extremes of temperature. This is, however, more a matter of opinion than of observation.—(*Dr. Dunbar.*)

Furruckabad.—It would appear that poor living, a fish diet, want of cleanliness, insufficient clothing, and exposure to the heat of the sun, accelerate and aggravate the disease when once formed.

Agra.—The same conditions which seem to favour the disease also accelerate or aggravate it when it has once appeared.—(*Mokund Lall.*)

Poverty and want of wholesome food, intemperance, debauchery, and want of cleanliness aggravate the disease.—(*Dr. Murray.*)

The following are the conditions or circumstances of life which seem to accelerate or aggravate the disease when it has once manifested itself in an individual:—

a. Exposure to heat.

b. The use of the following articles of diet:—oil, chillies, molasses, acids, a kind of dâl called arurh, plant mathee (میتھی) called Trigonella fœnum græcum.

c. Excessive venery.

d. Want of nourishing food and clothing.—(*Meer Ushruff Ally*).

Jaloun.—I am informed that the subjects of this disease eschew saccharine and oleaginous articles of diet; they also take as little salt or flesh with their food as possible, for they have learned from experience that these aggravate the disorder.

Sreenuggur.—Poverty, want of comfort of a fixed habitation, dejection of spirits, caused by being compelled to separate from the family, and excommuniated from society; irregular diet, and certain articles of it on which the sufferers are frequently compelled to live; crowding of leprous persons together in one place where a number take refuge, and which is not kept clean nor well sheltered from cold, rain, and weather; uncleanness of the bodies of the sufferers themselves; all these seem to aggravate the disease when it has once manifested itself in an individual.

Ajmere.—Poverty and filth aggravate the disease, so also do intemperance and debauchery. Patients are always worse in the hot weather.

Interrogatory VIII.

Benares.—All the reporters but Dr. Dale consider the disease to be hereditary; the natives believe it to be so; still there are but few instances in which more than one member of a family is attacked with leprosy.—(*Dr. Dunbar.*)

Mirzapore.—The disease appears to be rarely hereditary. Of 32 cases of which accurate notes were taken on the various points noticed in the interrogatories, I find three are hereditary; in two the father, and in one the grandfather, was affected; and in one case, the disease, phool, (the leucopathic variety,) had descended to the son, who is however now well: this is about one in eleven hereditary.

Ghazeepore.—The disease is undoubtedly hereditary in many instances.

The general feeling too of the population is that it is hereditary, and on that account its existence is a bar to intermarriages.

On the other hand, nothing is commoner than to find one member alone of a family affected.

Agra.—The disease is generally hereditary, but all the members of the family are not always attacked.—(*Dr. Murray.*)

Banda.—The disease is generally allowed to be hereditary, although instances have occurred where both parents being lepers still the children escaped; again, in a family of four to five children one or two may have leprosy, the remainder escaping.

Meerut.—Although I have not met with any such instance, yet it is the general opinion that it is a hereditary complaint. I have known, however, several instances in which one member only of a family, has been affected with leprosy while all the rest of the same family remained perfectly free from any trace of it.—(*Nund Coomar Mitter.*)

Seharunpore.—The belief in its hereditary transmission was so deeply grounded in the minds of the Punjaubees generally, that they were in the habit of burying alive, not only the leper himself, but also his relations and friends, lest in multiplying their kind the disease would be communicated to distant generations. This practice has since been checked by Government interference.

Almorah.—In the cases where I have made inquiry I cannot distinctly trace any hereditary tendency. In the majority of cases in the leper asylum at Almorah, the leper is one member only of a family so afflicted, and they speak of having brothers and sisters in perfect health, who have apparently not a taint of the disease. There are two young children at this moment in the leper asylum, born of leprous mothers since their admission, who have perfectly clean, healthy skins, and who look as healthy, fat, and chubby as children outside; but whether the disease in them will develope

itself as they reach the age of puberty, I cannot say. These mothers were admitted pregnant.

Bijnour.—Leprosy would appear to be strongly hereditary. At the same time I have had the particulars of 14 cases given me in which only one member of a family had the disease.

Interrogatory IX.

Benares.— In my opinion there is no connexion between leprosy and any other disease.—(*Dr. Dunbar.*)

Jounpore.—Not necessarily, though in some cases it seems connected with syphilis, or to proceed from a syphilitic taint.

Cawnpore.—Leprosy is unconnected with any other disease.—(*Dr. Guise.*)

There is a diversity of opinion as to its connexion with syphilis. My sub-assistant surgeon, who has seen a great many cases, states that there is no connexion with syphilis or any other disease known in this country; but he has known it to follow the excessive use of mercury, either for venereal or other diseases. The native doctors state that it does follow syphilis, and I believe that it is more likely tooccur in syphilitic people if there should be any predisposition.—(*Dr. Jones.*)

Mynpoorie,—I do not think it is connected with syphilis or dependent on syphilis. Many cases of most severe forms of syphilis occur amongst the natives without being followed by black leprosy, such as loss of nasal bones and hard palate, nodes, and various eruptions on the skin. I have never seen a leper in whom undeniable marks of previous syphilitic disease were left; yet the native hakeems believe that the disease has its fons et origo in syphilis, and assert that it never occurs in a man of middle age unless he has previously at some time or other contracted syphilis, except in the rare case of a man attaining middle age whose parent or parents suffered from the disease without previously showing it.

Agra.—I have reason to believe that syphilis generally acts as an exciting cause of the disease, especially when there is an existence of hereditary predisposition.

Almorah.—The natives themselves believe leprosy to depend very often on a syphilitic taint, but I am disposed to think this altogether a mistake. No doubt, with a predisposition to leprosy already existing, if a person's constitution becomes tainted with syphilis, this, like any other lowering cause, may develope the other disease, but I think the morbific cause in each is quite distinct. The natives sometimes consider symptoms which have externally some resemblance to leprosy as leprous which in reality are true secondary and tertiary syphilitic symptoms. Affections of the mouth and throat and nasal passages, loss of voice, &c., are common to both diseases, but those which depend on a syphilitic cause are almost always easily distinguishable from the true leprous affections.

Mozufferuggur.—There is no reason to believe so.

The presence of a depressed state of the powers of the body, whether originating in age, want, or disease, is believed to be one of the chief circumstances under which an undue influence is excited on the progress of the disease. But the ingress of other specific affections after the leprous disorder has manifested itself, even though their leading features may not be well marked, such as idiopathic fever, inflammatory attacks, disorders of the alimentary canal, the strumous diathesis, and in women anæmia and nervous disorders, seem to accelerate its course.

Interrogatory X.

Benares.—All the reporters agree in stating that leprosy is not contagious, nor transmissible by sexual intercourse.—(*Dr. Dunbar.*)

Cawnpore.—I have met with none, nor has the sub-assistant surgeon, but the native doctors say it is contagious in the suppurative stage. The hospital servants as well as the sub-assistant surgeon constantly handle these cases in the ulcerative stage, and they have never become affected.

Etawah.—I have never known the disease to be contagious, either by proximity or cohabitation.

I have known several male lepers married to healthy fine women. They have lived and cohabited together for years, have had a numerous family, and still the disease has never been communicated, although the children were tainted.

Agra.—It is the popular impression that the disease is contagious; it appears in the families of leper, though a leper's wife does not always get the disease. It is supposed to be the ulcerative stage that is contagious.—(*Dr. Murray.*)

Banda.—The disease amongst the natives is not considered contagious. There are many lepers, wealthy men, who have servants to wash and dress the ulcers once or twice daily, and are in constant attendance on them. These men keep free from the disease: I made strict inquiry, and find the report correct. From another report I gather that, when the disease is fully established, when there is ulceration with profuse discharge, persons have become leprous from contagion, but I could not procure any decided information on this point.

Meerut.—It is certainly a contagious affection. I have seen, however, lepers living as usual with their families in the same house to the end of their lives without infecting any one.—(*Nund Coomar Mitter.*)

Seharunpore.—No case has ever come to my knowledge, neither have I been able to ascertain from inquiry, of an instance of the disease having been communicated to a healthy person by contact. Lepers have remained with and been attended by other members of the family without communicating the disease.

Sexual intercourse is no doubt a fertile source of transmission, either the male or female suffering from disease at the time, even in a modified form.

Budaon.—I have met with instances in which the disease proved to be contagious after living in close proximity to the diseased person for a long period of time, say one or two years.

a. The malady was in full vigour, and there were ulcerations with a discharge.

b. In my description of a case of daulassad or tubercular leprosy (see my detail of cases) such an instance of contagion is related.

c. The disease is transmissible by sexual intercourse from a man to his wife, when the former is in an advanced stage of disease.

The evidence in the case alluded to under *b.* is merely the statement of the patient that his brother, ætat. 16, who lives with him, constantly sleeping in the same bed and eating from the same dish, is commencing to be affected with leprosy.

Interrogatory XI.

Benares.—Lepers are under no legal but only social restriction, and this is confined to cooking and eating and personal contact; not to common intercourse; nor are lepers ejected from their homes.—(*Dr. Dunbar.*)

Mynpoorie.—The only restriction kept in force amongst the native population by their own rules is that the leper keeps his own drinking and feeding utensils and clothes to himself. He is not allowed to drink or eat out of the same vessel with sound people.

Agra.—There is no segregation enforced; they are allowed to wander about and beg, but they are avoided by the community.—(*Dr. Murray.*)

Jhansi.—Persons affected with the tubercular form of leprosy are put out of caste, as it is called, as soon as the disease has manifested itself decidedly.

No one, not even of their family, will eat any food they have touched or drink from any vessel with them; they will not smoke with them. In general, a small separate room is assigned to the leper, and his food is given to him there. If a man's wife eats with him she is also put out of caste.

Seharunpore.—In this district lepers are certainly avoided by the community at large, that is, they are not permitted to hold free communication or to keep close company with the public. They herd by themselves at night, and are scattered during the day begging. This social restriction is based upon Hindoo physiology, which holds a leper to be an unclean person, and teaches people to avoid even the touch of such an one. The popular vulgar conviction among the lower orders of Mussulmans is the same as that of the Hindoos in this respect, but the better educated classes of both hold it to be nothing more than a disease, in the ordinary acceptation of the term, and their Moslem teaching is silent on this point, at least nothing is said about debarring a leper from the advantages of society.

Almorah.—They are put out of caste, and when the leprosy is unmistakably developed, they are completely segregated from their friends and relations in the village.

Mozufferнuggur.—It is the custom with the Hindoos, who form probably two thirds of the inhabitants of the district, to provide separate dwellings for those affected with leprosy; but it cannot be said that by this arrangement the affected persons are excluded from society. On the contrary, as most of them subsist by seeking alms (there being no permanent provision for their relief), they are permitted to pass from house to house, and in this way freely communicate with the rest of the community. It is common enough to see lepers in the bazars and in other places of public resort. The Mussulmans, not believing in contagion, and being, moreover, fatalists, make no attempt to put their lepers apart.

Interrogatory XII.

Benares.—There is a leper asylum at Benares. Lepers are also admitted for treatment as out and in patients in dispensaries.

The leper asylum is in connexion with the asylum for blind and destitute persons of all nations and classes founded by Rajah Kally Shunkur Ghoshaul Bahadoor. It is a flat-roofed building, divided into four compartments, and can accommodate sixteen patients; it is no wise different from other hospitals for natives. The hygienic treatment consists in providing the lepers with an abundance of good nutritious food and sufficiency of clothing, and the medicinal in distributing mudar powder, arsenic, and chaool-mogree oil.—(*Dr. Dunbar.*)

Allahabad.—There is an asylum here supported by voluntary contributions for the reception of blind, lame, lepers, and other poor persons unable from bodily infirmity to gain their living. Lepers do not in any great numbers resort to it; there are now eight or nine out of forty inmates.

Occasionally in the early stages of the disease those afflicted with it apply for treatment as out-patients at the charitable dispensaries, but those in advanced stages are never admitted into these institutions as in-patients.—(*Dr. Cockburn.*)

Agra.—There is no provision by Government for the reception of lepers in any of the stations. At Agra there is a leper asylum, supported by charitable subscription, where the poor lepers are collected. The building is in the form of a square, with fifty-nine separate quarters 9 × 12 × 16 feet each, with cook-rooms. Each gets bread made from 20 ounces of flour, 4 ounces of dâl, with vegetables once a week. They are attended by a native doctor. The other lepers receive medicine as out-patients at the Thomason Hospital and other dispensaries.—(*Dr. Murray.*)

Jaloun.—Under the native régime, a certain quarter of the town was set apart for the lodging of the leprous poor, and a certain sum was allowed for their maintenance.

Meerut.—They are admitted in the Government charitable dispensaries, but there is no separate establishment, but which, considering the contagious nature of the affection, and the way in which a man suffering from leprosy is shunned, seems to be very necessary.—(*Nund Coomar Mitter.*)

Mussoorie.—Admitted in common with other patients; and if poor fed whilst under treatment at Government expense in the charitable dispensaries.

Dehra.—There is a leper house, in which there is accommodation for 18 or 20 lepers; there is no hospital appropriated for their treatment, but this is always afforded to them at the Government charitable dispensary.

Seharunpore.—As yet no asylum had been provided in this district for lepers. There is, however, a village close to the city in which they reside, and called accordingly the "leper village." It is badly situated, close to a stagnant stream, and bordering on one of the public thoroughfares. Out of respect to the European community, there can be no doubt as to the propriety of removing it, and such ought to have been done long ago; it is, to say the least of it, an unpleasant sight for ladies passing that way to see half a dozen naked leprous bodies occupying the side of the road asking for alms.

Almorah.—There is an asylum at Almorah where about 80 lepers are accommodated; that is, lodged and fed; but they are under no medical or hygienic treatment beyond having clean lodgings and healthy food furnished to them. The asylum is supported by private charity, and was started some years ago by the present Commissioner of Kumaon, Colonel Ramsay.

Interrogatory XIII.

Benares.—The leper asylum contains an average of eight patients. They generally come when unable to go about begging, as they prefer the comparative freedom of wandering mendicants to the confinement of the asylum. They generally leave the asylum as soon as they are able to walk about without pain. There are at present 10 lepers; their ages vary from 16 to 50, and duration of disease from 4 to about 30 years. Every one has lost almost all his fingers and toes. They are all Hindoos (four Koormies, two Rajpoots, two Chamars, one Aheer, one Mullah). Only two have had syphilis, viz., the Rajpoots, and these have the disease in its most aggravated form; both had been treated years before with mercury by means of fumigation, and had been much salivated. One of these men was dying in great pain; the nose and greater part of his face had been ulcerated away; the smell from the ulcer was most offensive. He was attended by his sister, a widow, who had not a taint of lepra. One man had been about 30 years in the asylum; he had lost his fingers and toes, and eyeballs. These last appear to have undergone ulcerative disease, first of the cornea, which burst, and gave passage to the rest of the contents of the eyes. The rest of the lepers had been short periods in hospital.—(*Dr. Dunbar.*)

Cawnpore.—None strictly at the Government expense, but the Government is the chief contributor towards the public dispensary to which they are admitted. Their numbers vary; 22 were treated last year.

Agra.—The daily average for the last year, 1862, maintained in the leper asylum here (supported by charitable subscription), was about 50.—(*Dr. Murray.*)

Dehra.—From 15 to 26.

Interrogatory XIV.

Seharunpore.—On enquiry from old residents of the district, it appears that the disease has been, and is still, on the increase, and the principal cause of this is undoubtedly owing to its direct propagation from parent to offspring. Isolated cases occur where no hereditary taint can be traced, but these are comparatively rare.

Sreenuggur.—I have no reason from personal knowledge to believe that the disease has been of late years on the increase or otherwise. The people of the place entertain a notion that the disease is on the increase, because they see now-a-days leprous persons in increased numbers. Not long ago here was a custom to bury alive with some ceremony every person affected with leprosy. A father would bury his son, and a son his father; but since the English has commenced to rule the district this abominable practice has stopped. The probability, therefore, is, that persons who by the ancient custom would have been buried are now allowed to live, and the consequence is that leprosy can be seen in a number of persons at the same time.

Bijnour.—I have no personal knowledge on this point; but the disease is generally stated to have increased very much of late years, greater debauchery being assigned as the chief cause.

Budaon.—I believe the disease to have been on the increase during the last 40 years in Budaon, and that the greater prevalence of syphilis during the same period has contributed in some degree to its increase.

Interrogatory XV.

Benares.—Hygienic treatment seems most favourable in this disease; arsenic and chaool-mogree oil, &c., have benefited many cases, and good food and great cleanliness. I never heard of a spontaneous cure of this disease.—(*Dr. Cheke.*)

Azingurh.—In those who are put on good diet and treated with arsenic in the form of Fowler's solution the disease appears to be temporarily arrested.

I have not seen a case of spontaneous cure.

Allahabad.—There is no doubt that good food and improvement in hygienic conditions ameliorate the disease, *i.e.*, they promote the healing of the sores and render life more bearable to those afflicted.—(*Dr. Cockburn.*)

Cawnpore.—It can often be checked in its progress, if not cured, by medicinal treatment, and it sometimes undergoes spontaneous cure in the early stages. I have

In the city of Budaon there are 50 lepers out of 26,369 inhabitants, and about 200 in the whole district of Budaon, with a population of 639,637. Could these calculations be relied upon, the proportion of lepers, even in the districts composing the Meerut and Rohilcund Revenue Divisions, would be found very numerous, and statistics on this point can readily be obtained through the tehsildars employed in the several districts of the North-Western Provinces, but an order of Government would be necessary on the subject.—(*Dr. Wilkie.*)

Sreenuggur.—There are some villages and divisions of the district in which leprosy prevails most; but I failed in my attempt to estimate the number of lepers and population in each of those places.

Leprosy prevails most in the following divisions of the district:—

Nadelsew.	Bylote.
Chowndcote.	Sylla.
Tollye.	Dhangoo.
Buddulpore.	Ajmere.
Shabhee.	Langour.
Goojroo.	Oudeypore.

Mozuffernuggur.—Judging from the best information that can be obtained, it does not seem that leprosy prevails more in one part of the district than in another.

In the sudder or chief station, with a population of about 13,000, there are only 12* known cases, and in the other towns the same proportion is believed to hold good. The chief forms of the disease met with consist of juzam, soonbeharee, and baras. It is rare that filpa (or elephantiasis) and bohaq occur. No case of elephantiasis has been seen involving the scrotum, a condition by no means rare in Bengal.

There are several towns of similar or nearly similar capacity to that of the chief or sudder station, and the proportion of lepers to population in them is ascertained to be the same, or nearly so, as that mentioned as existing in the latter; and the villages, which are very numerous, and contain by far the greater bulk of the population, maintain about the same proportion. It is inferred that, throughout the district, the average proportion of those affected with the disease amounts to something under one to every thousand of the people.

III. PUNJAB.

Interrogatory I.

Hill States.—Leprosy is not an uncommon disease in the mountain districts which I have visited, namely, those situated between the rivers "Beeas" and "Sutlej," and between the "Sutlej" and "Tonse."

The most common forms of leprosy in the tracts of country contained between the above named districts, where they flow through the Himalayan provinces, are the lepra anæsthesiaca and lepra tuberculosa; I have seen also a few cases of the white leprosy, or "berat lebena:" of these the lepra anæsthesiaca is most often met with.

Bhutteeana.—Leprosy is not known in this district; people come in here for treatment in the Government charitable dispensary from the foreign states.

a. The forms I have seen are the tubercular and the non-tubercular; the latter is the most frequently seen.

Lahore.—Leprosy is by no means an uncommon disease at Lahore, as well as in many other places in the Punjab. Its true form, or what is called the lepra tuberculosa, generally occurs, as its name implies, in the form of tubercular patches that chiefly manifest themselves, at least in the early stage of the disease, on the forehead, the face, the nose, and the ears; the upper and lower extremities, as well as the trunk of the body, become afterwards involved in a similar manner.

The tubercles are generally small, round, soft, of a reddish, livid, or bronze colour, according to the complexion of the individual affected, and look as if they were full of oil.

---

* This number alludes only to cases known to the native official authorities, through whom the information has been obtained. There must at least be as many more suffering from the disease not known, or who do not show themselves, and probably a still greater number of incipient cases not readily noticed.

The sensibility of the parts is more or less impaired, especially the hands and feet, which often become also stiff and swollen.

Some of the mucous surfaces of the body also suffer. The conjunctivæ are generally red and swollen, and the eye-lashes fall off; the sense of smell becomes impaired in many cases, and in some there is also a highly offensive sero-purulent discharge from the nostrils present, with caries of the cartilages of the nose and of the turbinated bones; the larynx also sometimes ulcerates, and there is cough, attended with a hoarse nasal voice, and occasionally with aphonia.

Besides this, and the anæsthetic forms of the disease, there is the white or the Jewish leprosy, the berat of Moses. Of this I have seen instances of both the berat lebena and the berat cecha, or the bright white and the dusky lepra. The berat lebena occurs in the form of one or more pearly spots; the white patches are the same as the healthy skin, except in colour, and that they are either free from hairs, or that the hairs turn white and silky; sensibility is not affected in pure cases. I have seen the disease co-existing with the lepra anæsthesiaca as well as with true (tubercular) leprosy.

The natives consider albinoes to be lepers, the disease being supposed to be berat lebena; and indeed the white leprosy appears to me to be physiologically undistinguishable from albinism, except in the fact of the latter being congenital and affecting the whole body, and the former not congenital and affecting only parts of the body; both consist of an absence of pigment, and do not of themselves affect the general health.

The syphilitic lepra generally occurs in the form of irregular copper-coloured patches on the whole body, especially the face, to which they impart a peculiar puffy appearance, somewhat resembling what occurs in the tubercular form of the disease. In some cases these patches are of a bronze colour, and thus constitute what Willan has called the lepra nigricans. In the history of most of these cases, some previous attack of primary syphilis can be distinctly traced. It is not unusual for this to run into the true tubercular form of the disease.

The last form of the disease that is to be mentioned is the lepra squam-os-a, which I consider to be identical with psoriasis, of which it is but an inveterate form, and to which Willan has given the name of lepra vulgaris.

Loodiana.—Leprosy does not occur frequently in any part of this district. Of 19 persons affected with the disease, 3 only were natives of the town of Loodiana, the population of which is about 40,000; 6 came from different parts of the district, the total population of which is 525,498; 9 from other districts and native states in the Punjab; 1 from Oude.

It occurs in the anæsthetic and tubercular forms; both forms are also sometimes seen in the same individual.

In cases where both forms (anæsthetic and tubercular) are observed, the symptoms of one form only first occur, followed after a considerable interval by marked symptoms of the other form.

Interrogatory II.

Hill States.—I have not seen or heard of any form of leprosy occurring in infancy; it appears usually to show itself shortly after puberty.

Bhutteeana.—On a reference to the Hospital Register, I find the average age at which the disease manifested itself to be 29; the earliest symptoms are generally stated by the patients on enquiry to be, first redness of the skin of the face, hands and legs, then the cuticle elevates, becomes tense, and is filled with serum, unlike bulbous eruptions, &c.

Lahore.—Tubercular lepra (and it is of this form only that I shall now speak) generally manifested itself at some time after the age of puberty; rarely, if ever, during infancy or childhood. The disease at first appears in the form of a number of discoloured spots on the skin, which becomes thickened, and in which sensibility is impaired, and tubercles are deposited in a slow manner.

Loodiana.—According to the patients statements of 19 cases examined by me,

None were affected under 7 years of age.

From 7 to 10 years of age - -	4	From 30 to 40 years of age - -	2
„ 10 to 20 „ - -	6	„ 40 to 50 „ - -	3
„ 20 to 30 „ - -	2	„ 50 to 60 „ - -	2

So that 10 out of 19 appear to have become affected between the ages of 7 and 20 years.

In the city of Budaon there are 50 lepers out of 26,369 inhabitants, and about 200 in the whole district of Budaon, with a population of 639,637. Could these calculations be relied upon, the proportion of lepers, even in the districts composing the Meerut and Rohilcund Revenue Divisions, would be found very numerous, and statistics on this point can readily be obtained through the tehsildars employed in the several districts of the North-Western Provinces, but an order of Government would be necessary on the subject.—(*Dr. Wilkie.*)

Sreenuggur.—There are some villages and divisions of the district in which leprosy prevails most; but I failed in my attempt to estimate the number of lepers and population in each of those places.

Leprosy prevails most in the following divisions of the district:—

Nadelsew.	Bylote.
Chowndcote.	Sylla.
Tollye.	Dhangoo.
Buddulpore.	Ajmere.
Shabhee.	Langour.
Goojroo.	Oudeypore.

Mozuffernuggur.—Judging from the best information that can be obtained, it does not seem that leprosy prevails more in one part of the district than in another.

In the sudder or chief station, with a population of about 13,000, there are only 12* known cases, and in the other towns the same proportion is believed to hold good. The chief forms of the disease met with consist of juzam, soonbeharee, and baras. It is rare that filpa (or elephantiasis) and bohaq occur. No case of elephantiasis has been seen involving the scrotum, a condition by no means rare in Bengal.

There are several towns of similar or nearly similar capacity to that of the chief or sudder station, and the proportion of lepers to population in them is ascertained to be the same, or nearly so, as that mentioned as existing in the latter; and the villages, which are very numerous, and contain by far the greater bulk of the population, maintain about the same proportion. It is inferred that, throughout the district, the average proportion of those affected with the disease amounts to something under one to every thousand of the people.

III. PUNJAB.

Interrogatory I.

Hill States.—Leprosy is not an uncommon disease in the mountain districts which I have visited, namely, those situated between the rivers "Beeas" and "Sutlej," and between the "Sutlej" and "Tonse."

The most common forms of leprosy in the tracts of country contained between the above named districts, where they flow through the Himalayan provinces, are the lepra anæsthesiaca and lepra tuberculosa; I have seen also a few cases of the white leprosy, or "berat lebena:" of these the lepra anæsthesiaca is most often met with.

Bhutteeana.—Leprosy is not known in this district; people come in here for treatment in the Government charitable dispensary from the foreign states.

a. The forms I have seen are the tubercular and the non-tubercular; the latter is the most frequently seen.

Lahore.—Leprosy is by no means an uncommon disease at Lahore, as well as in many other places in the Punjab. Its true form, or what is called the lepra tuberculosa, generally occurs, as its name implies, in the form of tubercular patches that chiefly manifest themselves, at least in the early stage of the disease, on the forehead, the face, the nose, and the ears; the upper and lower extremities, as well as the trunk of the body, become afterwards involved in a similar manner.

The tubercles are generally small, round, soft, of a reddish, livid, or bronze colour, according to the complexion of the individual affected, and look as if they were full of oil.

---

* This number alludes only to cases known to the native official authorities, through whom the information has been obtained. There must at least be as many more suffering from the disease not known, or who do not show themselves, and probably a still greater number of incipient cases not readily noticed.

The sensibility of the parts is more or less impaired, especially the hands and feet, which often become also stiff and swollen.

Some of the mucous surfaces of the body also suffer. The conjunctivæ are generally red and swollen, and the eye-lashes fall off; the sense of smell becomes impaired in many cases, and in some there is also a highly offensive sero-purulent discharge from the nostrils present, with caries of the cartilages of the nose and of the turbinated bones; the larynx also sometimes ulcerates, and there is cough, attended with a hoarse nasal voice, and occasionally with aphonia.

Besides this, and the anæsthetic forms of the disease, there is the white or the Jewish leprosy, the berat of Moses. Of this I have seen instances of both the berat lebena and the berat cecha, or the bright white and the dusky lepra. The berat lebena occurs in the form of one or more pearly spots; the white patches are the same as the healthy skin, except in colour, and that they are either free from hairs, or that the hairs turn white and silky; sensibility is not affected in pure cases. I have seen the disease co-existing with the lepra anæsthesiaca as well as with true (tubercular) leprosy.

The natives consider albinoes to be lepers, the disease being supposed to be berat lebena; and indeed the white leprosy appears to me to be physiologically undistinguishable from albinism, except in the fact of the latter being congenital and affecting the whole body, and the former not congenital and affecting only parts of the body; both consist of an absence of pigment, and do not of themselves affect the general health.

The syphilitic lepra generally occurs in the form of irregular copper-coloured patches on the whole body, especially the face, to which they impart a peculiar puffy appearance, somewhat resembling what occurs in the tubercular form of the disease. In some cases these patches are of a bronze colour, and thus constitute what Willan has called the lepra nigricans. In the history of most of these cases, some previous attack of primary syphilis can be distinctly traced. It is not unusual for this to run into the true tubercular form of the disease.

The last form of the disease that is to be mentioned is the lepra squam-os-a, which I consider to be identical with psoriasis, of which it is but an inveterate form, and to which Willan has given the name of lepra vulgaris.

Loodiana.—Leprosy does not occur frequently in any part of this district. Of 19 persons affected with the disease, 3 only were natives of the town of Loodiana, the population of which is about 40,000; 6 came from different parts of the district, the total population of which is 525,498; 9 from other districts and native states in the Punjab; 1 from Oude.

It occurs in the anæsthetic and tubercular forms; both forms are also sometimes seen in the same individual.

In cases where both forms (anæsthetic and tubercular) are observed, the symptoms of one form only first occur, followed after a considerable interval by marked symptoms of the other form.

Interrogatory II.

Hill States.—I have not seen or heard of any form of leprosy occurring in infancy; it appears usually to show itself shortly after puberty.

Bhutteeana.—On a reference to the Hospital Register, I find the average age at which the disease manifested itself to be 29; the earliest symptoms are generally stated by the patients on enquiry to be, first redness of the skin of the face, hands and legs, then the cuticle elevates, becomes tense, and is filled with serum, unlike bulbous eruptions, &c.

Lahore.—Tubercular lepra (and it is of this form only that I shall now speak) generally manifested itself at some time after the age of puberty; rarely, if ever, during infancy or childhood. The disease at first appears in the form of a number of discoloured spots on the skin, which becomes thickened, and in which sensibility is impaired, and tubercles are deposited in a slow manner.

Loodiana.—According to the patients statements of 19 cases examined by me,

None were affected under 7 years of age.

From 7 to 10 years of age - -	4	From 30 to 40 years of age - -	2
„ 10 to 20 „ - -	6	„ 40 to 50 „ - -	3
„ 20 to 30 „ - -	2	„ 50 to 60 „ - -	2

So that 10 out of 19 appear to have become affected between the ages of 7 and 20 years.

In the tubercular form the first symptoms are erythematous eruption on the skin. In most cases the skin of the face is first attacked. In some there is sense of internal heat and fevers; in others there is no constitutional disturbance. The eruption is soon followed by thickening of the skin and development of tubercles along ridge of eyebrows, helix of ears, &c.; hair of eyebrows and often of eyelids falls off.

In 7 out of 11 cases of the anæsthetic form the earliest symptom was anæthesia in a patch of skin near the knee, ankle, or wrist-joints.

In one case (marked No. 2) the first symptom that attracted attention was the appearance of a bleb on one finger. This broke, discharged watery fluid for some time, and ended in loss of bone of finger. In the remaining three (anæsthetic), all of whom were women (Nos. 9, 10, 11), the first symptom was said to have been erythematous eruption over the face. The disease may have been of the tubercular form at first in these three cases; the erythema had subsided, and none but anæsthetic symptoms were present when the patients were examined by me.

In the mixed cases (Case No. 16), one patient states that, after suffering for months from ague, he found skin of legs anæsthetic up to hips; other symptoms of anæsthetic leprosy subsequently showed themselves; seven years afterwards had erythematous eruption on face followed by development of tubercles.

A second (Case No. 17) states: After suffering from malarious fever and spleen for three months, found that a patch of skin on dorsum of right foot was anæsthetic; this was followed by bullæ, ulcers, and loss of bones of toes; tubercular symptoms showed themselves four years afterwards.

The third (Case No. 19), erythematous eruption on face, tubercular swellings over eyebrows and on ears, falling off of hair from brows. About one year afterwards anæsthetic symptoms occurred.

The fourth (Case No. 18), erythematous eruption on face, tubercles along brows, helix of ears, falling off of eyebrows, &c. Anæsthetic symptoms commenced five or six years afterwards.

Interrogatory III.

Bhutteeana.—From what has been stated above, this disease takes about five or six years to develope itself during the adult period of life. The few cases that attend the Government charitable dispensary for a time only, when relieved, return back to their homes, and come back again. I have seen them lingering thus for the last 10 years. It has been told to me that the disease proves fatal after 20 or 30 years.

Loodiana.—I have not been able to ascertain at what period of life or after what length of time the disease generally proves fatal; but the impression among the natives here seems to be that it does not shorten life to any remarkable extent.

Interrogatory IV.

Hill States.—Leprosy is by the hill people said to affect both sexes alike. I have seen more men than women affected. This may arise from a dislike frequently shown on the part of the women to apply for medical aid.

Lahore.—I think that both sexes are equally liable to the attack of leprosy.

Loodiana.—As far as I have had opportunities of observing, men are much more liable to the disease than women, in the proportion of nearly four of the former to one of the latter.

Interrogatory V.

Bhutteeana.—I have seen it attacking in equal proportion the Hindoos and the Mussulmans.

Lahore.—White races of men seem to me to possess a considerable degree of immunity from its influence. I have seen numerous instances of it among the dusky inhabitants of the plains, only two among Eurasians, but none among Europeans or the hill tribes.

Loodiana.—I find that in 19 cases, 18 were Punjabees and 1 an Oude man; 12 were Mahomedans; 5 Hindoos or Sikhs; 2 low-caste men. The Cashmeerees and Affghans who form a considerable part of the population of the town seem to be but very little subject to the disease.

It is remarkable that the Mahomedans should suffer so much more from the disease than the Hindoos. The latter are generally more cleanly in their habits and more particular in their diet than the former.

Interrogatory VI.

Hill States.—The greater number of persons affected with leprosy whom I have seen belonged to the very lowest and poorest classes, and the circumstances which seem to favour its development among them are the badness of the food they eat, and their extremely filthy habits.

a. The filthy state of the houses inhabited by this class is almost beyond belief. The immediate neighbourhood of their houses is also always extremely dirty; heaps of manure, human ordure, and filth of all kinds are allowed to collect and remain here for lengthened periods, and never thoroughly cleared away.

b. Their diet is of the coarsest description, being usually a grain called "bathoo," from which they make bread that is nearly black. This is imperfectly cooked, and eaten unleavened. Poppy seed and salt is often mixed with it. They are very fond of salt, and eat it in large quantities. It is of an inferior quality, being the dark grey rock salt. Whenever they can get it they eat meat readily, but are not at all particular about its quality. They never refuse the flesh of animals that have died from disease. They eat bear's flesh, and it is said also the flesh of wild animals, such as leopards, &c.

c. Their usual occupation is preparing leather; working in leather, &c. They also cultivate small plots of land.

Lahore.—I think that the disease is more prevalent in low, warm, and humid localities, especially those with a variable climate, than in places where the opposite conditions prevail.

It is so frequent among the ill-fed, the ill-clothed, and the filthy of our species, that it may not be improperly called as a disease of mendicants.

Loodiana.—

a. The character of the district generally is dry and sandy; the wells, except in the towns and villages on the banks of the Sutlej, about 30 feet deep; rain-fall not heavy; land naturally well drained; there are no hills nor any very high ground nearer than 60 or 70 miles, nor any swamps; there is but very little rice grown in it, and that only on the banks of the river. The land is mostly under cultivation; there are no forests of extensive jungles in it; there is rather a scarcity of trees; there are no canals. The district is bounded on the north by the river Sutlej. There are three or four large towns and many large villages, but the district itself is not thickly populated. Malarious fever, usually intermittent, prevails annually after the rains, but not more so than in other districts in the Punjab.

b. I have no reason to believe that the sanitary condition of the dwellings of persons who have become affected with leprosy differs in any respect from that of thousands of similar habitations in the district.

c. The labouring classes in the district are not generally cleanly in their habits; they seldom wash and bathe, as do the Hindoos, &c., in Bengal and the North-Western Provinces.

d. They all live more or less alike, their ordinary diet being what they call "dâl-roti," *i.e.*, baked unleavened cakes of flour of wheat or Indian corn, or millet with some admixture of barley. This they eat with boiled pulse (dâl) and ghee (clarified butter); the usual condiments being salt, red pepper, garlic, turmeric, &c.

They eat meat but seldom, from once to three times a week, but often not more than two or three times a month; generally drink milk or butter-milk daily; eat fresh vegetables, both raw and cooked, when in season, and sugar-cane, melons, &c., in large quantities.

The Mahomedans eat meat much more frequently than the Hindoos and Sikhs, and the low-caste men eat the flesh of almost all animals, clean and unclean, whenever they can get it. They all get a plentiful supply of the coarse food they are accustomed to, in fact live well; scarcity of food is almost unknown to them.

e. The majority of the inhabitants of the district are field labourers, and work very hard. Most of the lepers that I have met with attribute the disease to some chill they had been subjected to when their bodies were much heated during the hot season

Interrogatory VII.

Hill States.—The people themselves say that the disease is much aggravated by the coarse food they eat, and particularly when meat is eaten.

Lahore.—Improper nourishment, exposure to the vicissitudes of weather, and neglect of cleanliness, or, in other words, the circumstances which tend to produce the disease, all seem to aggravate it.

Interrogatory VIII.

Hill States.—Lepra tuberculosa and lepra anæsthesiaca are said by the hill people to be undoubtedly hereditary. I have seen cases in which one or more members of a family were affected, while the others were free and in every respect apparently healthy.

Bhutteeana.—I am aware of the circumstance that one member of the family has become affected, whilst all the rest have escaped from its effects.

Lahore.—It is often hereditary, but not always so. I have seen an instance of several healthy children whose father was a confirmed leper. I have also known instances in which one only of a family has been affected while others remained free.

Loodiana.—The impression among the natives is that the disease is generally hereditary, but almost all the lepers examined stated that their parents and ancestors, as far as they knew, were healthy.

Of the 19 cases of leprosy examined by me not one appears to have been hereditary. I have been obliged in these inquiries to rely on the statements made by the patients. I do not think they could have any object in deceiving me on this subject.

Interrogatory IX.

Hill States.—I have not. Syphilis is extremely common in these mountains.

Bhutteeana.—Yes; more than half the cases that presented themselves in the Government charitable dispensary suffered under some form or other of syphilis.

Lahore. I have every reason to believe that leprosy is often, but not always, dependant upon syphilis, which may be considered as one of its most powerful predisposing causes.

Loodiana.—I have no reason to believe so.

Interrogatory X.

Hill States.—I have not.

c. It is believed to be so.

Bhutteeana.—No.

Lahore.—I have not, nor do I believe it to be so.

I have, however, met with an instance in which it was transmitted by sexual intercourse, in which fecundation was also the result.

Loodiana.—I may mention that five children of lepers have lived in the village with lepers all their lives, and are said to be perfectly healthy. The eldest is 16 years of age, the youngest 5 years. Two of them, one six years old, son of Jeewee (Case No. 15), the other five years old, son of Abbo (Case No. 9), were shown to me by their mothers. The fathers as well as the mothers, in all these cases, were said to have been lepers long before the birth of the children.

c. I have never met with a case where the disease had been supposed to have been so transmitted.

Interrogatory XI.

Hill States.—Yes. Persons so affected are not permitted to marry.

Bhutteeana.—In this district the native community do not communicate freely with those affected with leprosy. Marriage, cohabitation, sociality, &c. are at once prohibited, The poor unfortunate sufferer is allowed to remain in a far detached place; meals are given to him in separate receptacles kept for the purpose; in fact, he is treated as an outcast.

Lahore.—There is no enforced segregation.

Loodiana.—No. The inhabitants of the towns and villages themselves prevent such communication occurring. The authorities do not, I believe, in any way interfere, beyond providing a village outside the chief town in the district (Loodiana) as a residence for the lepers. When a native of a village in the district becomes affected with leprosy, a house is built by his neighbours for him outside the village, and he is supplied with food, &c. by his friends. If he prefers it, he comes to the leper village near Loodiana. The solitary hut of the leper is to be seen outside many of the larger towns and villages in the district; one here and there.

Interrogatory XII.

Hill States.—I believe that there is an asylum for lepers near the Hill Station of Dhurmsala. I have not had an opportunity of visiting it.

Bhutteeana.—No other public provision exists in this district for the reception of leprous poor than the charitable dispensary, where he is kept in a separate ward for treatment. The building is lofty and freely ventilated. Beds and blankets are provided, and, if indigent, he is fed at the Government expense whilst under treatment.

Lahore.—Most live as roving mendicants. They are very seldom admitted into general hospitals; a few only are sometimes accommodated in ordinary pauper-houses, where they are simply fed and clothed at the public expense.

Loodiana.—They are not admitted into hospital or dispensary, nor are there separate infirmaries or asylums for them.

They attend at the dispensary as out-patients, if they choose to do so.

Interrogatory XIII.

Lahore.—In this, the district of Lahore, there used to be maintained for some time past about 15 lepers in a day, who are now transferred to the leper village at Torunturun, a place about 40 miles from here, situated in the sister district of Umritsur.

Interrogatory XIV.

Loodiana.—From the statements of the lepers themselves the disease seems to have decreased in this part of the country of late years. They say that 20 years ago there used to be about 100 lepers at the village There are now about 25.

Within the last 20 years, since the Punjab came under British rule, the sanitary condition of the towns, &c., by attention to cleanliness, drainage, widening streets, making roads, &c., has been much improved.

These measures must have a beneficial effect upon the general health of the people.

Interrogatory XV.

Bhutteeana.—As patients do not generally resort to hospitals unless the disease has advanced a good deal, I have under such peculiar circumstances found the following to relieve the symptoms a good deal: preparations of arsenic, potassi hydriodati: with infusion of hemidesmus indicus (ununtamool), ounce i. three times a day; or chaool-mogree pills, grains v. each, three times a day; locally, chaool-mogree ointment or the bipchee ointment. The latter I have found very useful, and I generally prefer it. The diet should be mild and nourishing.

The disease appears to be aggravated by the bad plan of treatment adopted at first by the native quacks. By them the preparations of mercury, particularly the corrosive sublimate, are administered without the slightest hesitation. Venesection is also carried on to extreme by them. Frequent purgation and low diet are also enjoined, to add to the sufferings of the poor and unfortunate victim.

Loodiana.—Some of those least and most recently affected have been tolerably regular attendants at the dispensary, and by tonics, dilute nitric acid, and chiretta, slightly stimulating embrocation to diseased skin, daily bathing, and general attention to health, they have certainly improved in condition.

Interrogatory XVI.

Hill States.—These mountain states being under independent chiefs, no regular census is taken.

Bhutteeana.—The estimated population of this district of Bhutteana, agreeably to the last census taken in 1861, was 126,946 souls.

Lahore.—The district of Lahore, extending over an area of 3,608·45 miles, contains a population of 649,447 souls, as ascertained by the census held in 1854.

There is no register of births or deaths kept up either here or in any other part of the Punjab.

Loodiana.—The population of the district is 525,498.

The last census was taken in 1861.

No such registration has ever been established in this district.

Interrogatory XVII.

Loodiana.—In the course of my enquiries I have not been able to come to any conclusions as to the predisponent or exiting causes of the disease, which, as seen here, singles out one member of a family, all of whom are living under precisely the same circumstances in every respect, occupying the same dwelling, subsisting upon the same kind of food, following the same employment, and, it may be presumed, all of somewhat similar constitutions. As a rule, one only is affected with the disease; the rest escape.

In almost all the cases I have met with, the disease appeared to have had a spontaneous or accidental origin; neither the patients nor their friends are aware of any circumstances which would show a predisposition to the disease.

The plan sanctioned by the Punjab Government, about six or seven years ago, of distributing "quinine" among the people of the district during the time that fever prevails, is, in my opinion, one of the best preventive measures that could be adopted.

Most of the lepers I have examined said that, after the first year or two or three, they had suffered but little pain from the disease.

But they did complain of the hot weather, and stated that their condition improves and that they are capable of much greater exertion in the cold weather than in the hot; they seem to feel the heat extremely.

Most of the men, who became affected with anæsthetic leprosy early in life, say that they are impotent; those who became subjects of the disease later in life say that they are affected in the same way, but not to the same extent.

There are no documents, printed or manuscript, describing the disease as it prevailed at any former period; nor are there any works bearing on the vital statistics of the district.

IV. RAJPOOTANA.

Interrogatory I.

Serohi, Aboo.—Leprosy is known in Serohi, in which state Aboo is situated. The anæsthetic form is the only one I have met with.

c. The anæsthetic form of leprosy commences by general loss of sensation in the upper and lower extremities. Two patients have stated that this loss of sensation was ushered in by feverishness and loss of consciousness, lasting 24 to 48 hours. The loss of sensation comes gradually on, and is succeeded by the formation of bullæ on the extremities of the fingers and toes, afterwards on the palmar and plantar surfaces of the hands and feet.

These bullæ burst, and leave deep-seated ulcers, which gradually heal, to be succeeded by others; the nails frequently separate, and are not reproduced; at other times the nails remain rudimentary, while the fingers and toes have been atrophied to one third or one fourth their former size.

The characteristic symptoms are, lessened or lost sensation in the hands, arms, and feet, and the bullæ mentioned above.

It is known by the name of korh.

Jodhpore.—Leprosy is known in the state of Jodhpore, but is not a common disease in the district; that form known as the anæsthetic variety is most commonly presented, characterized by whitish discolourations or watery bullæ, and terminating in ulcerations; these chiefly attack the fingers and toes, and the disease terminates by the accession of diarrhœa or dysentery.

Ulwur.—Leprosy is known in the state of Ulwur; more in Ulwur itself than in the adjoining villages, probably due to the larger population and greater number of poor people. The variety met with is that known as the lepra anæsthesiaca; I have never met with a case of lepra tuberculosa, nor have I observed in this state any characteristics of the form which were pointed out to me among the Crim-Tartars and Russians, and known to dermatologists as lepra taurica, or "leprosy of the Crimea."

The disease generally commences with tingling and loss of sensation, followed by or accompanied with a whitish hue of the skin The absence of sensibility rapidly spreads from the general surface to the extremities. This whiteness may appear in the form of spots on the skin, though in most of the cases I have observed it has been uniform in appearance; the hair falls out in patches; after a time the loss of sensation becomes complete, the skin remaining cold, but in other respects unaffected, neither itchy, painful, perspirable, nor swollen. The whiteness of the skin may, after a variable period, extend over the surface of the body. In the cases I have seen, the disease has been confined to the extremities. As the disease advances, the functions generally become sluggish, ulceration sets in, and soon affects the subjacent structures, sometimes a whole limb will ulcerate off, sometimes only a toe.

Harowtee.—The following description (translated by Captain Beynon, political agent, is by "a very intelligent native doctor, in charge of the dispensary at Jhallawar. He "has been employed in these parts for 15 or 16 years, and the natives have great "confidence in him."

There are eighteen sorts of leprosy extant, but in the Harowtee districts five descriptions, and those of the worst kind, have come under my notice; the other thirteen are rare. Out of these five, one is unusually obstinate in yielding to treatment, and generally proves fatal. The name of these five sorts are called, 1st, aihmur, or red; 2nd, asood, or dark, the colour of ink; 3rd, abyaz, or white; 4th, sumkee, from its resemblance to the scales of a fish, and peels off the skin of the patient in the same manner; the 5th is called huzzree, which causes a numbness all over the body, and loss of the sense of feeling, so that the piercing of a lancet is not felt; blisters also form all over the person, and these turn into sores.

The kind of leprosy which has a reddish appearance is the worst; the symptoms are as follows:—On touching the person in any part it causes a sensation similar to that of a foot being asleep; the skin is very dry; the limbs and face become swollen; a sort of continual irritation on the tips of the fingers and toes; the nails become thick and deformed, and drop off; sores break out, and the whole body is covered with open and sloughing sores, and from this stage the patient generally lingers and dies.

Jeypore.—Leprosy is very rare in Rajpootana.

The cases which I have seen amongst natives in this part presented the following symptoms:—Tumid and swollen features of the face, with pale and thickened integument over the superciliary ridges; weak and languid circulation; hypertrophied extremities, with coldness, stiffness, partial or complete loss of sensation; dry and fissured state of the palms of the hands and soles of the feet; skin generally dry. As the disease advances, the extremities, viz., fingers and toes, become gangrenous and fall off one after the other. In this stage there was some febrile excitement during the separation of the extremities.

Interrogatory II.

Serohi.—Usually between 20 and 30 years of age.

Jodhpore.—Generally occurs in middle age. It will mostly be found that the patient has suffered much from malarious fever.

Ulwur.—I have seen the disease in a boy of 12 years of age; but generally speaking between the ages of 20 and 40.

Harowtee.—Generally about the age of 15; not later than 40 years

Jeypore.—At different ages. The first symptoms visible are either a tumid appearance of the features, with thickening and pale colour of the integument over the eyebrows and extremities, and sometimes patches of a dusky hue over the body, accompanied with a burning sensation; at other times simply a discolouration of the skin without any other symptoms.

Interrogatory III.

Ulwur.—The period of the disease attaining its full development is uncertain, depending upon a variety of causes. It is hastened, however, by poor living, want of cleanliness, mendicant misery, and exposure to cold and damp. I have never known a case terminate fatally in any one under 40.

Harowtee.—Between the ages of 50 to 60, though there are cases where the patient has attained the age of 70.

Interrogatory IV.

Serohi.—I have met with an equal number of cases of each sex in Serohi. Native opinions say it is more frequent in the male.

Jodhpore.—Both sexes in equal proportion.

Harowtee.—More frequent in the male sex.

Interrogatory V.

Sehori.—Only in the coloured races.

Harowtee.—In the Harowtee districts it is more frequent among Chumars and Dakurs, who prepare skins, and others of the lower classes. Chiefly those of a sallow complexion are attacked, though I have observed it among those who have a dark complexion, though not so frequent.

Interrogatory VI.

Jodhpore.—Most prevalent amongst the lowest classes. There is no sea coast, but much low, sandy, malarial soil. The sanitary condition of the inhabitants as bad as can well be; personal cleanliness frequently neglected; diet chiefly vegetable; occupation agricultural. The development of the disease appears to be favoured by want of attention to sanitary requisites, by poor diet, and want.

Ulwur.—The poorer classes. Privations of any kind, vicissitudes of temperature, and I have no doubt that many of the poorer classes in India suffer from the disease on account of inferior, innutritious, or diseased grain. The natives are very fond of hoarding up their grain, and it is frequently sold in the bazaars when 10 and 12 years old.

Jeypore.—I have witnessed it in the wealthy and in the indigent, more so in the latter.

It appears to occur as much in those who live on the usual kinds of food and who are naturally cleanly in their habits as in those who live on bad food and are uncleanly in their habits.

Interrogatory VIII.

Ulwur.—Out of the 20 cases I carefully inquired into, the disease in 16 was clearly traceable to family taint.

Harowtee.—From inquiries I have made it does not appear to be hereditary. I have known one of the family a leper, while none of the rest were attacked, or even any sign of the disease show itself.

Interrogatory IX.

Jodhpore.—I believe a person affected with secondary syphilis will be more likely to become the subject of leprosy, in consequence of the cachexia the first-named disease induces. I believe both diseases may exist, and become as it were blended together. I do not think there is any such disease as syphilitic leprosy, that is, leprosy arising from syphilis as an exciting cause.

Jeypore.—I am not aware that this disease is connected with any other.

Interrogatory X.

Serohi—Jodhpore—Ulwur—Jeypore—Harowtee.—The replies of Dr. Lownds, Mr. Moore, Mr. Dickinson, and Dr. Burr are in the negative. Mohamed Naeem says that he has known one case in which the servant of a leprous person took the disease by waiting upon his master. On the other hand, he mentions the instance of a woman in the last stage of leprosy having a child two years old at her breast; she died in the hospital; but her boy, now 16 years of age, is a fine strong youth, without any trace of the disease.

Interrogatory XI.

Serohi.—Lepers are forced to live outside of villages by the inhabitants, but there are no regulations on the subject. At Mount Aboo the lepers live by themselves in a cave.

Harowtee.—Lepers are avoided, though they are not confined or restricted to any particular locality.

Interrogatory XII.

Harowtee.—There is no provision made for the reception and treatment of the leprous poor by native states, beyond what is provided for in the public dispensary, though those who are entirely destitute are generally allowed some small provision.

Jeypore.—Lepers are admitted into hospital.

Interrogatory XIV.

Harowtee.—Cases are certainly fewer, which now come under my notice in this dispensary, than they were when I first arrived, some 15 years ago.

Serohi.—It has not seemed to me to be on the increase during the eight years I have been at Aboo. All the lepers who have come to me state their birth-places as in the plains; hence all may be looked upon as imported cases.

Interrogatories XV., XVI., XVII.

Scarcely any information is given in reply to this or to the following two queries. No census has ever been taken in any of the native states.

V. CENTRAL INDIA.

Interrogatory I.

Indore.—Leprosy is a disease that is but rarely met with in those parts of Central India with which I am most familiar, viz., Indore, Dewass, Augur, Mehidpore, Rutlam, Oojein, Sillana, and Dhar.

Although rarely met with in and about Indore, there is no town of any considerable size in Western Malwa that is free from lepers; I know of lepers at all the places enumerated. In Indore I have collected notes of 25 cases, all of them being lepers, residents in Indore or its vicinity.

The disease is known to the natives by various names; the better educated call it "fasad khoon," or depravity of blood; by the vulgar it is styled indifferently "korh" and "juzam;" amongst the Mahrattas it is known as "rugt pithee;" (rugt, blood; pithee, eruption or defluxion).

The greater number of cases I have drawn up notes of presented themselves with horrible deformities of hands and feet; the toes or fingers being partially or wholly lost, and the foot or hand chubbed and atrophied; the integument of legs and arms, the seat of a dry mangy looking eruption; the nose sunk in, the voice nasal, the eyebrows thickened and frowning, and the lobulus of the pinna of the ear hypertrophied; horribly repulsive looking objects.

The change that takes place in the hand is most curious; the fingers by some interstitial absorption become shortened and incurved towards the palm; the nail curves over the finger tip, and the whole member looks more like the claw of a bird than the hand of a man.

At the same time the plump mass of muscle between the thumb and forefinger (the abductor pollicis and abductor indicis muscles) becomes absorbed, and this muscular atrophy is followed by that of the "interossei" and other muscles, until the member loses all plumpness and shapeliness, and becomes a very nightmare of a hand.*

The palm is coincidently the seat of more or less severe psoriasis, which leads to deep bleeding cracks of the part, and these to ulcerations.

The less degree of mobility in the toes prevents their assuming the strange claw-like deformity of the fingers, but they become atrophied, incurved, and grow awry; some curving to the sole, others twisting towards the upper part of the foot, all hastening to the inevitable goal of ulceration.

These diseased members being endowed with very little sensibility, the patient is spared much anguish that the appearance of the parts would lead one to predict.

The furfuraceous, dry, brawny condition of the rest of the limb becomes aggravated in bad cases into a state resembling ichthyosis, and that described by writers as pellagra, a skin disease common in the Italian peninsula.

I have seen the skin of the legs of lepers exactly like the bald mangy flanks of a pariah dog, and again like the shaven skin of a camel, the subject of cold weather itch. These are familiar illustrations, but they were irresistibly suggested to me, and their truth was accepted with eager readiness by some of my native doctors.

I have spoken of the falling in of the nose. This is not a constant symptom; it results from the disease attacking the schneiderian membrane and nasal bones, and which in more than one instance had been aggravated by the complication called by natives "peenass," in which the mucous lining of the nostrils and frontal sinuses become fly-blown, and breeds vast quantities of larvæ; coincidently with this the alæ nasi become atrophied, and the voice becomes nasal in tone. Occasionally the nose is the seat of hypertrophy, which condition is always accompanied by a thickened state of the integument of the eyebrow, and a prominence of the sebaceous glands of the same parts, sometimes generating into "ae ne," also at times by a thickening of the lobulus of the pinna of the ear.

The integument of the back is generally shiny and very dry, and is occasionally the seat of a liver tinted decolouration which I look upon as akin to "albinism." Such is a picture of the leprosy of these parts.

Augur.—Leprosy is of frequent occurrence in Malwa, Central India.

The forms of cutaneous eruption peculiar to leprosy which I have met with are three:—

1st. Consists of a tumefaction or thickening of the skin in large patches, one on each cheek, eyebrow, lobe of the ear, on the nose, lips, and chin, also over the upper part of each sterno-mastoid muscle, just below and behind the ear. The skin in the affected parts is of a darker colour; looks coarse and slightly uneven; feels thickened, firm, and somewhat tuberculated. The margin of the patches is undefined, and shades off into the healthy skin. The sensibility of part is unaltered.

In cases in which this eruption occurs it is almost always the first symptom of the disease, and is followed by the anæsthesia, sooner or later; it may be in a month or two, or not for one or two years. In a very few cases the two symptoms are cutaneous, and in fewer the anæsthesia is first developed.

2nd. This eruption consists of spots or patches of a circular shape, varying in size from a small papulæ to two or three inches in diameter. In the large spots the centre is depressed, smooth and whitish, the margin defined and raised, of a pale red colour, and, when not exposed to friction, covered with a minute white powdery desquamation. There is loss of sensibility in these patches from their earliest appearance, which increases till there is perfect anæsthesia in their centre, shading off into slight numbness at the edges. The eruption begins by a few spots, others follow, new ones continuing to be developed during the entire course of the disease. The spots first appear as small papulæ, very much resembling those of urticaria. These slowly increase in size, preserving their circular form till they are two or three inches in diameter, or often coalescing from large irregular shaped patches. Like the first form of eruption,

* Dr. Brodrick alludes to a case of "section of the ulnar nerve and wound of the median nerve," published by Mr. Jonathan Hutchinson in the Medical Times and Gazette, Feb. 14, 1863.

Three months after this accident, which occurred to a girl aged 15, the hand of same side is chilly, and bluish red in colour, all the finger nails are clubbed, and decidedly more curved than those of the other hand; all the fingers are bent towards the palm; the muscles clothing the metacarpal bone of the thumb are much wasted; on the back there is a remarkable hollow between the thumb and forefinger, and the metacarpal bone of the latter is immediately under the skin, the abductor indicis being quite wasted.

this, except the deformity, is of no inconvenience, and derives its importance from the co-existence of the leprosy. I think it is almost always cutaneous, with anæsthesia in the extremities.

3d. This form consists of an eruption of large vesicles filled with clear serum; they form suddenly, with little pain or inflammation; on bursting leave superficial ulcers, which at first heal quickly, leaving depressed white shining cicatrices. On certain situations, both on the trunk and extremities, these vesicles continue to recur till the integument of the affected parts is converted into a patch of dense, hard, white cicatrical tissue. The natural sensibility of these patches gradually diminishes till it is altogether lost.

In many cases, probably a third of the whole, the disease is unaccompanied with any distinct cutaneous eruption, and is characterised by the occurrences of irregular patches of anæsthesia, more or less complete, on some part or parts of the surface of the body; the integument on the patches is paler, looks and feels drier, and is colder than the surrounding skin. There is also a minute brawny desquamation from the parts.

In consequence of the anæsthesia, the nutrition of the affected parts is much impaired, the muscles of the hands and feet are greatly wasted, so that little remains but the skin covering the bones; these two are affected, becoming greatly diminished in size and the cartilages of the joints absorbed, so the fingers and toes become firmly contracted in a semi-flexed position. At an indefinite period after the developement of anæsthesia, a large blister or flattened vesicle, containing dirty reddish serum, forms suddenly and painlessly in one or more of the fingers or toes, the vesicle bursts, leaving a superficial ulcer, which gradually deepens, partly by ulceration, but more by absorption, till it opens the articulations, and exposes the ends of the bones, which necrose; at length all the soft parts are cut through, the finger or toe falls off, and the stump gradually heals; vesicles form in other fingers or toes, ulcers follow, till in some cases the greater part of the fingers and toes are destroyed; ulceration often attacks the mucous membrane of the nose, destroying the bones, and producing flattening of that organ; in a few cases it attacks the fauces and larynx, followed by husky voice, cough, puriform and bloody sputa.

Nimar.—Leprosy prevails throughout the province of Nimar, in Central India, and, as it occurs there, shows itself as a disease more especially of the face and extremities, and is marked, as a rule, by mutilation either from sloughing or from insterstitial absorption, and is attended with anæsthesia in about 40 per cent. of the cases.

The voice is almost invariably altered in tone, and occasionally lost; the nose in many instances is sunken, but the sense of smell, excepting three or four per cent. of cases, is unimpaired; sight is wholly or partially destroyed from ulceration of the cornea in about 15 per cent. of cases; hearing is lost in eight per cent., and taste in two per cent.

a. There are several different outward manifestations of leprosy, and the natives have a great variety of names to designate the disease; of these raktpitti (rakt, blood; pitti, bile,) and korh are the most common.

b. These several manifestations are, in my opinion, only varieties of one common morbid state. Anæsthetic and tubercular leprosy, usually described as distinct, are so closely associated in the cases I have seen that it is impossible to give a separate description of them. I regard the disease as one morbid state, but multiform in its manifestations, a disease presenting so many diversities that an attempt to classify given cases under certain heads would be quite futile; anæsthesia, although frequently present, is more often absent, and I have several times noticed its absence in cases which in other respects appeared precisely similar to those in which it was present.

Bundelkund.—Leprosy is known in Bundelkund.

a. Two forms, tubercular and anæsthetic.

Native names; 1, rugut-pithee; 2, soonbehree; and 3, korh; or 4, juzam; the first generally applied to the tubercular form, the second to anæsthetic, and the third and fourth to the latter when it assumes the gangrenous form, and fingers and toes drop off at the joints.

b. These forms are often co-existent, and appear to have affinity with each other.

c. Symptoms of tubercular form; swollen, roughened, and knotted but often glossy state of the skin, especially of face, and also of hands and arms, with at first painful exaltation of sensibility.

Symptoms of anæsthetic form; loss of sensation in skin of various parts (sometimes very limited and circumscribed), especially of extremities; this often following a

primary increase of sensation, and accompanied by a noticeable smooth and glossy look of affected part, with a lightening of colour in the affected integument, and sometimes, though rarely, with complete loss of colour.

Fingers and toes shrivel and drop off by a sort of dry gangrene or rot; ulcer left on remaining parts generally heals, especially under stimulating appliances; but disease may again carry off a further part.

Large torpid looking ulcers, in which, however, much tissue melts away, are common, especially about feet and ankles.

Gwalior.—Leprosy does occur in the city of Gwalior.* There are several kinds:—

1st. White spots on the surface of the body.
2nd. Black red patches under the skin.
3rd. Cracked skin, with contracted hands and feet.

The third variety commences with paralysis of the part; the skin then cracks, and discharges a watery fluid mixed with thin blood; it terminates by the limb becoming permanently distorted, or else it sloughs away. The natives call this under one common head, korh.

Interrogatory II.

Indore.—The disease appears at all ages between puberty and old age. The average age in my 25 cases was 29½ years.

The lepers I have questioned generally stated that the disease commenced with numbness in the parts attacked, usually the hands or feet, where, soon after the numbness, there would break out patches of eruption which secreted a fine brawny scurf or tetter.

Some describe a condition of the part affected anterior to the anæsthesia, and this is a state of exalted sensibility or hyperæsthesia.

I have been so fortunate as to see a few cases very early in their career, when the disease had only reached the condition of hyperæsthesia.

In these there were portions of the integument raised above the level of the surrounding skin, about the height of one line; this tract was unnaturally vascular; it was an islet of structure whose function was exalted.

In one case these islets were situated over either malar bone, and were subject to itching, pricking, and burning, especially after eating stimulating food; in another case the islets occupied the same site, and also formed a heart-shaped patch on the forehead, whose base was at the root of the nose and apex upwards.

This state, I suspect always pervades the condition of anæsthesia or degraded sensibility, but it is rarely noticed or referred to by the unfortunate patient, whose recollection is absorbed in the more immediate antecedents of the graver stages of ulcerative death of tissue.

Augur.—Probably three fourths of the cases of leprosy occur between puberty and thirty years of age; but the disease is met with at all ages, from childhood to 50 or 55 years. I have not seen it occur in infancy, early childhood, or very old age.

Nimar.—The disease manifests itself at an average age of 28; the average age of the lepers in Nimar is 39.

The earliest symptoms observable are irregular patches of red discolouration of the skin, especially of that of the face, attended with heat, dryness, titillation, itchiness, and, occasionally, formication; headache is frequent; also nausea, anorexia, and general langour; epistaxis is almost always complained of; a peculiar puffiness of the face, entirely altering its usual character, is observed, and gradual swelling of the nose, ears, &c., with incipient tubercular nodes takes place. In some cases after a few months many bullæ appear on the extremities, and are quickly followed by sloughing or interstitial absorption, but they are more frequently absent, and do not appear to be peculiarly noticeable in cases in which anæsthesia afterwards occurs.

The one constant early symptom is redness of the skin of the face. This is the first sign of the coming disease, and from it the natives unerringly predict the approaching affliction.

---

* Gwalior is one of the dryest places in India; the soil is very sandy, and the heat great. Leprosy, I believe, prevails to a very slight extent, but it exists to a great extent in malarious districts. In the Terai and on its borders, where the soil is very damp and malaria great, I believe whole villages are attacked with it.

Gwalior.—Generally commences under 30, but no particular period of life can be fixed; the earliest symptoms are swelling of the feet and loss of sensation, also a feeling of coldness throughout the whole body.

Interrogatory III.

Nimar.—At the average age of 36, and within eight years the disease usually attains its full development. I am unable to furnish statistics as to the period of life at which, and after what time, it proves fatal, but from the somewhat conflicting accounts I could gather I am induced to believe that the disease does not materially abridge the term of life.

Interrogatory IV.

Indore.—Of the twenty-five cases reported upon, four were women and twenty-one were men.

Augur.—Leprosy is much more prevalent in the male sex; probably in the ratio of three to one.

Nimar.—The disease is more frequent in the male than in the female sex, in the proportion of six to one.

Interrogatory V.

Nimar.—I have only seen the disease as it affects the coloured races. In the large majority of cases the caste of the sufferers was a low Hindoo one, but the Mussulman caste furnishes examples; still the disease is far more frequent among the half-starved low Hindoos.

Gwalior.—Entirely confined to the natives of the country.

Interrogatory VI.

Indore.—The cases reported upon occurred amongst individuals of the lowest condition of society, excepting in two instances, in one of which the patient was a clerk in receipt of good pay, and the other the daughter of a man who had held a similar position. It is very evident that poverty, hunger, and dirt will invite its development and foster its growth, as they will the proclivity to any other disease, and that lepers will, like other outcast mendicants, have to wage a constant war against starvation. As for employment, they all become beggars as soon as the disease breaks out, when they seem always to leave their ordinary employment, and to wend their way to large towns and cities, where mendicancy is most profitable.

Augur.—Nearly all the cases I have seen occurred among the very poor. In the native town, with a population of 5,550, there are at present 16 lepers.

a. Augur is 1,598 feet above the level of the sea, is drier, less malarial, and much cooler than the greater part of India, and being built on a rocky elevation, the natural drainage of it is very good.

b. The sanitary condition of Augur is, like that of all Indian towns not under European supervision, very bad indeed; all sorts of filth and rubbish being accumulated in every vacant place in and about the town.

c. The poorer classes wear little clothing, and it is seldom washed; they rarely bathe or wash themselves.

d. The ordinary diet of all the poor classes is unfermented bread of millet or wheaten flour, or meal made in thin cakes, and very imperfectly cooked over the fire on an iron plate, and eaten with a little vegetable or boiled pulse; those in more comfortable circumstances use butter, milk, &c., in the preparation of their food; the majority of the people being Hindoos, they are strict vegetarians. The few Mahomedans eat meat when they can get it, but do not escape leprosy. The drink of all classes is almost always water. Four-fifths of the people eat opium largely.

Nimar.—The disease in Nimar (which is inland) occurs pretty equally in urban and rural places, at a low level and in hilly districts. The whole country is undulating, and leprosy prevails throughout it; dampness would not seem to favour its development, as the disease is as frequent on high dry ground as in low damp localities, and the rainfall in Nimar is less than in most parts (the average fall of rain for the last ten years is 30 inches). Malaria does not exert a malign influence; on the contrary, as I before observed, the lepers are not great sufferers from malarious disease.

The ordinary diet consists of cakes made of wheaten flour or dâll, rice, ghee, &c.; some low caste lepers eat meat and fish, found dead, and devour generally what they can get. The lepers cook and eat their food apart from the healthy, although they may live with them. Most of the lepers smoke gunja or country tobacco, and a few with the necessary means eat opium; these last have taken to it as a solace.

Bundelkund.—Most frequently among the poor, but it affects all classes. Deficient, or, probably still more, unsound articles of food.

The latter may account for the disease where the former, *i.e.*, deficient nourishment, cannot be the cause. It might be a point of inquiry whether there is any connexion or parallelism of cause between leprosy in its gangrenous or other forms and the diseases, including gangrene of the extremities, produced by the use of diseased grain, such as "ergot."

Interrogatory VII.

Augur.—Everything tending to impair or lower the vital powers would be likely to do so.

Bundelkund.—Aggravation of original causes.

Interrogatory VIII.

Augur.—Leprosy appears to be hereditary, but only in a slight degree.

I have known many instances where only one member of a family has been affected with leprosy, and several, where the father or mother of a family suffered from the disease, their children remaining free from it.

Nimar.—The disease in several cases would seem to be hereditary; in 14 per cent. of cases parents or grandparents are said to have suffered from it. The cases in which the disease has passed over a generation appear almost as numerous as those in which the parents have had it.

I have known many such instances.

Interrogatory IX.

Indore.—I am of opinion that leprosy is very often (to say the least) dependent on or connected with syphilis.

I beg to state that this inquiry into leprosy should be compared, with regard to its results, with those that might accrue from a similar investigation into the subject of "cretinism," and of the so-called "pellagra" of the Italian peninsula, and also of the subject of elephantiasis (a disease I have never seen in Central India).

Augur.—I have no reason to believe so.

Nimar.—No.

Gwalior.—I should think it was quite a distinct disease from syphilis or the yaws; it may have some connexion with scrofula.

Interrogatory X.

Indore.—No.

c. I have no such belief myself.

Augur.—I have never met with an instance.

Nimar.—No such instance has been seen by me.

Gwalior.—I have not seen any contagious cases.

Interrogatories XI., XII., XIII., XIV.

Throughout Central India there are—

No restrictions or segregation.
No public provision.
None.*
No reason to believe in the increase or decrease of the disease.

* If lepers seek advice, which they seldom do, they are admitted into a public dispensary belonging to the Rajah of Gwalior.

Interrogatory XV.

Augur.—As lepers suffer but little inconvenience from the disease in its early stage, they then rarely submit to treatment for any length of time, and when anæsthesia has become extensive treatment is of little avail. But two cases of leprosy in an early stage, which I treated with a combination of arsenic, iodine, and iodide of potassium, both recovered perfectly; in one case the first prescribed form of eruption had existed for a year without any further symptoms; in the other there were several large patches of anæsthesia on the extremities, and in one of these patches ulceration had just began. In the town of Augur there are at present three cases which have undergone spontaneous cure; one has lost three fingers, another one finger, the third had ulceration of mucous membrane of the nose, destruction of the bones, and flattening of that organ. I remember having seen another case in which spontaneous cure had taken place after the loss of the greater part of the fingers, all the toes, and part of one foot.

Bundelkund.—Great temporary improvement is generally observed from general tonic and local stimulating treatment, but no complete cures observed. This refers to the treatment found to answer best in asthenic cases, which alone have come under my observation.

Interrogatory XVI.

Indore.—In December 1849 a census of the population of Indore was taken, and the following information elicited:—

Number of houses		14,482
Population	Males, adult	28,116
	Females	23,084
	Boys	8,375
	Girls	6,002
		65,577 souls.

No registration of births or of deaths exists in Indore city.

Nimar.—The population of Nimar was estimated at 199,381 by a census taken in 1862.

There is no registration of births and deaths.

Interrogatory XVII.

Nimar.—The total number of lepers in the entire province of Nimar is above 300. For this and other information, to enable me to reply to the above interrogatories, I have to acknowledge the kind aid and courtesy of the political agent in Nimar.

In conclusion, I beg to offer a few observations which bear in some degree upon the subject.

There is a village in Nimar, Lonee by name, with a population of about 1,500 souls, of which number 16 are lepers (there are said to have been 40 ten years ago). No new cases occur to fill up the gaps in the figures as the old ones die off. This village presents nothing as to site, &c. to account for the extraordinary proportion of lepers in it; it is on the same level with and close to other villages which are exempt from the disease.

The lepers are not a banned class, since they usually live with the healthy, although they are required to prepare and eat their own food apart; they seem to be pitied as persons who are paying the penalty of sin, especially of incest, committed in former states of existence.

There is certainly nothing Mosaic in the view the natives take of the disease, and in their treatment of the sufferers from it.

A few look upon leprosy as a judgment for sin done in this life; *e. g.*, one man said he kicked an idol, and was struck with the disease in the course of the following month.

VI. CENTRAL PROVINCES.

Interrogatory I.

Nagpore.—Leprosy is known at (city of) Nagpore. There are three different forms of it, viz., the white, anæsthetic, and tubercular.

Among the Mahomedans the general name of leprosy is jesum, while the Mahratta term is kod (pronounced kord) or kusht (pronounced koosht). The latter name in its simple form is applied to the white leprosy, and with the epithet of maha, or great, is given to what the natives term black leprosy, from the light brown skin becoming of a darker hue. They recognize two varieties of the maha khoost; one answering to the anæsthetic is named sun baheri (soonbheiri), and the other (reckoned the worst) is known here by the name of raktpiti (rucktpeetie), corresponding with the tubercular form. In my opinion, these several forms are only varieties of one common morbid state or dyscrasis akin to that which occurs in scrofula or cretinism, and probably connected with defective nutrition and neglect of hygienic laws.

Interrogatory II.

In the white leprosy four were born so, viz., one male and three females; no hereditary taint being acknowledged. The youngest age at which it appeared after birth was three in a boy, in whom it was hereditary on the father's side; the latter having been affected at 15, while he averred his parents were free from it. The oldest was 75. Arranging them in quinquennial periods, the age at which the disease generally manifested itself will be seen from the following table:—

Sex.	At birth.	From 1 to 5 years.	5 " 10 "	10 " 15 "	15 " 20 "	20 " 25 "	25 " 30 "	30 " 35 "	35 " 40 "	40 " 45 "	45 " 50 "	50 " 55 "	55 " 60 "	60 " 65 "	65 " 70 "	70 " 75 "	75 " 80 "	Total.
Male - -	1	2	4	2	2	1	2	2	1	3	2	–	1	–	2	–	1	26
Female -	3	–	–	1	1	1	1	–	2	1	2	1	–	–	–	1	–	14
Total -	4	2	4	3	3	2	3	2	3	4	4	1	1	–	2	1	1	40

In the anæsthetic and tubercular forms, one, a male, was born so, and denied an hereditary taint; in the youngest, a male, it began at five, in a brother at seven, and the father, who was dead, had suffered from the disease; the eldest, a male, was 68; no hereditary taint being confessed. The ages were as follows:

Sex.	At birth.	From 1 to 5 years.	5 " 10 "	10 " 15 "	15 " 20 "	20 " 25 "	25 " 30 "	30 " 35 "	35 " 40 "	40 " 45 "	45 " 50 "	50 " 55 "	55 " 60 "	60 " 65 "	65 " 70 "	70 " 75 "	75 " 80 "	Total.
Male - -	1	2	13	19	31	22	19	15	11	7	7	4	1	–	1	–	–	153
Female -	–	1	8	10	6	6	10	7	7	6	5	5	2	1	1	–	–	75
Total -	1	3	21	29	37	28	29	22	18	13	12	9	3	1	2	–	–	228

Interrogatory III.

Judging from the ages of those examined, I should infer that, in the anæsthetic and tubercular varieties, the period of life at which the disease usually attains its full development is from 20 to 40 years; and that, in the great majority, the time required ranges from 1 to 15 years.

Of those who die, many fall victims to chest and bowel complaints (to which they are liable), sink from exhaustion (in some the result of large abscesses), or commit suicide, which, considering their miserable condition, is not to be wondered at.

Death is sometimes suicidal, as appears from the following statement communicated to Dr. Hende by the Rev. S. Hislop of the Free Church Mission at Nagpore:

"In general the disease is regarded as wholly incurable, and the poor sufferers, with their own consent, had frequently their existence shortened by being drowned or buried alive. I have heard several cases of the latter practice that occurred while Sir Richard Jenkins was resident. About 1819 a woman of the cultivator caste, about 45 years of age, in holiday attire, and with a garland of flowers hanging from her neck, was conducted out of the city with music, to a spot near the present bridge on the Paldi road. There she sat down till her relatives dug a pit six feet deep, with a recess on one side. The work finished, she blessed the spectators, and descending into the pit took her seat in the recess, which was then closed with a bamboo mat, the earth was then filled in, the people on the surface gave a loud shout which was said to be answered by a feeble cry from below, and the crowd dispersed."

Interrogatory IV.

Of those examined by me, the number of males was double that of females.

Interrogatory V.

All the cases I have met with have been in natives.

The following table shows their distribution among the different castes:—

Description.	Sex.	
	Males.	Females.
Tubercular and Anæsthetic.		
Brahmins	8	2
Hindoos	111	54
Mahomedans	19	9
Dhers, or low-caste Hindoos	15	10
Total	153	75
White Leprosy.		
Brahmins	3	—
Hindoos	21	13
Mahomedans	—	1
Dhers, or low-caste Hindoos	2	—
Total	26	14

Interrogatory VI.

No class or caste are exempt from it, and when well established its effects are alike in both, though its victims are most frequently found among the poor and needy.

a. The city of Nagpore is situated inland, 900 feet above the level of the sea, and 500 miles from the nearest point. The city is low, swampy, badly drained, and malarial fevers prevail in it and the surrounding district, which is higher, undulating, and cultivated.

b. The sanitary condition of the dwellings and of their immediate neighbourhood is bad, with few exceptions.

c. Excepting the Brahmins and the more wealthy members of the Soodra caste, the people generally are neglectful of personal cleanliness.

d. The food of all classes of Hindoos is very much the same. The majority here take meat whenever their means allow them, though the poorer classes can seldom get it; while the Brahmins entirely abstain, partaking, however, largely of milk, ghee, and sugar. The diet among the Mahomedans is much the same as that of the Hindoos, excepting that they eat more meat. Betel nut, tobacco, opium, and ganja, and intoxicating drinks, are more or less indulged in.

Interrogatory VII.

From the majority of the cases occurring among the poorer classes, it is probable that defective nourishment, insufficient clothing, want of personal cleanliness, and a neglect of hygienic laws, tend to aggravate the disease when once it has appeared; for, as a general rule, the poorer classes here are underfed, scantily clothed, and badly housed.

Interrogatory VIII.

Out of 228 cases of anæsthetic and tubercular leprosy, it was stated or believed to be hereditary in 40, viz., 23 males and 17 females.

In many instances the disease appears to be limited to one member only of a family.

As to the white leprosy, in only one out of 40 cases examined was it said to be hereditary.

Interrogatory IX.

Thirty-three of the patients, viz., 26 males and 7 females, out of the entire number, 228, ascribed their disease to syphilis; 14 males to syphilis and mercury; and 2 males to smallpox.

Though, as stated above, leprosy was ascribed by some to syphilis, yet the connexion between the two, as cause and effect, when inquired into, was by no means evident; and the same remark applies equally to the supposed influence of mercury; for while some averred that, prior to the disease appearing, they had suffered from the ill effects of syphilis, or mercury, or both, others stated the contrary, and that they took mercury in hopes of being cured.

I would observe that the native hakeems constantly prescribe mercury for all kinds of diseases (often to salivation), and that if mercury had the effect ascribed to it, leprosy should be more common than it is.

Interrogatory X.

During the nine years I have held charge of the Nagpore gaol, with a daily average of 500 prisoners, all of whom freely intermingled, and some of whom when imprisoned were lepers, I have never known an instance of contagion, and the reply to Interrogatory XI. tends to confirm the same.

As far as I could ascertain, the disease does not seem transmissible by sexual intercourse.

Interrogatories XI., XII., XIII., XIV.

Yes.
No public provision.
None.
No data to answer this.

Interrogatory XV.

I have observed none; for though by cleanliness and better diet the sores may heal, the patient's health improve, and their sufferings for a time be somewhat alleviated, yet there is no real check to the disease. To my knowledge leprosy never undergoes a spontaneous cure.

Interrogatory XVI.

Since the late Rajah's death, the population of the city of Nagpore is said to have decreased, and the estimates of it vary from 120 to 80 thousand. No census of the native population has been taken.

Interrogatory XVII.

Dr. Hende adverts to the great difficulty of obtaining reliable statistical data from the natives, partly because the people cannot understand them, and yet more because they are alarmed at them, fearing that they may be preparatory to another turn of the financial screw, or that they may lead to the withdrawal of some cherished caste privilege or custom, or have some other future object in view.

That this is not an imaginary idea, I may state that when it became known that the inquiry was to be instituted, nearly 200 lepers at once left the city, in consequence of a malicious report having been spread, that, as some prisoners were about to be transported from this beyond sea, the Government wished to catch all lepers and ship them off by the same opportunity.

Of the prevalence of the disease in the eight districts of which the Nagpore division consists, he failed to obtain information, and his replies have reference therefore to the city of Nagpore alone.

Four hundred and eighty cases of leprosy were entered in the City Superintendent's list, viz., males 293, females 147; of these I inspected 243, viz., males 161, females 82, rejecting 8 males and 7 females as unaffected; there remained 228, viz., males 153, females 75, suffering from the tuberculated and anæsthetic varieties of the disease. In addition to these, I also examined 40 cases of white leprosy, viz., males 26 and females 14.

The officiating Chief Commissioner of the Central Provinces, in transmitting Dr. Hende's report to the Governor-General, states that he "will endeavour to "establish a leper asylum at Nagpore, and, if he should be successful in it, he will "submit a further report thereon."

VII. HYDERABAD (DECCAN).

Interrogatory I.

Leprosy is known in the city of Hyderabad and in its immediate vicinity.

a. Two different forms occur, known respectively as anæsthetic and tubercular leprosy.

b. These are, in my opinion, only varieties of one morbid condition.

c. Anæsthetic.—Loss of colour or patches of skin (native) with insensibility of skin so affected; interstitial absorption of tissues; local ulcerations; occurrence of various chronic cutaneous disorders.

Tubercular.—Tubercles or bronzed patches of skin of face, ears, &c.; thickening of ends of fingers; falling out of hair. Breaking down of tubercles; subsequent ulceration; chronic cutaneous disorders.

Interrogatory II.

Most common in adults; the anæsthetic form seen in a child of eight.

Interrogatory III.

Progress very un-uniform. Lepers appear to live to good old age, unless other diseases supervene.

Interrogatory IV.

Seldom seen in females.

Interrogatory V.

Only among the native (black) population.

Interrogatory VI.

Most common among the poor, but has been seen in the higher classes also.

a. Inland, elevated, and dry.

b. Sanitary condition of dwellings and neighbourhood very bad.

Interrogatory VIII.

Appears to be often hereditary.

Interrogatory IX.

Believed to have some obscure connexion with syphilis.

Interrogatory X.

No.

Interrogatory XI.

No restrictions.

Interrogatories XII. and XIII.

None.

Interrogatory XIV.

Believed to be on the increase about Hyderabad; no cause known for this.

Interrogatory XVII.

No reliable information to offer. Disease is tedious. Patients present themselves for treatment for a time, but result in most cases unknown, from failing to attend.

VIII. MYSORE.

Interrogatory I.

Bangalore.—Leprosy (elephantiasis Græcorum) is a common disease among all classes of the native community at Bangalore and throughout the Mysore territory, and is known by the names of "kooshtum," or "kooshta rogum." White leprosy, or leuce, is known by the name of "billay" (*i.e.*, white) "kooshtum." The ordinarily distinguished varieties of tubercular and anæsthetic leprosy are, I am inclined to think, one and the same disease; for though in one leper one class of symptoms may be almost exclusively developed, and in another a different set, still cases are not uncommon in which both the anæsthetic and tubercular symptoms are more or less combined. Lesion of sensation, associated with some affection of the skin, is, in my opinion, the most constant symptom of leprosy, and may, indeed, be considered pathognomonic; for though in some cases there may be tenderness or pain, yet in every case there is also some degree of numbness and insensibility to ordinary impressions on the skin.

The tubercular form of the disease is very generally accompanied by a squamous, scabby state of the skin, but particularly of the extremities. In some cases of this form of leprosy the disease commences and is characterized principally by a severe chronic eczematous mange-like condition of the skin generally, but more especially affecting the usual sites of scabies, or about the flexures of the joints between the fingers, &c.; and indeed cases of this kind seem almost either induced by or are much aggravated by scabies in a virulent form, and may be relieved to a considerable extent by a treatment appropriate for scabies. The diagnosis of leprosy from obstinate chronic eczema merely is, in some such cases only, determinable by the co-existence in the leprous cases of lesion of sensation.

In the anæsthetic form, sensation is generally from the commencement lost or much impaired in the parts of the skin so affected. After these patches have existed for some time, even two years, but sometimes almost coincidently, and sometimes also without them, a blister arises on the skin of a toe or a finger, or some other part of the hands or feet, and a sore follows, which generally penetrates deeply, seeming like a hole punched in the part, and often reaches to and implicates the bones, which become necrosed and are thrown out.

White leprosy, or leuce, is certainly an entirely distinct disease from leprosy proper, though I have met with a few instances which induce me to think the two diseases occasionally co-exist in the same person.

White lepers suffer like albinos much from sun burning, their skin getting readily scorched and blistered by exposure to the sun's rays. Sensation remains unimpaired in the parts of the skin which are decolourized. I have seen no sufficient instances to induce me to think that any one of these forms of leuce progresses into the other.

Interrogatory II.

It most commonly manifests itself in adults of middle age, but sometimes it shows itself in very young children. Thus I have seen children of 5, 7, and 12 years of age affected with it, and sometimes the first symptoms are only shown at an advanced age.

In the tubercular form, the symptoms usually commence with heat, itching, and tingling of the face or hands or feet, the skin of which, particularly of the eyebrows, cheeks, about the alæ of the nose and the lobes of the ears, becomes thickened and rough and scabby, or thickened or glistening in patches, which have generally a lighter or more copper coloured hue than the rest of the skin. The skin on the backs of the hands and feet and their phalanges becomes similarly affected, and the thickening of it causes the finger and toes to assume a tapering form, while the nails become incurved, or oftener the fingers and toes become thick and club-shaped, and the nails cease to grow, and become stunted, rough, and brittle. In some cases at this stage of the complaint the sufferer complains of tenderness and pain of the feet, but in most the sensitiveness of these parts is impaired, and the skin is rough and cracked.

In the anæsthetic form, the symptoms often commence with the appearance of somewhat circular patches, most frequently on the skin of the buttocks, thighs, shoulders, or outside of the limbs, which are of a lighter colour than the rest of the skin, are seldom raised above the general level, and are generally smooth, or curried only with a very slight furfuraceous state of the cuticle; but in some few case these patches are surrounded with a raised margin, covered with small scales, and in such instances the appearances are very similar to those of slight psoriasis.

Interrogatory III.

The disease is generally slow in its course, and the sufferers are affected for many years. Usually, however, it greatly abbreviates the natural term of life, and proves fatal in from 2 to 10 years.

Interrogatory IV.

Appears to be considerably more frequent in men.

Interrogatory V.

At Bangalore the disease is confined almost exclusively to the native and coloured races, and it is comparetively rare among the latter. I have only observed two instances of it in Europeans, in one of whom the tubercular form was developed when an elderly man. In the other, who was a young man, but born and bred in the country, the disease was of the anæsthetic or ulcerative variety.

Mussulmans seem as liable to it as the Hindoo.

Interrogatory VI.

No castes of the native community seem exempt from the disease. I have met with many instances of it among the Brahmins, both male and female, whose habits of personal cleanliness are most scrupulous; but I think it is more common still among the lowest classes of the native community, with whom impurity of living in every respect is the normal condition.

a. The country round Bangalore is an elevated, comparatively treeless, plateau, about 3,000 feet above the sea, and 200 miles distant from the coasts. It is very undulating, and the only collections of water (which, however, are numerous,) are those artificially formed by throwing embankments across the valleys. The grounds below these banks are, during part of the year, kept inundated for the cultivation of rice, but there are no natural permanent swamps. The soil of the district is generally red coloured, porous, fertile, and is principally cultivated with rice and sugarcane where it can be inundated, and with other cereals where irrigation cannot be effected.

d. The Brahmins, and some of the other higher castes of Hindoos in Mysore, eat no kind of flesh, but in addition to the staple of rice consume dâl (citisus cajan) and other pulses largely, and as much ghee (*i.e.*, melted butter) and preparations of milk as their means will permit. The lower class of Hindoos live principally upon ragee (cynosurus coracanus),* and pulses, and eat animal food as often as they can get it, which, however, is rarely. The Mussulmans, according to their means, live pretty much on the same diet as the Hindoos, that is, the staple article of their diet is rice or

* Eleusine coracana, *Gaert.*

ragee, and they eat animal food, with the exception of hog's flesh, as often as they can afford it. Fish, salt or fresh, is scarce in Mysore.

Interrogatory VIII.

It is the common opinion among the natives here that the disease is often hereditary, and the belief seems to me well founded.

On the other hand, instances have been known to me of one member of a family being leprous, while the rest were free from taint.

Interrogatory IX.

The belief is common amongst the natives that leprosy is a form or development of venereal disease, and particularly those forms of it which commence with squamous or furfuraceous patches of the skin, and that form of white leprosy which is marked by decolouration of the palms and soles.

Some cases of tubercular leprosy have a great resemblance to secondary syphilis, particularly those in which the bones of the nose and the fauces are affected. It is only in the tubercular form that I have noticed that the bones of the nose are destroyed.

Interrogatory X.

I have known instances of a wife living in cohabitation with a leprous husband, and of the servants of the leper asylum living employed for years among its inmates, without contracting the disease.

Interrogatory XI.

The Government in this part of India imposes no restrictions upon lepers; but those received into the leper asylum are only allowed one day a week of liberty, to prevent their roaming as beggars over the cantonment of Bangalore. I believe that generally lepers live as usual with their families till the progress of their disease renders them very loathsome, when, frequently, they are extruded from their homes, and left to live, or rather starve, by begging. This is the common fate of lepers of the poorer classes, and the applicants for admission into the asylum are of the latter class only.

Interrogatory XII.

An asylum for the leprous poor of the cantonment and pettah of Bangalore was built under the directions of the late Sir Mark Cubbon in the year 1845, and this having been found inadequate and badly situated, a new asylum was built in 1857. Only those whose disease is far advanced are admitted into it, and it has been intended more as a place of refuge for them than as an hospital for their cure. It consists of 32 rooms, 12 feet by 8 feet, and 8 feet high, and all of them are occupied, in a few instances by married couples of lepers, and thus the number of inmates, amounting on an average to 33 or 34, often exceeds the number of rooms. Most of the inmates do not desire any further medical treatment than merely some salve for their sores, or oleaginous embrocations for the eczema.

At the end of 1853 there were 39 in the asylum, and during the following 9 years 119 lepers (all bad cases) were admitted.

To each inmate a sufficient ration of food is allowed, and also of clothes. Water is brought in by a water-carrier, and a sweeper is employed to keep the premises and privy clean. Medical aid when required is afforded from the civil hospital, which is situated close at hand. The institution is visited regularly once a week, or oftener when necessary, by the medical officer of the Mysore commission, to see that all is going on correctly. He also admits all the inmates.

At the civil hospital in Bangalore, all lepers who have applied for treatment have received it; and from 1853 to 1862, inclusive, 73 cases were treated as in-patients and 45 out-patients, besides 16 cases which have been entered in the registers as lepra simply, but who were probably lepers. I consider, however, that these figures give no idea of the prevalence of the disease, and that the people generally are so convinced of the inutility of treatment that not one leper in five presents himself at the hospitals.

Interrogatory XIII.

The usual number of lepers maintained in the asylum is about 33 to 34, and the relief is meant to be confined to lepers belonging to Bangalore and its immediate

vicinity. The numerous lepers all over the Mysore country are unprovided for by the Government, and must be maintained either on their private means or by the charity of their neighbours.

Interrogatory XIV.

Though during the last 10 years whilst I have been surgeon to the Mysore commission, and stationed at Bangalore, my opportunities of observation have been considerable, I have not remarked any decided difference in the frequency of the disease; but a Hindoo Pundit has informed me he has noticed that leprosy has been considerably more common within the last 20 years.

Interrogatory XV.

I have never observed a cure of the disease, and my attempts to benefit the tubercular variety by means of arsenic and madar (Calotropis gigantea), Donovan's solution, &c., have been rather the reverse of successful; one patient, a young lad, in particular, having very considerably improved in vigour after my treatment was discontinued; but, on the other hand, I have seen treatment very decidedly useful in removing the dartrous or eczematous eruptions which often affect the leper's skin, and in the ulcerations of the hands and feet the ordinary local applications for sores often do temporary good and favour cicatrization. From the nature and situation of these sores, cerates of the resinous kinds are the best and most convenient applications. I have used the Hydrocotyle asiatica and madar internally in many cases of leprosy, and seen no benefit therefrom, except to the eczematous state of the skin; and I have also used cantharides to improve the state of the skin, with some good effect. Sulphurous applications to the skin are also at times useful. Medicated tepid and vapour baths would probably be beneficial. But, though the skin may be improved temporarily, the general condition of cachexia and the anæsthesia have not been in the least influenced, and I have seen fresh tubercules and sores form whilst treatment was being continued.

Interrogatory XVI.

The estimated population of Bangalore and its environs, from which almost all the lepers come who have been under my observation, is about 250,000. Registration of deaths has only been recently begun.

Interrogatory XVII.

I have no information to give in reply to the first part of this query. On its second, I have been able to come to no other conclusion than that the disease is hereditary, and, not improbably, communicable by long-continued and intimate personal intercourse, whilst the bad hygienic condition of the towns and villages generally and bad nourishment favour its spread, just as they do other conditions of bad health. I am not aware of any previous report on leprosy at this station having been made.

IX. NIPAL.

Interrogatory I.

Khatmandoo.—Leprosy is common throughout Nipal, and is met with in three different forms, all of which are known under the same name of "core," or sometimes of "maharogue." These three forms are, 1st, lepra vulgaris; in its early stages it has the same general appearance as it exhibits in Europe, but the patches on the skin are more livid, and, as the disease advances, it is marked by a great tendency to swelling of the integuments and ulceration and sloughing of the nose and lips, as well as of the smaller joints of the hands and feet. 2, lepra alphoides, marked by the whiteness and scaliness of the cutaneous eruption, and by its slow chronic character, and its tendency to terminate in drying up, rather than in swelling and sloughing of the extremities. In its later stages it is often accompanied by loss of sensation in the skin, and by partial paralysis of the affected limbs. 3rd, lepra syphilitica, which is met with when either of the above forms is modified by the presence of syphilis. It is apt to occur either in

consequence of lepra becoming developed in a system already broken down by syphilis, and in too many cases saturated with mercury, or in consequence of syphilis occurring in a person already affected by, or having a strong constitutional tendency to, lepra. In either case the leprosy thus complicated with syphilis is apt to assume a very severe and malignant character.

In my opinion these three forms are merely varieties of one common morbid state, and are not specifically distinct diseases.*

Interrogatory II.

I have seldom met with it in subjects under the age of puberty. The earliest symptoms usually observed are the appearance on the limbs, and sometimes on the lips and nose, of distinctly marked blotches, covered by desquamating cuticle, and more or less livid or white in colour, according as they partake of the characters of the 1st or 2nd variety. These gradually extend from the limbs to the trunk.

Interrogatory III.

I have no accurate data on this point, but I believe that the full development of the disease is most usually attained at from 30 to 40 years of age, and that the same period of life is that in which it is most generally fatal.

Interrogatory IV.

It is as common in one sex as in the other; but as women, when affected by this disease, usually keep themselves more secluded than the men do, it is not so common to see leprous women as leprous men in the public streets.

Interrogatory V.

Among the native races of the country it is equally common to all.

Interrogatory VI and VII.

The cirumstances apparently most favorable to its development, and which seem to aggravate the disease when once established, are all such causes as tend to impoverish the blood and lower the state of the health generally; such as bad food, insufficient clothing; damp, dirty, and ill-ventilated dwellings; personal uncleanliness; to which may be added constitutional tendency to it, and a system broken down by syphilis and the imprudent use of mercury; most of which conditions are nearly universal among the poorer classes in Nipal.

Interrogatory VIII.

The disease often appears to be hereditary. I have heard that such cases as those referred to are not unfrequent here.

Interrogatory IX.

I do not believe that syphilis, except in cases where there is a decided constitutional or inherited tendency to leprosy, has anything to do with its development; although syphilitic eruptions, in Nipal as elsewhere, often assume a decidedly leprous character.

Interrogatory X.

Never.
c. No.

Interrogatory XI.

There are no regular laws or restrictions in Nipal as to lepers; but as the disease is universally believed to be contagious as well as incurable, any person afflicted with it at all severely is shunned by the rest of the community.

As the police will not allow them to live as beggars inside the towns, for fear of

* Dr. Oldfield remarks that his experience of the disease in Nipal is confined to the cases he had seen within the very narrow limits of the valley of Nipal, in which valley the capital, Khatmandoo, and the British Residency, are situated, and beyond which limits Europeans are not allowed to travel.

their polluting the rest of the community, they are driven to reside in suburbs, or in any place outside the cities, where they gain a scanty and precarious livelihood by begging.

Interrogatories XII and XIII.

None.

Interrogatory XIV.

No data to form an opinion.

Interrogatory XV.

In the early stages of the disease, before swelling and ulceration of the integuments have taken place, I have seen many cases apparently cured by the continued use either of arsenic in small doses combined with potash, or of the ferruginous tonics, especially the sulphate and iodide of iron, strict attention being at the same time paid to all means likely to improve the blood and strengthen the general health. In old and confirmed cases I do not believe that the disease is amenable to any medical treatment.

Of the three varieties of leprosy, the syphilitic is by far the most amenable to medical treatment, and when promptly and judiously treated often admits of a perfect cure. In such cases mercury in any form does more harm than good. I have seen many instances in which the disease has been greatly aggravated, and the most frightful sloughing induced, by the indiscriminate and profuse administration of mercury by native practitioners. In all these cases hydriodate of potash is the proper medicine to employ, and I have often used it with the greatest advantage. The natives of the country believe that animal food, as well as salt, pepper, and any spices which are eaten in a dry state, should be avoided by all persons affected with leprosy; and they recommend the free use of milk, a very sparing use of rice, and only such condiments as ginger or other spices as require to be cooked before they are eaten.

Interrogatory XVI.

The population of the kingdom of Nipal may be roughly estimated at about two millions, and that of the valley of Nipal is perhaps amounting to a quarter of a million.

Interrogatory XVII.

Dr. Coates, civil surgeon at Chumparun, remarks in his report:—

Jhowani Kuchehri, in the Nipal Terai bordering on this district, has been reported to me as containing several villages where leprosy is the rule, every one having it at some period of his life to a greater or less extent. I have not been able to get there, as the rajah has lately forbad strangers to enter the Terai; but I am told that these villages are not situated on the hill rivers. The men are rice planters, live badly, and drink much spirit.

X.—ASSAM.

Interrogatory I.

Durrung.—Leprosy is known in the district of Durrung, Assam, but is not common; it has been recognized in one of its forms only, lepra mutilans. The early stages have not been seen; in the advanced stage ulcerations on the hand and feet, destroying the fingers and toes; very slow in their progress; sometimes healing spontaneously, but liable to break out again.

Interrogatory II.

In adult age. Earliest symptoms said to be the appearance of "blister-like elevations of the cuticle."

Interrogatory VI.

In the poorer classes; in rural low malarial parts; the dwellings clean, but situated in dense jungle; habits dirty. Ordinary diet, vegetable chiefly, with fish occasionally. The people are temperate. Occupation, agriculture.

Interrogatory XVI.

Estimated population, 186,692; no census.

XI.—BRITISH BURMAH.

Interrogatory I.

Kyouk Phyoo.—Leprosy is known in the district of Ramree. It occurs here in two different forms.

a. These two forms of the diseases are called by the natives by the names of "noona" and "tona," answering to what may be termed by us the benign and the malignant.

b. These two forms appear to me to be varieties of one common morbid state.

c. The obvious and distinguishing characteristics of the leprosy called "noona," or the benign, are simply white patches without any sores or ulcers, lasting to the end of life, without any great discomfort or suffering in general health of the person afflicted. The patches appear chiefly in the hands, face, neck, the inner parts of the lips, about the scrotum and the soles of the feet, and if any hair grow in these affected parts it generally falls off, and the parts themselves are characterized by a burning heat, numbness, and insensibility.

The other form, called the "tona," or the malignant variety, commences with blotches about the face, a thickening of the lobes of the ears, reddening of parts before breaking out of sores therein. The destruction of tissues, discharging sanious thin matter; the falling off of the hairs of the head and of the other parts of the body; the swelling and tumefaction of the skin of the hands and feet; and the work of destruction thus goes on slowly but surely till death closes the scene.

Akyab.—Though leprosy is well known in the town and district of Akyab, it seems to be confined for the most part to natives of Bengal who have immigrated hither.

a. But though it is acknowledgedly rare among the omnivorous native-born population of the place, it is sufficiently well known by them to have received names distinctive of various forms or outward manifestations of it, as—

Toona or miring, koor of the Hindoos,				lepra nigricans.
Anoor or ngona, dhubbal			,,	alphoides.
Goda	,,	,,	,,	elephantiasis or lepra tuberculosa
Kooranda	,,	,,	,,	,, of scrotum.

The more obvious characters of the white leprosy (leper alphoides) are thus stated:—It is distinguishable by the white smooth patches of apparently healthy skin which discolour its naturally dark hue in the races most liable to it.

The subjects of this disease have a piebald appearance, the white patches appearing whiter by contrast, or, as happens in some not very numerous cases, the whole skin is denuded of its dark pigment, and presents a similar appearance to that of Europeans.

Loss of colour and impaired sensibility of the part affected are the distinguishing characteristics of this form of leprosy.

Moulmein.

a. There are two forms of leprosy, called in Tamil and Telugu "coostoo;" Hindostanee, "juzam;" and Burmese, "noona."

b. These two forms are only varieties of one common morbid state.

Interrogatory II.

Akyab.—The earlier symptoms are well described by Doctor J. Robinson, Superintendent of the Insane Hospital at Calcutta, in the Medical Chirurgical Transactions, Vol. X.

One or two circumscribed spots appear upon the skin (generally upon the hands or feet, but sometimes upon the trunks or face,) of a rather lighter colour than the

surrounding parts, neither raised nor depressed, shining and wrinkled, the furrows not coinciding with the lines of the contiguous sound cuticle. These patches are insensible even to a hot iron; they spread slowly until the skin of the legs, arms, and of the whole body is completely involved and deprived of sensibility.

The disease in short is characterised from first to last by defective vital action. The sensibility of the part affected by it is first lost, then its function, and subsequently it is thrown off piecemeal, but completely without pain or inflammation, but by a process of local dissolution limited perhaps to a finger or a toe, or to a single phalanx of either, or it may be to a portion of the skin and integument.

Kyouk Phyoo.—Leprosy does not appear to show itself at an early age. It is generally observable at the age of 19 or 20, and upwards.

Interrogatory III.

Akyab.—The time occupied by the full development of the disease varies from a few months to many years, and the age at which it first breaks out is, I think, generally between 20 and 30; its duration, after full development, varies greatly likewise.

Some affected with it drag on a miserable existence, crippled in every limb, until old age; and ultimately fall victims to some other malady. Indeed, I think, such is the rule. I do not regard it as frequently fatal directly; and though it undoubtedly shortens life, it does so generally by making its victims more susceptible to other diseases and less capable of withstanding them; it is never, I think, fatal in less than two years.

Moulmein.—It is more frequent in males.

Kyouk Phyoo.—Leprosy is of rare occurrence in this district. I have never seen a leprous woman here, during my experience of 15 years. I have seen, however, a few men with the disease, but that was of the benign kind.

Akyab.—It appears to be more frequent in males than in females, in the proportion of three to one.

Interrogatories IV. and V.

Akyab.—A hundred times more common among blacks than in coloured people.

Much more frequent among coloured people with European blood in their veins than among the whites of pure blood.

Moulmein.—Among the poor.

Bad feeding, undue exposure, insufficient clothing, and bad dwellings are predisposing causes.

d. The ordinary diet and general way of living is indifferent, unwholesome, and insufficient.

Kyouk Phyoo.—Among the circumstances favouring its development are—

d. Poor food in general, but particularly a variety of pulse or dâll of a diseased kind, also the flesh of dead animals, often putrid.

e. The people most subject to this disease are the "Chumars," the "Domes," and the "Hurguria," their occupation being the tanning of leather, making shoes, scavengers, and all sorts of dirty and filthy works.

Interrogatory VI.

Akyab.—The poorer classes, who are decidedly the greatest sufferers from the disease, use both tank and river water for drinking as well as for bathing long after it has become, by its foul appearance and odour, an abomination to the senses of the more delicately constituted European.

d. Their ordinary diet is rice and dâll, vegetables, spices, and oil or ghee, a sort of butter made from buffalo's milk, and fish; no meat, except goat's flesh, and that they partake of sparingly and seldom.

They dwell in huts made of bamboo and leaves, which are impervious to rain, and unexceptionable as regards ventilation, since, though the windows are few and small, they are unglazed, and the walls being of mats permit free circulation of air throughout the dwellings. The floors are of mud, beaten into a plaster, laid smooth, and raised from the ground two or three feet.

They are fond of anointing one another with mustard oil, and seem to economise clothing by the practice.

Interrogatory VII.

Akyab.—The stigma which attaches to sufferers from this disease, and the depression of spirits arising therefrom, have, I have no doubt, much influence in aggravating their malady when once fairly and unmistakeably established. I have known lepers lie in one spot for months, hardly rising to take their food, under the influence of this feeling, and the supineness and torpidity which characterise the disease.

Moulmein.—Yes.

Interrogatory VIII.

Akyab.—That leprosy is hereditary is a belief universal in India. I have never heard a difference of opinion upon that point; but, though this is the generally received opinion even among lepers themselves, each always appears to believe that it has occurred by some unlucky accident in his own case.

Interrogatory IX.

Akyab.—The general opinion among the natives here is that the abuse of mercury is a frequent cause of leprosy, and I am disposed to think that the opinion is well founded. The value of the mineral as an antisyphilitic remedy is well known, and it is largely employed for the cure of venereal affections by these people. I think it very probable that both the mercurial and syphilitic poisons may induce a cachectic condition of system highly favourable to the development of leprosy, where the hereditary taint exists.

Interrogatory X.

Moulmein.—Never contagious.

Kyouk Phyoo.—I have never met with an instance.

c. I do not believe it to be transmissible by sexual intercourse. I knew a man, a confirmed leper, who was the superintendent of the Leper Asylum in Calcutta years ago, yet he was a married man, and his wife was perfectly free from the disease.

Akyab.—I have seen nothing to induce me to believe that leprosy is contagious, and I do not believe it is ever communicated in this way, nor even by sexual intercourse.

Interrogatory XI.

Akyab.—Legal restrictions upon the communication of lepers with the rest of the community are wholly unnecessary here, since persons suffering from the complaint are universally avoided, and generally subsist upon charity.

Moulmein.—Yes.

Kyouk Phyoo.—They are not permitted to communicate freely with the rest of the community, yet there is not much restriction employed in the case of the benign variety; the man, who is afflicted with the malignant variety, is kept separate, and not allowed to mix with people.

Interrogatory XII.

Moulmein.—None. They are treated at the civil and general dispensaries and hospitals in Burmah and India.

Interrogatory XIII.

Akyab.—No. They are not admitted into the general hospital.

Interrogatory XV.

Moulmein.—The disease is benefited by improved hygienic, dietetic, and medicinal treatment, viz.: attention to housing, food, clothing, cleanliness, and suitable medical treatment.

Akyab.—In anæsthetic leprosy I think I have seen the progress of the disease arrested by the employment of local stimulation, combined with the use of small doses of calomel and antimony internally for a considerable period; but the supineness and apathy of the subjects of this disease militate greatly against the efficacy of any treatment which does not go the length of regulating every action of the patient, in accordance with the strictest regard to diet, regimen, and habits of life.

The best local stimulant that I am acquainted with for the weak sloughing sores which mark the commencement of that breaking down of the tissues to which I have adverted in pointing out the essential characters of one form of leprosy (tona), and the best application also for giving to them some approach to reparative action, is the disinfectant known as Condy's fluid. I have seen this put a stop to their phagedenic character, and produce in a short time a crop of granulations sufficient to throw off the sloughs, when applied in an undiluted form, while at the same time the sensibility and general appearance of the surrounding integument has been much improved by the free use of the same remedy, diluted in the form of lotion, well rubbed in on the affected part where the surface remained unbroken.

Interrogatory XVIII.

Akyab.—I may mention a case, which I operated upon at an indigo factory in the Nuddea district of Lower Bengal, and in which, on removing the affected part, the left lower extremity at the line of junction of the lower with the middle third of the tibia, no arterial hæmorrhage followed, and the stump healed kindly and rapidly without the application of a ligature. The arterial trunks divided anteriorly and posteriorly were, as blood-distributing agents of nutrition, to all intents and purposes obliterated; and the supply of nourishment having been cut off in this way, nature had removed toe after toe, and was engaged in removing the foot at the ankle joint, when I assisted her with the knife, by removing the useless and troublesome member a little higher up.

XII. STRAITS SETTLEMENTS.

Interrogatory I.

Singapore.—Leprosy is very common in the three stations of Penang, Malacca, and Singapore. Lepers exist in every village; chiefly in the higher towns, however.

It makes its appearance insidiously, generally preceded by more or less pyrexia and uneasy sensation about the parts, often as though ants were crawling beneath the skin; a dark coppery spot appears, sensibly raised above the skin, shining, and spreads rapidly, first, generally, on the face; the alæ nasi become much enlarged, the lobes of the ear also and the nipples, all presenting the same livid appearance; sometimes it attacks the fingers and toes; these ulcerate, and in nearly every case drop off. It frequently becomes arrested at the metarcarpus and metatarsus.

a. I have seen but what I consider one form of the disease, though, as I have stated above, at times it is attended with destructive ulceration. The Malays call the disease "kusta" and "sakit basar" (or great sickness).

Dr. McDougall (Bishop of Labuan) writes me, "I have seen several varieties of "the disease, but think them specifically the same disease, arising from the same "morbid cause."

Interrogatory II.

Malacca—Penang—Labuan.—It generally, as far as my observation goes, makes its appearance after puberty; but in the two cases, 5 and 7, I have annexed, it manifested itself long before that period; the female, No. 5, at eleven years of age, and the lad, No. 7, at ten years.

Dr. McDougall writes, "It generally manifests itself after puberty, I think; but I "have met with two cases, one a Dyak, the other a Chinese, with whom the disease "began in boyhood, and disabled them both before they were sixteen; one, the Dyak, "is partially recovered, with the loss of toes and fingers; the other, now about 20, "I do not think can survive much longer."

Interrogatory III.

Some cases are developed rapidly; others insidiously; many live for years, indeed to old age; in others, again, especially in those cases attended with extensive ulceration, the disease runs its course rapidly; the patient dying from sheer exhaustion, induced by the copious discharges.

Interrogatory IV.

Much more frequent in the male. I have only seen two cases in the female; one a Chinese woman, the other the girl described in Case 5.

Dr. McDougall writes, "I have seen only one case in a female who died of it about the age of 40; she was a Dyak Chinese."

Interrogatory V.

In these settlements the Chinese most frequently suffer from the disease; next the Malays. I have only seen one case amongst the Klings (natives from the Madras coast), and only one in a European, described in case 7.

Dr. McDougall writes, "In Sarawak, I think, the Chinese are more affected than either Dyaks or Malays; I have seen at least 50 or 60 cases in males of these races, but the greater number have been Chinese."

Interrogatory VI.

The lowest grade of society generally.

a. Living in low and ill ventilated huts, in situations where no attention is paid to the common rules of hygiene; most frequently urban, where the population is dense; the land low, and surrounded with filthy swamps.

b. I repeat, no attention is paid to this point, and the scavenger is never seen in their neighbourhood.

c. Dissipated in the extreme; no attention whatever is paid to personal cleanliness.

d. Diet is of the coarsest description.

e. Frequently mendicants; at times coolies and gardeners, who are always in an atmosphere depraved by the stench from human ordure, which they keep in open reservoirs for months, and then use it as manure.

Interrogatory VII.

Advanced age and bad unwholesome food, such as rats, cats, dogs, poultry that have died from disease, and such like. The poorer classes of Chinese will almost eat carrion.

Dr. McDougall writes, "Mature age and bad living."

Interrogatory VIII.

I have never known it to be so in a single instance; I have known only one member of the family affected with the disease, the others remaining without a trace of it.

Dr. McDougall writes in reply, Interrogatory No. VIII., "Hereditary."

Interrogatory IX.

I have never been able to trace leprosy to a syphilitic origin.

Dr. McDougall writes, "I do not think it connected with syphilis."

Interrogatory X.

I have met with three cases in which I can with certainty state the disease was contracted by continued and direct contagion; two cases specified under *b*, and one specified in Case 6,* the details of which are given below.

---

* *W. E.; ætat.* 11; male, European; spare habit of body, light hair, gray eyes, swarthy complexion.

Present state.—26th March 1864.—Has several well defined, livid, circular patches on the face, arms, and legs (particularly chin and cheeks), the body being comparatively free; integument slightly raised, scaly, and shining; lobes of both ears enlarged, as also *alæ nasi* and both nipples; a feeling of tightness experienced on flexing fingers; complains of a creeping sensation in affected parts, otherwise feels very well; appetite good; bowels moved twice or thrice daily; sleeps well; skin, rough and dry.

History, &c.—Step-father states that to his knowledge the disease was never known to exist in the family, but says that, some three or four years ago, patient was in the habit of constantly associating with a Chinese boy who was suffering from this complaint (this statement is borne out by the patient), and thinks it may be attributable to that cause. Patient was suckled when a child by a wet-nurse who to all appearances was at that time free from the disease, but having lost sight of her, father cannot say if such be the case now. Patient's previous state of health very good.

Of patient's relatives out in this country all are clean skinned and evidently free from the disease. Father died seven years ago from ; mother, two years ago from childbirth; one uncle is a lunatic. Want of cleanliness or improper food does not appear to have had an effect in producing present complaint, as patient's parents were in comfortable circumstances, and great care was taken of him. Disease first made its appearance about 10 months ago (ushered in by a febrile paroxysm), and since then is running its course, slow but sure. For the last three days small blisters are forming on fingers and toes in neighbourhood of joints, which on breaking discharge a small quantity of ichorous fluid, and leave a painful open sore. Medicine appears to have had no effect in arresting the disease, while diet, exercise, cleanliness, &c. tend to check its rapid development.

a. The disease in all these cases was fully developed; there was no ulceration, but the perspiration was most offensive and copious.

b. 1.—H. De Souza lived with my apothecary, Mr. Sneider (whose nephew he was), for some years, Mr. S. labouring under confirmed leprosy at the time, of which he died in 1861. Some time before death, extensive ulceration set in, attended with a profuse offensive discharge, but the lad contracted the disease before this appeared; Mr. De Souza died last year with leprosy fully developed.

2.—"Sheikh Hussain," a convict from the Madras Presidency, whilst acting as Hospital orderly to Mr. Sneider above mentioned, contracted leprosy from him, and died in less than 12 months from the time the disease first became manifest; prior to death, ulceration of the hands and feet set in.

c. H. De Souza, mentioned above (being well to do in the world), married a fine hearty Dutch girl, born in Java; they lived some two years together, but were separated after that time on account of his being leprous. She left Singapore for Holland some 18 months ago, apparently quite free from the disease. Still I should be sorry to state that it cannot be transmitted by sexual intercourse.

Dr. McDougall writes, "I have not met with a case I could satisfy myself had arisen from contagion; but it is the universal belief among the people, whether Chinese, Malay or Dyak, that it is contagious, and they all alike separate the lepers, and avoid all contact with them."

Interrogatory XI.

Lepers mix freely with the rest of the community, but are always avoided.

Interrogatory XII.

Government have a leper ward attached to the large pauper hospital at Singapore (built at the expense of a wealthy Chinese named Tan Tock Seng), where lepers are received, but they manage to escape, and prowl about, seeking alms, a nuisance to the whole community.

At Malacca and Penang, however, large sums of money have been subscribed by the richer natives of all classes for the erection of a leper hospital, so great is the dread they have of the disease; and Government have given over Pulo "Siranbon," an island contiguous to Malacca, where a comfortable lazaretto has been elected, to which lepers are removed at their own request, I believe (as I repeat there is no Act at present in force to compel them), where they are comfortable enough, growing their own vegetables, &c.; they seem contented enough; their food is sent out from time to time from Malacca. At Penang in a very few days upwards of $20,000 were readily subscribed, and Government have given over the lovely island of Pulo "Jerajah" to the committee, where a roomy poorhouse, hospital, and lazaretto are being erected. I have just reported it to be an excellent site, and the plan of the hospital is well adapted in every way for the purpose intended.

Interrogatory XIII.

At Singapore about 23.

Interrogatory XIV.

I have no hesitation in stating it has increased to a serious extent at Singapore, Penang, and Malacca; I have been in these parts upwards of 19 years, and can speak confidently on this head. I have more than once brought the circumstance to the notice of Government, and recommended complete segregation, and I attribute the great increase to neglect of this precaution.

Interrogatory XV.

The result is very unsatisfactory; sometimes the disease is arrested with the loss of all the fingers and toes. I have never known leprosy undergo a spontaneous cure. Only those who are sent to prison are bonâ fide treated at Government expense; nearly all are supported by voluntary contributions; very few only recover partially; it is seldom a complete cure is effected, and this at the expense of great disfigurement.

Dr. McDougall writes, "I have met with several cases of apparently spontaneous "cure after the loss of fingers or toes or metatarsal joints; but I believe that the "disease will sooner or later return in such cases, if the people live till they are "45 or 50."

To Henry A. Pitman, M.D., Registrar, Royal College of Physicians.

Dear Sir, Hendon, April 10, 1863.

I have seen the interrogatories on leprosy which have been issued by the College of Physicians for the colonies. And I have thought that I might possibly contribute some information on the subject, at any rate my experience, as from a residence of many years in India, especially in Bengal, where leprosy is frequently met with, I have had opportunities of observing it, though not so closely perhaps as it has been observed by the medical officers who have been specially deputed to take charge of the leper asylums.

The malady is held for the most part in great dread by the Europeans and natives, and the more respectable and alarmed of the former have generally their servants inspected every month by a native doctor, to ascertain if there is any one affected by the disease. Nor is this to be wondered at, so general is the impression of its being contagious, and nothing can be more loathsome than the sight of a leper suffering from the disease in its worst form.

Instances are recorded where the disease has been sufficient to disinherit a Mussulman from succession to his property. Amongst the Eurasians I have known several instances of an engagement to marry being broken off in consequence of its having been discovered that one of the parties was affected by leprosy.

The present inquiry will, I have no doubt, be productive of great good; and I fully expect that much valuable information will be obtained from officers on the spot to these interrogatories of the College; and that the attention of the several local governments will be brought to bear most beneficially upon this class of their subjects, who may now be considered on the whole as outcasts.

I remain, &c.

J. Jackson, M.D.

---

1. Leprosy is known in the province of Bengal and generally throughout India, though not so extensively in the upper and midland parts of India as in the lower provinces, and especially along the districts bordering on the sea.

a. is observed in a variety of forms; but there seem to be three that are distinct.

It As it affects the rete mucosum, and produces a peculiar whiteness either on the lips or on other parts of the body, being the Λευκη or vitiligo of the ancients.

b. As it occurs as an oily dark stain on the arms and legs and other parts of the body, attended with discolouration, and frequently with diminished sensibility, or total insensibility of the part.

c. As it occurs in the tuberculated form affecting the alæ nasi, the pinna of the ear, the eyelids, and forehead, the mucous membrane of the eye and nose, and other parts of the body, with a general thickening of the tissues, sometimes attended with elevations varying in size from a hazel nut split in two to several lines, an inch even in diameter, and considerably elevated, to the extent of two lines. The first and second forms are frequently met with in the same person; and occasionally in the third or worst form there are patches of the second variety. This the tuberculated, which is the most severe form, is termed by the natives the jejani, or burra beemaree, the "great sickness." I do not consider these distinct diseases, but varieties of the same malady. I may mention that there is a peculiar affection of the hands considered as leprous, in which there is a constant exudation of sensible perspiration, so that when the hand is raised, the fingers being dependent, there is a continual distillation from the tips of the fingers, like water passing through a filterer. I have several times seen men lose their situations as writers, from this affection, the paper being so greatly moistened as to be spoilt for writing. There is an opposite condition to this, where the palms of the hands and soles of the feet are dry and harsh, with deep fissures and ulcerations, and where the nails of the hands and feet are diseased. The disease is indicative of a low vitality, showing itself in the blood first, and afterwards in the nerves of nutrition and sensation.

2. Leprosy rarely appears before puberty. It generally manifests itself later in life. I have never seen it in its worst form in any one under 18 years of age.

The earliest symptoms depend upon the variety In the first form of the disease, Λευκη, there is a small discolouration of the skin, which loses its deep colour, or if upon the lips in a fair person the pink colour becomes changed to white.

In the second form there is generally a dark greasy stain in two corresponding parts of the body, slightly irritable in the first instance, and by slow degrees becoming insensible; at the same time there is a want of sensibility in other parts of the body, such as the legs

and thighs. The countenance also assumes a livid or orange appearance, and there is a peculiar watery relaxed expression of the eye; a state of general indisposition, with depressed spirits, supervene, followed for the most part by a languid and miserable existence.

In the third or worst form it shows itself in the dulness of the conjunctiva, and the eye and lids put on the character of chronic conjunctivitis. The lids afterwards become thickened and the eye irritable, the alæ nasi become swollen, the Schneiderian membrane irritable and red, and a slight discharge takes place. The pinna of the ear is thickened, and there are small elevated unctuous patches on the forehead. With these symptoms, there is a want of sensibility in the upper and lower extremities, slight bruises will often produce a sore and ulcers, which do not heal readily. If the patient is allowed to continue without treatment, the ulcers increase and the bones are exposed; phalanx after phalanx drops off, unattended with pain; the mucous membrane in the nose becomes ulcerated or thickened, and slowly but surely the patient gets worse and worse, and most probably is carried off by diarrhœa, or dies from exhaustion.

3. In the simple discolouration of the skin the disease will remain passive for years, and most probably not pass beyond this first stage. I have known individuals for five and six years to observe no change in the disease, and not to suffer from any constitutional symptom.

In the more severe forms of the disease, a few years will bring about a fatal termination, and in some cases even a few months will bring the sufferer to the grave.

The disease is observed generally between the ages of 25 and 55, and within that time it will attain its full developement.

The form of disease will determine its duration, and it matters not at what period of life it occurs. Its fatality will take place earlier or later, according to the constitution of the individual and his power of resisting the disease, the care taken of him in regard to diet and shelter.

4. I am unable to speak positively on this point, from the great seclusion of the females of the better class in India; the proportion of lepers is apparently much greater amongst the males. I have known several native females affected with the disease, and two European females.

5. The disease is considerably more frequent amongst the dark population. I am unable to say in what proportion. But it is extremely rare for a European to be affected by it, and it is not very common amongst the Eurasians.

6. In Bengal the disease is of most frequent occurrence in the lowest class, especially the fishermen, who chiefly live upon fish, and that in a semi putrid-state.

A low, damp, urban, malarious atmosphere seems to develop the disease. It is rarely found amongst the dry and hilly places. The huts of the poor Bengallee are low, and the occupants lie chiefly upon the ground.

Their habits are sober, but they are poorly fed and clothed. Their diet of rice, not the best, and fish with vegetables made into curry, or boiled. All the waters of Bengal abound in fish, and this forms a main article of diet; very few of the people take animal food. The occupation frequently that of fishermen.

7. Continuance in the same locality, partaking of the same diet, seem to favour the developement of the disease; salt, acids, and sugar taken in too great abundance seem to be injurious.

8. The disease appears to be hereditary in some cases.

And there are several instances that have been brought to my notice where one member of a family has been affected, whilst others have remained free.

9. I have no reason to believe that leprosy is in any degree dependent upon syphilis or any other disease. The occurrence of syphilis amongst the people of Upper India is common. There are very few cases which come under treatment, where some disease or other of the sexual organs is not complained of. But there is not a great amount of leprosy in the upper or midland provinces.

In examining the skulls of many of the pilgrims who died at Juggernath in Lower Bengal, there certainly appeared a very large proportion that were thickened and diseased, as if from venereal taint; but I was unable in any way to connect this fact with the circumstance of the person having had leprosy.

10. It is not a contagious disease in the ordinary sense of the term, and is not, as far as my experience goes, communicated through the atmosphere, as in cases of eruptive fevers.

Some natives and most Europeans have a general horror of being brought into contact with a leper, but others do not seem to mind it so much. Husbands have lived with their wives affected with leprosy, and wives with their husbands in this condition, and have not suffered. Nor does it seem communicable by sexual intercourse. I have known several instances of such connexion without contagion.

There is a doubt in my mind in regard to inoculation, from what I have learned from others. A case has been reported to me of a European who had become leprous from having been cut with a razor that had been used by a leper.

A respectable European stated to a medical friend of mine that he had contracted the disease from a favourite servant who was constantly about his person. No one with the tubercular form of the disease, when it is attended with ulceration, is allowed to remain as a servant. I have always considered it my duty to warn any master of a family, when I have known a leper to be amongst his servants, however mild the case might be.

11. There is no legal impediment to the communication of the leprous with the people. The social impediment is sufficiently strong, and as these poor creatures are for the most part feeble, they generally prefer the custom of petitioning for alms to any more active exertion, and would rather beg their living than enter into the leper asylum and have food and lodging provided for them.

12. In Calcutta there is an asylum provided for the lepers, under the care of a medical superintendent; but lepers are not admitted into the general hospitals.

13. I cannot say, and have no means at hand for obtaining such information.

14. The same.

15. Benefit no doubt is derived from careful attention to hygiene, diet, and medical treatment.

I have never known leprosy undergo any spontaneous cure, so long as the person afflicted resided in the same place; but I have known European lepers benefited and in the end relieved by making the voyage to England, and remaining in the country some time under treatment.

16. I cannot say.

17. I have known the disease to remain passive, and be unattended with constitutional symptoms, for years; for instance, a teacher in a school to continue at his post, but wearing gloves so as to prevent the disease being observed. But I know of no spontaneous cure.

Marked benefit is derived from preparations of iron, arsenic, creosote, the madar, good living, attention to cleanliness; but especially a change of locality.

Cures have been related to me of this disease from the continued use of the chaud-moogra odorata, described by Roxburg in the "Flora Indica." This is given in the form of a pill from the nut, or the expressed oil in ghee or clarified butter. All salts, sugar, and acids are forbidden. After the use of this remedy, the swellings are said to subside and the discharge diminish. Men who are in the habit of using this remedy speak of it in the strongest terms of approbation. The gentleman who first brought it to my notice informed me that he had never known a case that had not been decidedly benefited by it.

In the 1st vol. of the Calcutta Medical Transactions there is a learned paper by the late Horace Hayman Wilson, on the history of leprosy, as given by the Sanscrit writers. There are also detailed papers on the use of the madar by Dr. Playfair and Mr. Twining, and on the chaud-moogra in one of the later publications.

APPENDIX.

NEW BRUNSWICK.

DESPATCH from LIEUT. GOVERNOR GORDON to the DUKE OF NEWCASTLE.

No. 28. Fredericton, N.B.
MY LORD DUKE, 13th April, 1863.

ON the 2d October last, I had the honor to receive your Grace's Circular Despatch of the 28th of August, enclosing certain queries relating to the disease of leprosy.

2. I lost no time in sending copies of those queries to some of the leading members of the medical profession in the province, and duly received the replies which I have now the honor to enclose.

3. It was however my intention not to forward these papers to your Grace until I had received a report from the resident physician of the lazaretto, Dr. Nicholson, as it was manifest that his report must necessarily be the most satisfactory, and the most important of those which I could hope to obtain. I regret to say, however, that although Dr. Nicholson has been repeatedly written to by my directions on the subject, as shown on the margin, he has not yet thought proper to take any notice of my communications, or to return any reply to the queries which in obedience to your Grace's commands were transmitted to him by me.

Capt. Moody to Dr. Nicholson	-	2d Oct. 1862
Do.	-	14th Oct. "
Do.	-	15th Dec. "
Do.	-	2d Feb. 1863
Do.	-	20th Feb. "
Do.	-	4th Mar. "
Do.	-	18th Mar. "

4. Under these circumstances, a period of more than six months having elapsed since I received your Grace's circular, I do not think I am justified in longer detaining the reports which I have already received, although I regret that they are not accompanied by that of Dr. Nicholson.

5. A great variety of conflicting opinions prevail as to the manner in which the disease was introduced into the province. At the present time it may be said to be confined to a limited number of families of French extraction, living on the borders of the counties of Gloucester and Northumberland, although I believe there is authentic evidence of some few English settlers having also fallen victims to this horrible malady.

6. The attention of the provincial legislature was first called to the subject about 30 years ago; and from time to time subsequently stringent acts have been passed directing the seclusion of lepers, and empowering the members of a Board of Health, nominated by the Governor in Council, to commit any leprous person to custody in a building called by courtesy a leper hospital, but which until late years was little better than a mere prison. The Act at present in force is 13 Vict. cap. 18; revised Statutes of New Brunswick Vol. 3, page 330, which has from time to time been renewed and continued. About years ago the establishment was removed from Sheldrake Island in the Mirimachi, to its present position at Tracadie, on the east coast of the county of Gloucester.

7. Last summer in the course of my official tour I visited the lazaretto.

8. Its situation is dreary in the extreme, and the view which it commands embraces no object calculated to please, or indeed to arrest the eye. On the one side is a shallow turbid sea, which at the time of my visit was unenlivened by a single sail; on the other lies a monotonous stretch of bare, flat, cleared land, only relieved by the ugly church and mean wooden houses of a North American village.

9. The outer enclosure of the lazaretto consists of a grass field containing about three or four acres. Within these limits the lepers are now allowed to roam at will. Until lately, they had been confined to the much narrower bounds of a smaller enclosure in the centre of the large one, and containing the buildings of the hospital itself.

10. Into these dismal precincts I entered accompanied by the Roman Catholic Bishop of Chatham, the Honorable James Davidson, secretary to the Board of Health, the resident physician Dr. Nicholson, and the chaplain to the hospital the Reverend Father Gavreau.

11. Within the inner enclosure are several small wooden buildings detached from each other, and comprising the kitchen, laundry, &c., of the establishment; one newly completed was furnished with a bath, a great addition to the comfort of the unhappy inmates. The hospital itself is a building containing two large rooms, the one devoted to the male, and the other to the female patients. In the centre of each room is a stove and table, with a few benches and stools, whilst the beds of the patients are ranged along the walls. These rooms are sufficiently light and well ventilated, and at the time of my visit, were perfectly clean and neat. In the rear of these rooms is a small chapel, so arranged that a window, obliquely transversing the wall on each side of the partition which divides the two rooms, enables the patients of either sex to witness the celebration of mass without meeting. Through the same apertures confessions are received, and the holy Communion administered. I may here remark how curious an illustration is thus afforded to the architectural student of the object of those low skew windows often found in the chancels of ancient churches. In a remote corner of North America, in a rude wooden building of modern date erected by men who never saw a mediæval church, or possess the least acquaintance with Gothic architecture, convenience has suggested an arrangement precisely similar to one which has long puzzled the antiquaries and architects of Europe.

12. At the time of my visit there were 23 patients in the lazaretto, 13 males and 10 females, all of whom were French Roman Catholics belonging to families of the lowest class. These were of all ages, and suffering from every stage of the disease. One old man whose features were so disfigured as to be barely human, and who appeared in the extremity of dotage, could hardly be roused from his apathy sufficiently to receive the bishop's blessing, which was eagerly sought on their knees by the others; but there were also young men whose arms seemed as strong, and their powers of work and of enjoyment as unimpaired as they ever had been; and, saddest sight of all, there were in addition to these young children condemned to pass here a life of hopeless misery.

13. I was especially touched by the appearance of three poor boys between the ages of 15 and 11 years. To the ordinary observer they were like other lads, bright-eyed and intelligent enough; but the fatal marks which sufficed to separate them from the outer world were upon them, and they were now shut up for ever within the walls of the lazaretto.

14. An impression similar in kind, though feebler in degree, is produced by the sight of all the younger patients. There is something almost appalling in the thought that from the time of his arrival until his death, a period of perhaps many long years, a man, though endowed with the capacities, the passions, and the desires of other men, is condemned to pass from youth to middle life, and from middle life to old age, with no society but that of his fellow sufferers, no employment, no amusement, no resource, with

nothing to mark his hours but the arrival of some fresh victim, with nothing to do except to watch his companions slowly dying round him. Hardly any of the patients could read, and those who could had no books. No provision seemed to be made to provide them with any occupation either bodily or mental, and under these circumstances I was not surprised to learn that in the later stages of the disease the mind generally became greatly enfeebled.

15. The majority of the patients did not appear to me to suffer any great amount of pain, and I was informed that one of the characteristics of the disease was the insensibility of the flesh to accidental injury. One individual was pointed out to me whose hand and arm had been allowed to rest accidentally on a nearly red-hot stove, and who had never discovered the fact until attention was arrested by the strong scent of the burning limb which was terribly injured.

16. Until a short time ago there was no resident medical attendant at Tracadie. The lepers were locked up untended, visited occasionally by the Roman Catholic priest, a somewhat eccentric, but bold, energetic character, and inspected medically by a physician only four times a year. Soon after my arrival in the province, I appointed, with the advice of my council, a permanent physician, who now resides in the village and pays a daily visit to the hospital. This gentleman, Dr. Nicholson, has shown a strange and culpable neglect in returning no reply to your Grace's interrogatories; but I am bound to say that when I was at Tracadie he appeared to me to feel a real and lively interest in his unfortunate patients, and he certainly had done much towards ameliorating their miserable condition. It is also right that I should, in connexion with this branch of the subject, inform your Grace that the excellent secretary to the Board of Health, the Honorable James Davidson, has never ceased to press upon the Executive Government the necessity of providing sufficiently for the maintenance of the lazaretto, and that, so far as his exertions unaided by any adequate funds could avail, no pains have been spared to render the fate of the lepers as little intolerable as possible.

17. I assume that the contagious character of the disease is so clearly proved as to render the seclusion of those affected by it within the walls of a lazaretto indispensable. That is a medical question on which I am not competent to form an opinion. It is, however, worthy of remark that the laundress of the hospital, who is not a leper, and who is subjected to the same rigorous confinement as the lepers themselves, has never, as I am informed, caught the disease. The present occupant of the situation has been employed for about three years, and has certainly not done so. As nothing, however, short of an imperative public necessity would justify the horrible mental torture which such a confinement as that in the lazaretto must inflict, I am willing to assume that this question was well and maturely weighed before the Legislature consented to pass and to renew the acts on this subject now in force.

18. I am, however, inclined to consider that, even adopting this view of the case, the powers conferred by the existing Act upon the individual members of the Board of Health are excessive. A single member of that Board (and be it remembered they are not medical men) may, by the third section, "at all convenient times in the day time, to visit, inspect, and "examine any person or persons suspected to be "labouring under or infected with the disease "herein-before mentioned, and for that purpose to "enter into any house, building, or inclosure in "which it may be suspected that any such person "or persons may be found, and to break open the "same if necessary so to do in order to obtain "entrance, and by order in writing under the hand "of any member of such Board of Health to cause "to be removed to the lazarettos all and every person "or persons who, upon such examination and inspection, shall be found to be labouring under or "infected with the said disease, there to be kept and "detained subject to the rules and regulations made "and ordained or to be made and ordained for the "government of such lazaretto."

It certainly appears to me that no person should be committed to the lazaretto until a competent medical authority has pronounced him to be really suffering from the disease, more especially as there are other disorders which to an unskilled eye present nearly the same symptoms as those which attend the earlier stages of leprosy.

19. Assuming that the Royal Gazette, Journals of the Legislative Council and Assembly of this Province are preserved in the Colonial Office, I enclose a list of the papers which have from time to time been published here respecting the disease of leprosy in New Brunswick.

20. I cannot close this despatch without giving expression to the regret I feel in having to inform your Grace of the recent death of the author of one of the two reports which I now enclose. The Honorable Dr. Gordon was a man of retiring disposition and not often found to take a prominent part in public life, but he was a useful member of the Legislative Council, and his private character will cause him to be long remembered with regret in the northern section of the province.

I have, &c.

(Signed) Arthur H. Gordon.

His Grace
The Duke of Newcastle, K.G.
&c. &c. &c.

Reports made at various times, by Commissioners appointed by the Government, &c., on the lazaretto at Tracadie, New Brunswick.

Drs. Key, Tolderoy, Skene, and Gordon, Royal Gazette, July 3, 1844.

Dr. Key, Journal, House of Assembly, 1845, p. 164.

Drs. Wilson and Bayard, Journals, 1848, p. 58.

Dr. Tolderoy, Journals, 1848, p. 151.

Dr. Key, Journals, 1848, p. 147.

Dr. Hart, Journals, 1848, p. 155.

Dr. La Bellois, Journals, 1850, p. 159.

Dr. La Bellois, Appendix, Journals, 1851, p. 120.

Honorable J. Davidson, Appendix, Journals, 1854, p. 243.

Dr. M'Laren, &c., Appendix, Journals, 1858, p. 588.

Letter from Under Secretary of State, Mr. Fortescue, to Dr. Pitman.

Downing Street,
Sir, 21st May 1863.

With reference to the letter from this office of the 14th ultimo, I am directed by the Duke of Newcastle to transmit to you, to be submitted to the College of Physicians, additional returns which have been received from Governors of Colonies and British Consuls abroad to the interrogatories respecting the disease of leprosy.

With regard to the despatch from the Lieut.-Governor of New Brunswick of the 13th April, his Grace thinks that the Lieut.-Governor overrates the stringency of the Act to which he refers; for it seems to be empowering only, and his Grace conceives that the Governor may lawfully cease to give effect to it, as well as (with the advice of the Executive Council) vary or rescind the regulations affecting the lepers in the asylum.

So soon, therefore, as the point of contagiousness or non-contagiousness, or more or less of contagiousness shall have been decided by the College of Physicians, it will become a serious question what instructions should be given to the Lieut.-Governor in regard to the treatment of lepers as described in his despatch.

I am, &c.

Dr. Pitman. (Signed) C. Fortescue.

JAMAICA.

DESPATCH from the DUKE of NEWCASTLE to Lieut.-Governor EYRE.

No. 575. Downing Street,
SIR, 25th March 1863.

I HAVE to acknowledge the receipt of your Despatch, No 18, of the 24th of January, forwarding the replies of Dr. Fiddes to the queries which accompanied my Circular Despatch of the 28th August last respecting leprosy, together with an essay which he had written upon the subject of that disease.

You have transmitted Dr. Fiddes' return without any remark; but I observe that it contains under the 13th head of interrogatory a statement that the building in which leprous paupers are kept, at the cost of the Corporation of Kingston, is miserably dilapidated and filthy, and the condition of the inmates as deplorable as it is possible to be. And under the 15th head of interrogatory, Dr. Fiddes says, "I am not aware what proportion of the lepers "kept at the public expense recover, but from the "little attention paid to this class of persons, I "doubt if there have been any recoveries in the "wretched asylum of Kingston."

I must observe that although you may have no legal and technical power to rectify what is amiss in an institution under the control of the Corporation of Kingston, it is your duty to exercise any influence in the matter which your position may give you the means of exercising, and at least to bring under the notice of the Mayor and Corporation the statements which have been made.

I have, &c.
Lieut.-Governor Eyre, (Signed) NEWCASTLE.
&c. &c. &c.

DESPATCH from Lieut.-Governor EYRE to the DUKE of NEWCASTLE.

No. 136. King's House,
MY LORD DUKE, 20th May 1863.

IN reply to your Grace's Despatch, No. 575, of the 25th March last, calling my attention to certain comments by Dr. Fiddes on the accommodation provided for lepers in Kingston, I have the honor to transmit a communication from the mayor of that city, pointing out that there is in reality no lepers' home existing, and that the place to which Dr. Fiddes refers is a portion of certain premises belonging to the parish which the lepers, who are receiving money allowances from the parochial authorities, have been merely permitted to occupy.

2. Mr. Jordon also justly points out that, owing to the great difficulty of procuring a suitable site for such an institution, no lepers' home could heretofore be provided; but that as an Act was passed in in December of last year, granting a sum of two thousand pounds per annum for establishing and keeping up a leper home, there is every reason to hope that this great want may shortly be provided for.

I may add that every exertion has been made and is now being made to obtain a convenient and suitable locality.

3. With regard to the more general want referred to in Mr. Jordon's letter of an almshouse in which could be received homeless paupers of the district or poor persons sent up from the country to the General Hospital, but ineligible for admission into that institution from the nature of their diseases, I have to state that if your grace is pleased to sanction the proposal made in my Despatch, No. 89, of the 24th April, for building a new hospital, there would on its completion be ample and suitable accommodation in the present hospital and contiguous buildings, which could at once be converted into an almshouse, whilst in the meantime the best practicable temporary arrangements might be made year by year to meet the necessities of the case. For the current year, in addition to the ordinary resources at the disposal of the parochial authorities, there have been granted for the city of Kingston, thirty pounds in aid of the St. George's Almshouse, seventy pounds in aid of the almshouse in connexion with the Kingston parish church, and two hundred pounds in aid of the Kingston almshouse.

I have, &c.
His Grace (Signed) E. EYRE.
The Duke of Newcastle, K.G.
&c. &c. &c.

LETTER from MR. JORDON to MR. AUSTIN.

SIR, Kingston, 6th May 1863.

I HAVE the honour to acknowledge the receipt of your communication of the 21st ultimo, and in reply to state that Dr. Fiddes laboured under a misapprehension when he alluded to the "wretched "asylum of Kingston" for lepers, or led the Secretary of State for the colonies to infer that there was such an asylum in this city.

2. There are a great many persons in this city labouring under that loathsome disease, but there is no asylum or place provided by the public or the parish for their reception or accommodation. It was this want which led to the passing of the 23d Vict. chapter 8, and it is to be regretted that the provisions of that Act, from various causes, and particularly the difficulty of procuring a proper site, have not been carried out.

3. There are twelve lepers who receive a money allowance from the parish of Kingston as paupers, and who, having no friends or home, have been permitted to occupy a portion of certain premises in the city belonging to the parish.

4. It is these premises which Dr. Fiddes designates the wretched asylum of Kingston.

5. Strong objections are entertained to their being used, even temporarily as a lepers' home, on the ground that they will not afford sufficient recommendation for the number of lepers in the city, and their use will not relieve the city from the presence of these persons. These are besides the only premises which can be appropriated to the temporary reception of persons coming from the other parishes, and seeking but not finding admission into the public hospital on account of their labouring under incurable disorders until a proper almshouse can be established.

6. The re-enactment of the 23 Vict. c. 8. (see 26 Vict. c. 5.), and the appropriation of 2,000*l.* per annum for the maintenance of a lepers' home, will, I trust, enable the Government shortly to provide for the accommodation of persons for whom the deepest sympathy is felt by the authorities of the city, but for whose accommodation in an asylum they have not been able, from the absence of a law authorizing them to do so, to make provision.

I have, &c.
(Signed) EDWARD JORDON,
H. W. Austin, Esq. Mayor.

DESPATCH from the DUKE OF NEWCASTLE to Lieut.-Governor EYRE.

SIR, 30th June 1863.

I HAVE to acknowledge the receipt of your Despatch, No. 136, of the 20th of May, enclosing a copy of a letter from the Mayor of Kingston in reply to the comments made by Dr. Fiddes on the accommodation provided for lepers in that town.

With regard to your observations respecting the want, to which Mr. Jordon refers, of an almshouse for homeless paupers, I have to observe that if the old hospital buildings should become convertible to the use of the poor, an endeavour should be made to obtain the enactment of a poor law founded upon approved principles, since the establisiment of a

mere almshouse without careful regulation of admissions and provisions for proper and effective internal discipline would probably do more harm than good.

I have, &c.
(Signed) NEWCASTLE.

Lieut.-Governor Eyre,
&c. &c. &c.

---

26 Vict. c. 5.

An Act to provide for the establishment of a "Lepers' Home," and the proper care otherwise of lepers and similarly diseased persons.

WHEREAS it is necessary to provide for the reception and accommodation of persons afflicted with leprosy, or yaws, or diseases akin thereto respectively: Be it enacted by the governor, legislative council, and assembly of this island, and by the authority of the same, as follows:

I. It shall be lawful for the governor and executive committee to lease for a term of years, or to purchase, as they may think proper, sufficient lands in some convenient locality or localities in any or either of the parishes of Kingston, Saint Catherine, Saint Andrew, Port Royal, or Saint David, for the settlement and establishment of persons afflicted with leprosy, or yaws, or diseases akin thereto; and for that purpose to erect such cottages or huts, or other buildings as may be considered best adapted for the careful and comfortable reception and keeping of such afflicted persons; and in every such establishment, due care shall be taken to provide for the complete separation of the sexes; and the buildings and premises intended for persons of the male sex shall be divided, and as far as can be removed from those intended for females, and be placed on separate parcels of land, if the executive committee shall so advise.

II. It shall be lawful for the governor, so soon as proper places have been provided for the keeping of persons so afflicted as aforesaid, which places shall be called respectively the "Lepers' Home," to appoint a medical attendant to the same at a salary not exceeding [one hundred and twenty] pounds per annum; a male superintendent at a salary not exceeding [eighty] pounds per annum; and a matron at a salary not exceeding [sixty] pounds per annum; payable quarterly or monthly as the governor shall direct, by warrant under his hand, and from time to time to remove any person so appointed, and on any vacancy occurring from removal or otherwise to appoint some other person to fill such vacancy.

III. It shall be lawful for the superintendent to be appointed as aforesaid to employ two or more male servants to attend upon the male inmates; and for the matron to be appointed as aforesaid to employ two or three female servants to attend upon the female inmates, at such wages respectively as the governor in executive committee shall approve, which wages shall be paid by warrant of the governor as aforesaid, and such superintendent and matron shall have power from time to time to remove any person so employed by him or her respectively; and on any vacancy occurring from removal or otherwise to appoint some other person to fill the same.

IV. The inspector and director, in conjunction with the medical officers of the public hospital, shall, subject to the approval of the governor in executive committee, make rules and regulations for the government of the medical attendant, superintendent, matron, and other officers, servants, and inmates of the respective divisions of the institution, and may, subject to such approval as aforesaid, rescind, alter, amend, or add to such rules and regulations, or make new ones from time to time, as necessity may require.

V. The medical attendant shall visit once a week, and oftener if necessary, and prescribe medical treatment where necessary for all the inmates of the institution, and shall make a quarterly report to the governor in executive committee of the state and condition of such inmates, and of the institution generally, with any recommendations or remarks which he may think fit to submit with, or as part of, any such report.

VI. The inspector and director of the public hospital, or such other person as the governor shall appoint, shall visit and inspect the institution, and all inmates therein, and report on their condition at least once in each month, and oftener if the governor shall require; and shall make a note of each such visit in the visiting book, which shall be kept at the institution, with such observations upon the state and condition of the institution and inmates thereof, and the conduct of the officers and servants thereof, as he shall think proper; and the superintendent and matron shall transmit monthly to the governor a transcript of all entries so made in such visiting book, relating to the respective divisions of the institution; and the said inspector and director, or other person to be appointed as aforesaid, shall be paid at the rate of [sixty] pounds per annum, on the warrant of the governor for such and his other services under this Act.

VII. The said inspector and director, or other person to be appointed as aforesaid, shall take contracts, subject to the approval of the governor, in executive committee, for stores, provisions, and necessaries for the institution; and such medicines as may be required for the inmates thereof shall be supplied from the public hospital from time to time, on the requisition of the medical attendant.

VIII. The superintendent and matron respectively shall be responsible for the due care and appropriation of all stores, provisions, and necessaries supplied to the respective divisions of the institution to which they shall be appointed, and shall make reports monthly to the said inspector and director, or such other person as the governor shall appoint to inspect the institution as aforesaid, of the quantities received, consumption, quantities on hand, and state and condition from time to time of all such stores, necessaries, and provisions respectively, and generally of the state of the respective divisions of the institution; and the said inspector and director, or other person to be appointed as aforesaid, shall, on each visit thereto, check the stores, provisions, and necessaries on hand with the said reports thereof.

IX. Upon the establishment of the "Lepers' Home" any person afflicted with leprosy, or yaws, or other disease akin thereto, who shall be in indigent circumstances, and shall present himself or herself at the institution with a certificate from a qualified medical practitioner that he or she is afflicted with yaws, or leprosy, or other disease akin thereto, shall be allowed to remain in, and be considered and treated as an inmate of, such institution.

X. Any person afflicted with leprosy, or yaws, or other disease akin thereto, who, not being in destitute circumstances, shall desire to become an inmate of the "Lepers' Home," may do so upon giving security to the superintendent of the same for payment, monthly, of the cost of his maintenance and medical treatment at a rate not exceeding (two shillings) per day.

XI. All sums of money which shall become due and owing to the public for the maintenance and medical treatment of any such last before-mentioned person shall be recovered by the superintendent or matron of the "Lepers' Home" for the time being, or some person appointed by him or her, in the same manner as demands may be recovered under any act which may be in force for the recovery of small debts, and without limitation of amount.

XII. If any person, deemed to be afflicted as aforesaid, shall be found loitering in any road, street, lane, or thoroughfare of, or leading to or from any city, town, or village, or wandering about from place to place, it shall be lawful for any policeman, constable, or other person to apprehend such person, and take him or her before any qualified medical practitioner, who, upon being satisfied that the person so

brought before him is a leper, or afflicted with yaws or other disease akin thereto, shall direct, in writing under his hand, according to the form hereunto annexed, that such person be, and thereupon such person shall be taken to the "Lepers' Home," and received into the same; and any reasonable expense incurred in taking such person before a qualified medical practitioner, and to the "Lepers' Home," shall be paid by the superintendent of the same as a charge against the institution.

XIII. If any person, admitted to either division of the institution, shall leave it and be seen wandering about in any street, thoroughfare, or public place or way, he or she shall be taken by the superintendent or matron, or any policeman, constable, or other person back to the institution, or appropriate division thereof; and in case such person shall again leave the same, and be taken wandering about as aforesaid, it shall be the duty of the superintendent or matron to take measures, under such rules and regulations as shall in that respect be from time to time made by the governor in executive committee for the proper keeping of such person within the bounds of the institution.

XIV. The Receiver General shall pay, upon the warrant of the governor, monthly or otherwise, such sums of money as shall be necessary to meet the expenses of the "Lepers' Home," not exceeding the sum of [two thousand] pounds in any one year.

XV. It shall be lawful for any parish, or adjoining parishes, other than either of those before-named in this Act, where it shall seem necessary, and with the sanction of the executive committee, to include, in the annual estimates of expenditure, a sufficient sum for providing for the proper care and keeping of persons afflicted as aforesaid within such other respective parish or parishes; and, where adjoining parishes shall join in arrangements for that purpose, the expense shall be borne between them rateably, according to the number of diseased persons chargeable to each parish respectively.

SCHEDULE.

ORDER FOR THE RECEPTION OF A LEPER, &c.

I, *C.D.* of, &c. being satisfied that *A.B.* is a leper, or afflicted with yaws, or
and was found loitering in street, or
road, or lane, or
thoroughfare of, or leading to or from the city, town, or village, of
or wandering about from place to place, and is a proper person to be taken charge of and detained under care and treatment, hereby direct you to receive the said *A.B.* as a patient or inmate into the "Lepers' Home."

Subjoined is a statement respecting the said *A.B.*

Signature of *C.D.*, &c. ,
M.D. or other degree, residing and practising in the parish of .

STATEMENT.

(If any particulars in this statement be not known, the fact to be so stated.)

Name of patient, and Christian name at length.
Sex and age.
Married, single, or widowed.
Condition of life and previous occupation (if any.)
The religious persuasion, as far as known.
Previous place of abode.
Afflicted with .
Name, and Christian name, and place of abode, of the nearest known relative of the patient, and degree of relationship (if known).

I certify, that to the best of my knowledge, the above particulars are correctly stated.

Signature of *C.D.* ,
M.D. or other degree, residing and practising in the parish of .

TRINIDAD.

DESPATCH from the Duke of NEWCASTLE to Governor KEATE.

No. 629.

SIR, Downing Street, 11th June 1863.

I HAVE to acknowledge the receipt of your Despatch No. 76, of the 25th of April, enclosing the answers which you have received to the interrogatories forwarded to you in my Circular Despatch of the 28th of August, respecting the disease of leprosy.

I shall be glad to receive from you some explanation of the reply by Dr. Murray to the Interrogatory No. 11, whether persons affected with leprosy are permitted in Trinidad to communicate freely with the rest of the community, or whether there is any restriction imposed or segregation enforced in respect of them. Dr. Murray's language appears to imply that some law is in existence by which, if effectually put in force, lepers may be arrested and prevented from going at large. If such a law is in existence, a copy of it should have accompanied the papers, with an explanation of the grounds on which, if approving of the law, you are prepared to rest your approval of it, seeing that the answers to these interrogatories (agreeing in that particular with other answers received by this and the Foreign Department from almost all parts of the world,) would seem to reject the notion that the disease is contagious.

I have, &c.
(Signed) NEWCASTLE.

Governor Keate,
&c. &c.

DESPATCH from Governor KEATE to the Duke of NEWCASTLE.

No. 110.

MY LORD DUKE, Trinidad, 7th July 1863.

WITH reference to your Grace's Despatch No. 629 of the 11th June last, desiring an explanation of the reply made by Dr. Murray to the Interrogatory No. 11, respecting the disease of leprosy, whether persons afflicted with leprosy are permitted in Trinidad to communicate freely with with the rest of the community, or whether there is any restriction or segregation enforced in respect of them. I have the honour to forward a copy of Ordinance No. 7 of 1841, "For establishing an "asylum for indigent lepers, and providing for their "care, maintenance, and support." This is the only law existing in the island on the subject, and by a reference to its fifth section, your Grace will perceive that it is only lepers wandering about begging alms or exposing their persons in public places who are liable to be sent to and detained in the asylum by magisterial authority.

Any others are admitted on their own application, and until so admitted they communicate freely with the rest of the community. I understand Dr. Murray to have intended by his answer to this interrogatory to express his personal opinion that many indigent lepers are still at large, but if such is the case they must commit certain overt acts to bring them within the scope of the clause to which I have referred.

I have, &c.
(Signed) ROBT. W. KEATE.

His Grace
The Duke of Newcastle, K.G.
&c. &c. &c.

No. 7.—1841.

AN ORDINANCE enacted by the Governor of the Island of Trinidad, by and with the advice and consent of the Council of Government thereof, for establishing an Asylum for Indigent Lepers, and providing for their care, maintenance, and support.

(L.S.) H. MACLEOD.

Governor and Executive Council to determine where an Asylum for Lepers shall be situate.

WHEREAS the contagious disease called leprosy, has of late years increased in this colony, particularly in the neighbourhood of the town of Port of Spain: And whereas it is expedient to make provision for the public care and maintenance of persons so afflicted: Be it therefore enacted, and it is hereby enacted, declared, and ordained by His Excellency the Governor and Commander-in-Chief in and over the said island and its dependencies, by and with the advice and consent of the Council of Government thereof, That it shall and may be lawful for the Governor of this colony, by and with the consent of the Executive Council, by proclamation under the hand and seal of such Governor, to appoint a place within this colony as an asylum for persons afflicted with leprosy, and to determine and declare the extent, limits, and boundaries thereof, and from time to time, if occasion shall require, to change the place or alter the limits and boundaries of such asylum.

Buildings to be erected there.

II. And be it further enacted by the authority aforesaid, That it shall and may be lawful for the Governor to erect or cause to be erected at such place, such houses and other buildings for the reception of lepers, and for the use of the persons in charge of such lepers as the said Governor, by and with the advice and consent of the Council of Government, shall consider to be fit and proper for such purposes, and to cause the expenses thereof to be defrayed by the Colonial Treasury.

Appointment of Visiting Physician, Nurses, &c.

III. And be it enacted, That it shall and may be lawful for the Governor to appoint a visiting physician of such asylum, and also to appoint some fit and proper person as the resident inspector of such asylum, and also such number of nurses and attendants, with such salaries and allowances as the Governor, by and with the advice and consent of the Council of Government, shall from time to time see fit, for the superintendence and care of the residents at such asylum.

Applications for Admission.

IV. And be it further enacted, That immediately after such proclamation as aforesaid, every person resident in this colony, and afflicted with leprosy, shall, on his or her application to the visiting physician, be entitled to admission into and be received as an inmate of such asylum.

Lepers wandering about begging alms or exposing their persons in any public road, &c., how to be dealt with.

V. And be it further enacted by the authority aforesaid, That immediately after such proclamation, it shall and may be lawful for any justice of the peace, upon information on oath of any credible witness, that any person afflicted with leprosy has been seen wandering about, begging or collecting alms, or exposing his or her person in any public road, street, or place, to summon such person to appear before any two justices of the peace of the district, or if he shall think it necessary to issue a warrant under his hand, directed to any constable, authorizing and directing such constable to cause such person to be brought before any two justices of the peace at a time and place to be specified in such summons or warrant; and of such two justices of the peace, the stipendiary justice of the district shall in all cases be one; and if it shall be made to appear to the satisfaction of such two justices upon the oath of any medical practitioner, duly admitted to practise in this colony, that such person is afflicted with leprosy, and upon the oath of such medical practitioner or of some other credible witness or witnesses, that such person has been seen wandering abroad begging or collecting alms, or exposing his or her person in any public road, street, or place, then it shall and may be lawful for such justices of the peace to make an order directed to any constable or officer of police, and to the resident inspector of such asylum, ordering and directing such constable or officer of police to remove and convey such person to such asylum, and authorizing and directing the resident inspector to keep and detain such person as an inmate of such asylum until he or she shall be discharged by order of the Governor as hereinafter mentioned.

Discharge of Patients.

VI. And be it enacted, That whenever it shall appear to the visiting physician of such asylum that any inmate of such asylum has been altogether cured of such leprosy, or that the disease has been so far cured that the patient may be discharged from the said asylum without danger to the public health, such visiting physician shall certify the same under his hand to the Governor; and thereupon it shall and may be lawful for the Governor, by order under his hand to the resident inspector of the asylum, and to be endorsed on such certificate of the visiting physician, to direct that such person shall be discharged and removed from the asylum.

Governor and Executive Council to frame Rules for Government, &c. of Asylum, Care of Inmates, &c.

VII. And be it further enacted, That it shall and may be lawful for the Governor, with the advice and consent of the Executive Council, from time to time to make rules for the government and superintendence of such asylum, and for the removing and conveying persons to such asylum, and for the classification, distribution, and location, care, and superintendence of the inmates thereof, and for the providing them with food and clothing, and for the allotment of portions of garden ground for the growth of provisions to such of them as may be capable of working, and for the separation, either solitary or otherwise, of any of the said inmates from the rest, within some place to be appointed as a place of greater seclusion, and for such times as shall be specified in such rules, and of all persons guilty of any breach of any such rules, and also for regulating the attendance of the visiting physician, and ascertaining the duties of the resident inspector and nurses, and attendants to be employed at such asylum; and if they shall think it necessary, for preventing and prohibiting, or restricting all persons in boats from landing at the said asylum, or any part thereof altogether, or except at certain specified places, and at certain specified times; and it shall be lawful for the Governor, with such advice and consent as aforesaid, from time to time to annul and revoke, or vary and change such rules, or any of the same, and to make others in lieu thereof, and a copy of such rules shall be laid before the Council of Government at the next meeting thereof.

Fine for unlawful Removal from Asylum.

VIII. And be it further enacted, That if any person, not being an inmate of such asylum, shall aid, assist, or abet any inmate of such asylum in removing or attempting to remove from such asylum

until he or she shall, upon the certificate of the visiting physician, have obtained the order of the Governor for his or her discharge, every such offender shall, on conviction before any two justices of the peace, of whom the stipendiary justice of the district shall in all cases be one, forfeit and pay such fine not exceeding twenty pounds sterling, or be imprisoned in the Royal Gaol for such time not exceeding two calendar months, with or without hard labour during the whole or such part of such imprisonment as to the convicting justices shall seem fit.

Annual Returns to Council of Government.

IX. And be it enacted, That the resident inspector of such asylum shall, on the 31st day of March, the 30th day of June, the 30th day of September, and the 31st day of December in each year, make up a true and correct return in writing under his hand, which return shall be laid before the Council of Government at its next meeting after the day of the date of such return; and in such return shall be specified the names, sexes, and ages of all persons who shall have been inmates of the asylum during the whole or any part of the preceding three months, and the days on which such persons shall have been received into the asylum, and also any alteration which shall have taken place in the number of such inmates by death, or discharge, or otherwise, during the preceding three months; and in such return shall also be specified the nature and quantity of all provisions, clothing, and medicines received for the use of such asylum during the preceding three months, and the application and distribution of the same; and on such return the colonial treasurer for the time being shall endorse a return of all monies issued and paid by him for the use of such asylum during the period mentioned in such return.

When Ordinance shall come into operation.

X. And be it enacted, That this Ordinance shall come into operation and take effect from and immediately after the promulgation thereof.

Passed in Council this second day of August, in the year of our Lord one thousand eight hundred and forty-one.

THOMAS F. JOHNSTON,
Clerk of Council.

The foregoing Ordinance has been duly proclaimed in Port of Spain on this sixteenth day of August one thousand eight hundred and forty-one, by me,

RICHARD JOELL,
Assist. Marshal.

ANTIGUA.

REPORT of the late Acting Registrar General of Births and Deaths for the Year 1862.

To His Excellency Col. STEPHEN J. HILL, C.B., &c. &c.

SIR,

I HAVE the honour to submit to your Excellency the Abstract of Births and Deaths for the year 1862. The decrease in the number of births and the increase in the number of deaths are very striking features in the returns. The decrease of births is 256. The increase of deaths is 335, as compared with the year 1861.

On reference to the tables of preceding years, I find that in the year 1857, the births recorded were 1,515, while those of 1858 were 1,273, a decrease for the year of 242. I can trace no cause whatever for the remarkable peculiarity of those years in respect to the apparent deficiency of births.

Referring to the possibility of omissions to record births and deaths, I have endeavoured to test the accuracy of the returns to the Registrar by returns of baptisms and burials throughout the colony. For these I am indebted to the courtesy of the Lord Bishop of Bishop Westbury, and of the Reverend James T. Hartwell, and by them I find that the baptisms were as follows:—

	1861.	1862.
Church of England -	790	676
Moravians - - -	225	198
Wesleyans - -	80	73
Total -	1095	947

Showing a deficiency for the year 1862 of 148 baptisms. The comparatively small number of baptisms of Moravians is explained by the fact that legitimate children only are baptized by that church. The deficiency of births is to a certain extent thus confirmed by the evidence of the baptismal returns. The increase in the number of deaths, however much to be lamented, is explained by the prevalence of measles and of whooping cough, which occasioned great mortality among the infant and juvenile classes, and in the latter part of the year, of small pox, which, though of a comparatively mild type, developed itself in some cases witd great severity, and consequent loss of life.

If the testimony afforded by the tables of 1862, viz. a deficiency of 666 in an aggregate population of 36,412, were to be taken as evidence of the state of facts ordinarily existing, it would be clear that in the absence of epidemic and contagious diseases there was something both physically and morally wrong in the constitution of the colony, and that there was ground for just apprehension that the population was in a course of rapid extinction. Happily, however, the year 1862 was certainly an exceptional year. The registration of births and deaths commenced in 1857, and by the returns for five years from 1857 to 1861 inclusive, the births were 6,760, the deaths 6,645, showing in place of the depopulating decrease of 666, an increase of 115; while by the returns of baptisms and burials for the same period, the baptisms were 5,594, and the burials 5,375, showing an increase of 219. Again, by the census of 1856, the population was 35,408, and by that of 1861 it was 36,412, showing an increase of 1,004, from which, deducting 235, the number of persons engaged in shipping, a class not included in the census of 1856, we have an apparent increase of 769.

But although it does not therefore appear that the population is decreasing, it is very disturbing to find that it is not increasing in the proportion in which it unquestionably ought to increase in a country where, to use the words of Governor Eyre, "the climate and "other conditions propitious to life are so favour-"able;" and of Governor Hamilton, "where the "climate is favourable and the wants of life com-"paratively few."

This stationary condition may be owing to a deficiency of births, or, if there be the fair ordinary number of births, to an undue proportion of still-born, or of infantile deaths, or to a mortality generally, without respect to particular classification, in excess of births, or to one or more of these various causes.

The African race is naturally prolific, and it is important to remember that the distribution of the sexes by the census was in favour of females, the numbers being as follows:—Males 16,742, females 19,670. The registration tables for the five years from 1857 to 1861 inclusive, setting aside the year 1862 as an exceptional year, show the number of births to have been in the aggregate 6,760, in a population which may be taken at the medium number of 36,000.

This establishes for the five years a rate of 18·78 or 3·75 per cent. per annum, which contrasts favourably with that of England, which for the year 1859 was 3·504, for the year 1860 was 3·437, both being above the average for ten years, which was 3·417; but it is not so satisfactory a result as might have been expected considering the combined advantages

of climate and of the facilities of life, of the natural fecundity of the African race, and of the preponderance of females over males. The birth rate of 1862, taking the population at 36,500, was 2·93. Of the aggregate number of births for five years, viz. 6,760, 749 were still-born, being at the rate of 11·8 per cent., or one in every nine, while in Europe the mean proportion of still-born children is stated to be one in every 22 births. In the year 1862, however, of 1,072 births, 114 only are returned still-born, as opposed to 161 for the year 1861, a great improvement if the returns can be relied upon.

Of the aggregate number of births for the six years, viz., 7,832,—3,647 were legitimate, and 4,185 illegitimate, the latter being not only equal to but in excess of the former by 538, or nearly seven per cent., the proportions being of legitimate 46·57, and of illegitimate 53·43 per cent.

In England, in 1860, from a population of 19,902,918, there were 684,048 births; of this number 640,355 children were born in wedlock, and 43,693 were illegitimate, the former being of the aggregate births 93·61, and the latter 6·39 per cent.

The deaths of all ages for five years were 6,645, but this included the number of still-born for the same period, which should not be included with those persons that have lived and breathed. Deducting this number, 749, we have 5,896, or an annual average of 1,179, which, in respect to a mean population of 36,000, establishes the general death-rate of 3·27 per cent. In England it is 2·124.

The deaths of children of one year and under, for five years, were 2,157, and excluding the still-born, 1,408 or an annual average of 281, which, in respect to 1,179, the deaths of all ages, establishes a percentage of 23·83, as opposed to the rate in England, which is about 22 per cent., and in respect to 1,202, the average births, excluding the still-born, would show that of every 100 children born, 23·37 die within the year, as opposed to 15 in England.*

Upon considering the foregoing statements, attention is forcibly attracted to the number of still-born as compared with living births, and the number of illegitimate as compared with legitimate, contrasting so strongly with similar returns in the mother country, and constituting as they do dark blots in the registration annals of the colony. It has been suggested with reference to the former that the engagement of women in laborious agricultural operations, and sometimes to a late period of pregnancy, may induce both premature and still-born births; the practice, however, is not confined to Antigua, but prevails throughout the West Indies, and without the baneful consequences ascribed to it in this island.

I am rather disposed to consider that the evil is partly owing to its associate evil, the degrading standard of moral habits evinced by the unprecedented prevalence of illegitimacy, and partly to the absence of skilled attendance in the hour of travail. Where the marriage tie prevails in its strength and purity, the wife, in the anxious period of pregnancy, is the subject of more than ordinary solicitude, and in confinement receives the necessary professional assistance, while the infant, welcomed with parental affection, is treated with every care and attention. But in the case of the unmarried female, living comparatively without restraint, pregnancy is the advent of confusion, of increased expense, and personal inconvenience.

Without any certain claim for particular sympathy, deprived of the power of earning her ordinary rate of wages at the very time she requires extra means, the natural feelings of the mother are brought into conflict with the difficulties of her position, and it is to be feared (and such is the impression of professional men) that the temptation to relief but too frequently leads to the sacrifice directly, or indirectly, of the infant, and hence one contributing cause of the undue number of still-born.

The want of medical men in the country districts and remote villages, and the consequent apprehension of the loss of life, more particularly among infants, and the aged and infirm, led to the passing of the Act to provide gratuitous medical attendance for those classes of the labouring population, the appointment of district medical officers, and the establishment of a fixed scale of charges for attendance. But notwithstanding the facilities thus afforded, and the reduced charge of sixteen shillings for midwifery cases, there is reason to believe that in the majority of instances both mother and infant are denied the benefit of professional attendance, and are left to the handling of the rudest and most ignorant women, who for a small compensation undertake and are permitted to perform the responsible office of midwife with perfect immunity as to consequences.

It is obvious that under such treatment, even with honesty of purpose, the chances are greatly against both mother and child; and when it is considered, that where the infant, if born alive, is regarded as an obnoxious incumbrance, the agency of such a class would be readily available, we may in some degree account for the condemning number of still-born, and the deaths of infants in the earliest stage of life.

The withdrawal of a large proportion of the population formerly resident on estates to establish themselves in the city, and in villages in remote parts of the country, has led to a mischievous overcrowding of dwellings, sometimes situate in unfavourable localities, insufficiently drained, and giving rise to intermittent fever. In many cases, secluded from public observation, the inhabitants of these villages in place of progressing have retrograded in manners, and hence a state of demoralization as injurious to society as compromising to the character of the island. There are churches and chapels, Church of England, Moravian, Wesleyan, Catholic, and Presbyterian, and there are able and zealous ministers of religion. Schools are established in every direction. Gratuitous medical attendance is provided for the old and the young; and yet, contrary to all experience, with every advantage of climate, of the facilities of life, of education based upon religious teaching, immorality is in the ascendant, and the population is at best but stationary. These evils are, I fear, beyond the pale of legislation. A close supervision, however, on the part of the ministers of religion and their assistants, would tend to a house-to-house acquaintance with the people and a personal knowledge of their mode of life, and afford opportunity of combating with much that is wrong, morally and socially, in their every day habits. Many of their dwellings do not afford sufficient accommodation for the number of inmates, hence a very imperfect separation is maintained between the sexes, leading to violations of the decencies of domestic life. This is an evil which is especially felt in cases of confinement, and it would be a great advantage, therefore, if one or more lying-in houses could be provided, and competent midwives obtained from the Lying-in Hospital in Dublin to superintend them, where for the smallest possible charge the the necessary accommodation might be afforded to patients. One such establishment in every parish would be productive of much positive good, and simultaneously suppressive of much positive evil. The population of St. Christopher was, by the census of 1855, 20,741, and by that of 1861, to

* Dr. Nicholson, in his valuable report to Governor Hamilton, estimates the deaths of infants at a higher rate, but his calculation included the still born. By a return of burials generally, and of infants of one year and under, in the Church of England, for five years, 1857 to 1861 inclusive, the former were 3,584, the latter 696, giving a per-centage of 19·41, as opposed to 22 per cent. in England. The baptisms were 4,138, showing, with 696 burials, 16·82, as opposed to 15 per cent. in England.

These tables would show that the mortality which prevents the natural increase of the population is not, as generally supposed, to be traced to any undue infant mortality.

which I have not access, I am informed that it had increased at the rate of nearly 500 per annum.

The population of Barbados in 1851 was 135,939; of these 18,000 fell victims to the cholera in 1854, and yet the population had increased in 1861 to 152,727, at the rate of nearly 3,500 per annum.

If Antigua progressed at the same rate, and there is no assignable cause why she should not, her natural increase of population would in course of time furnish an immigration of the best quality, and at the cheapest rate.

I have, &c.

(Signed) James W. Sheriff,
Late Acting Registrar.

Report of the Registrar-General of Births and Deaths for 1863.

Colonial Secretary's Office, Antigua,
February 9, 1864.

Sir,

I have the honour to forward to your Excellency the returns of the Registrar-General for the year 1863. I also append tables of the annual number of births and deaths for the last seven years, and of other statistical information bearing upon the returns now under consideration.

2. The total number of births registered in 1863 is 1,407, against 1,072 in the previous year. Excluding the still-born, the registered births for 1862 and 1863 would respectively be 958 and 1,220, showing an increase of 27·35 per cent. Of the births in 1863, 40·9 per cent. are returned as legitimate, and 59·1 as illegitimate.* The still-born are returned at 187, or 13·29 per cent. of the total births. In 1862 the number was returned at 114, or 10·64 per cent. of the births. The birth-rate for the year is 3·35 per cent., or one birth to every 29·84 of the population.†

3. There has been a slight decrease in the number of deaths as compared with 1862, 1,734 deaths having been registered in 1863, against 1,738 in the preceding year. Excluding the still-born (which in this colony are registered as deaths), the returns for the two years would be 1,624 and 1,547, showing a decrease of mortality in 1863 of 4·74 per cent. The annual mortality for these two years has, however, been 38 and 31 per cent. higher than the average mortality for the years from 1857 to 1861, and the deaths in the past year have exceeded the deaths in 1859 by 40 per cent.†

4. The death-rate for 1863 is 4·24† per cent., or one death to every 23·53 of the population.‡

5. Of the 1,734 deaths registered in 1863, 566 were of infants of one year and under, or 40·2 per cent. of the total births. This, however, includes the still-born; exclusive of these, the deaths among infants of one year and under were 379, or 31·06 per cent. of the births.

6. The centesimal proportion of deaths to the total population, according to the classification of ages observed in these tables, is as follows:—

One year and under -	24·5
One year and under 14 -	11·7
Adults - - -	63·8

7. The highest rate of mortality appears to prevail in the parish of St. John, in which 849† deaths were registered for the year, equal to a death-rate of 5·2 per cent., or one to every 19·23 of its population. The lowest in the parish of St. Peter, the death-rate for which is 2·45 per cent., or one to every 40·8. The returns for the past quarter show 286† deaths in the parish of St. John, a mortality at the rate of nearly seven per cent. on the population of the parish.

8. In three parishes, namely, St. Mary, St. Paul, and St. Philip, the births† in 1863 have exceeded the deaths† by 14—8, and 6, or 11·52, 5·75, and 4·47 per cent.; whilst in the parishes of St. John, St. Peter, and St. George the deaths have exceeded the births by 317, 9, and 29, or 59·6, 6·52, and 22·8 per cent.

9. The centesimal proportion of deaths among infants of one year and under to the total births for the year† is as follows, in the six parishes:—

St. John - - -	33·08
St. Mary - -	27·205
St. Paul - - -	26·53
St. Philip - -	25·71
St. Peter - - -	34·058
St. George - -	34·64

Showing the mortality among infants in the parishes of St. John, St. Peter, and St. George to be in much greater proportion than in the other parishes.

10. The returns for the last quarter exhibit a still more alarming rate of mortality among infants in all the parishes, but particularly in the three before specified, viz., St. John, St. Peter, and St. George. In the latter parish the infant mortality has reached the fearful proportion of 75 deaths to every 100 births† during the quarter.

11. The following table will show the deaths among infants of one year and under for all the parishes in the island during the past quarter:—

Parish.	Registered Births, including Still-born.	Still-born.	Total Births, excluding Still-born.	Deaths 1 Year and under, exclusive of Still-born.	Centesimal Proportion of Deaths among Infants of 1 Year and under to total Births, exclusive of Still-born.
St. John - -	175	21	154	73	46·75
St. Mary -	44	6	38	14	36·84
St. Paul - -	53	7	46	18	39·9
St. Philip -	54	3	51	19	37·25
St. Peter - -	48	5	43	19	44·18
St. George -	38	3	35	26	74·28

12. With reference to the great mortality existing generally, but more especially among infants, in the parish of St. John, I would respectfully call attention to the recommendation made some time ago by the Governor, that the parish of St. John should be divided into two medical districts. There cannot be a doubt but that it is impossible for one medical officer to attend to the wants of a district extending over some 13,000 acres, and with a scattered population of 16,324.

13. The results of the tables now under consideration certainly suggest the expediency of at once affording greater medical assistance to the inhabitants of the parish of St. John.

14. The discharge of the various official duties devolving upon me since my arrival in the colony in May last has up to this moment prevented my visiting any of the country districts; I have, therefore, been precluded from acquiring information, by personal observation, as to the causes inducing this diminution within the two last years of the native population of the colony. I am, however, informed by persons of experience, and possessing great local knowledge, that the prevalence of the small-pox during the greater part of 1862 and in the beginning of 1863, and the visitation in the latter year of one of the severest droughts on record, have, with perhaps other causes, produced a degree of distress and destitution never before witnessed in Antigua.

* There has been of late years a considerable diminution of marriages; in 1840 they numbered 554; in 1863 they dwindled to 163. *Vide* Return No. 14.

† Exclusive of still-born.

‡ The death-rate among the white population was 3·91; among the coloured it was 4·89; and among the black it was 4·12. According to the Census in 1861, the population consisted of 2,556 whites, 6,619 coloured persons, and 27,237 blacks.

15. Dr. O'Kearney, the registrar and medical officer of St. John's, reports as follows on the causes of mortality in his district:—"This district is at present free from small-pox, the hospital for reception of persons suffering from that disease having been closed on the 13th of October 1863. The total number of cases which occurred in the parish of St. John from the recognition of the disease on the 19th September 1862 was—

"In my own practice -	1,136
"In Dr. A. Nicholson's -	600
	1,736

"The number of deaths has been 129; the number of children under 10 years of age attacked has been in very small proportion to the whole number, a circumstance to be attributed to compulsory vaccination. In some instances the disease occurred after successful vaccination, in a modified form, and was found very amenable to medical treatment.

"Of the deaths occurring amongst adults most were attributable to pustular eruption of the fauces and commencement of the air passages; in four the proximate cause was delirium tremens brought on by privation of the accustomed stimulants; and in three was owing to complication with syphilis and consequent gangrene.

"It is deserving of remark that though the disease did not prove immediately fatal, I have reason to believe that in many instances in which recovery has occurred it has seriously impaired the constitution of the sufferers, and rendered them an easy prey to diseases of subsequent occurrence, and that, taken in conjunction with long-continued drought and depressed circumstances, a proportion of deaths during the past quarter may be fairly attributed to its remote influence.

"The condition of the labouring class in this district as regards midwifery attendance is deplorable in the extreme; in fact, the question may be well raised whether the poor would not be better left to the resources of nature than committed, during the trying period of child-birth, to the care of the uneducated and mercenary class who make profession of midwifery skill. In the country districts, and also in the city of St. John, the midwives generally belong to a class of persons who from age or infirmity are incapacitated from other work, and who with equal rashness and ignorance too often have recourse to practices incompatible with safety to mother and child. It would be easy to instance cases of examples of bad results of recent occurrence bearing upon the important subject, should such be required.

"Uncleanliness and overcrowding of dwellings, at all times a fruitful source of disease and evils, which act most insidiously in debilitating the human frame, and rendering it incapable of resisting morbific causes, will be found to exist and prevail, as a general rule, throughout the city and country districts where the labouring classes are congregated.

"The weekly or more frequent assemblies at dancing houses, or so called 'rendezvous,' are also prolific sources of immoralities, debaucheries, and disease; and I have no hesitation in attributing many of the still-births in the district to this cause.

"Of cases which have come under my care during this and the preceding quarter, many have been certified by clergymen or magistrates to be poor and destitute, and I have found them in many instances to correspond to the description, and to be to all appearance in want of the necessaries of life; in others so certified I have found them living in apparent comfort and in the receipt of a weekly allowance from the Poor Law Board. Many of the first class alluded to required nourishing diet and domestic care, and necessaries more than medical aid or medicine; yet, so far as I can understand, no power of relieving their wants existed.

"With the exception of the occurrence of some cases of influenza, diarrhœa, and dysentery, the district may be considered generally healthy at present date."

16. Mr. Black, the medical officer for the parish of St. Philip, in his report for the quarter ended 31st December 1863, observes:—

"The labouring population generally are insufficiently fed, are careless of home comforts, and have very imperfect impressions of the absolute necessity and value of fresh air and ventilation for their health and comfort, and when attacked are soon prostrated. I have noticed in the cases of recovery from small-pox that for the want of nourishing food, wine, &c., they remain a long time feeble and languid.

"I think our population suffered, too, from the scarcity of provisions in the dry season."

17. The decrease in the native population since the taking of the Census in 1861 appears to be 1,068, or at the rate of nearly one per cent. per annum. Return No.

18. The introduction into the colony in 1863 of 1,298 immigrants has raised the population to 230 in excess of the last Census returns. But this increase does not, I apprehend, materially affect the calculations in the tables submitted, as the importation of these immigrants was spread over five or six months in the latter part of the year, whilst the corrected population at the beginning of 1863 was but 35,671; the assumption, therefore, of an average population of 36,412 for the year is rather in favour of the colony than otherwise. Return No.

19. After a careful consideration of the returns of the district registrars, I cannot concur in the opinion that the results of the registration table for 1861, 1862, and 1863, showing a decrease in the native population, are caused rather by the deficient return of births (especially in cases of illegitimacy) than by any great mortality among the people. The returns of the district registrars are, I consider, sufficiently accurate to render them valuable, not only for statistical but also for legal purposes. The country districts are not large, and as all the registrars reside within their districts, they naturally possess a knowledge of persons and localities which would enable them readily to discover any important discrepancy in their returns. No doubt is expressed as to the correctness of the returns of deaths. The returns of the Registrar-General of England strongly corroborate the accuracy of the Antigua return of births. The birth-rate for England in 1861 was 1 to every 29 living persons, that for Antigua, in 1863, 1 to every 29·84;* and the return showing that 59 per cent. of the total births registered in 1863 were illegitimate is in itself sufficient evidence that but very few of illegitimate births escape registration.

20. I would also notice that for the seven years from 1857 to 1863 the deaths have been in excess of the births by 869*, that the return for the same period of baptisms and burials registered by the clergy of the several religious denominations in the colony show an excess of burials over baptisms of 732, and that the registered births and deaths have exceeded the registered baptisms and burials by 527 and 673. I can only account for this disagreement in the returns by the supposition, founded on the official reports noted in the margin, that the difference represents to a great extent infants who, from premature birth, neglect, or unskilfulness on the part of the midwives, have died soon after birth, and before the rite of baptism could be administered, and as a consequence do not appear in the registers kept by the clergy. Report of t Registrar-General, Feb. 6, 18 Report of t Committee inquire int sanitary co tion of the Island, Sep 1861.

* * * *

I have, &c.,
(Signed) Edwin D. Baynes,
Colonial Secretary and Registrar-General.

His Excellency Colonel Hill, C.B.,
Governor-in-Chief.

---

* Exclusive of still-born.

The following Table gives the ascertained causes of death among the population of Antigua in 1863 :—

Causes of Death.	Total No. of Deaths.	Centesimal Proportion to total No. of Deaths [1,547].	Complexion. Black. Centesimal Proportion to total Deaths [1,123].	White. Centesimal Proportion to total Deaths [100].	Coloured. Centesimal Proportion to total Deaths [324].
	Excluding Still-born, 187.				
Zymotic, epidemic, endemic, or contagious or eruptive fevers	364	23·529	25·29	13	20·679
Dropsy, cancer, and other diseases of uncertain or variable seat	88	5·688	5·877	3	5·864
Tubercular diseases	175	11·313	9·8	8	17·6
Diseases of the brain, spinal marrow, nerves, and senses	120	7·764	7·747	8	7·716
Diseases of the heart and blood-vessels	50	3·233	3·65	3	1·851
Diseases of the lungs and other organs of respiration	82	5·3	4·896	12	4·629
Diseases of the stomach, liver, and other organs of digestion	271	17·512	16·83	24	17·9
Diseases of the kidneys	7	0·453	0·356	—	0·925
Childbirth, diseases of the womb, &c.	22	1·423	1·246	3	1·543
Rheumatism, diseases of the bones, joints, &c.	14	0·905	0·89	1	0·925
Diseases of the skin, cellular tissues, &c.	48	3·104	3·561	3	1·543
Malformations	1	0·065	0·089	—	—
Premature birth and debility	75	4·849	4·274	3	7·408
Atrophy	30	1·933	1·335	4	3·394
Age	130	8·404	9·88	5	4·321
Sudden	5	0·324	0·356	1	—
Violence, privation, poison, intemperance, &c.	27	1·745	1·246	4	2·777
Still-born	—	—	—	—	—
Causes not specified	38	2·456	2·670	5	0·925
		100·	100·	100	100·

The number of births and deaths, baptisms, and burials from 1857, when the present system of registration commenced, to 1863, will be seen from the following return :—

—	Baptisms.	Registered Births, exclusive of Still-born.	Excess of Registered Births over Baptisms.	Burials.	Registered Deaths, exclusive of Still-born.	Excess of Registered Deaths over Burials.
1857	1,200	1,357	157	1,025	1,188	163
1858	1,139	1,150	11	1,101	1,188	87
1859	1,123	1,208	85	1,002	1,103	101
1860	1,037	1,129	92	1,083	1,175	92
1861	1,095	1,167	72	1,164	1,242	78
1862	947	958	11	1,551	1,624	73
1863	1,121	1,220	99	1,468	1,547	79
Totals	7,662	8,189	527	8,394	9,067	673

Excess of burials over baptisms from 1857 to 1863 - - - - 732

Excess of deaths over births from 1857 to 1863 - - - - 878

The increasing prevalence of concubinage appears from the following return :—

Marriages.

1836	329	1850	168
1840	554	1857	234
1843	484	1863	163

BRITISH GUIANA.

Despatch from Governor Hincks to Mr. Secretary Cardwell.

Government House, Demerara,
5th October 1864.

Sir,

I very much regret that so much delay should have occurred in transmitting the information required by the Duke of Newcastle's circular Despatch of 28th August 1862. I have now the honour to transmit the copy of a letter which I received yesterday from the surgeon-general (Doctor Manget), together with sundry documents as noted in the schedule to this Despatch. Prior to the receipt of the circular I had appointed a commission to inquire and report on the subject, and that commission had taken steps to obtain information through various local authorities. The printed interrogatories were nevertheless extensively distributed immediately after their receipt. The report of the commission was prepared in time to be laid before the combined court in April of this year, and I have had a copy of it some time before me ready for transmission; but as I knew that the queries had been answered by several of the medical gentlemen of the colony, and especially by Doctor Reed, now deceased, but who was surgeon to the Leper Asylum, I deferred transmitting the report until I could send with it all the replies to the interrogatories which had been received. The subject is one of great difficulty, and the surgeon-general's thoughts and attention have of late been so occupied with the yellow fever epidemic that I have been unable until now to get him to send me the replies, together with his own remarks. I lose no time in transmitting all these documents.

4th Oct. 1864.

See Schedule.

A. Sub-Encl. 3. 25th Apr. 1864.

Enclosure C.

I have, &c.
(Signed) F. Hincks.

The Right Hon. Edward Cardwell, M.P.
&c. &c. &c.

Georgetown, 25th April 1864.

We the undersigned, appointed by his Excellency the Governor in the month of June 1862, commissioners to inquire into the "existence and progress of leprosy in this colony," must, before submitting the very meagre information which we have been able to obtain, draw his Excellency's attention to the difficulty attached to the questions which were to be the subject of their investigation,—questions which were such as to preclude from the very beginning any hope of their being satisfactorily answered.

To answer the first question, as to the existence of leprosy in this colony, we have had to rely entirely, save the personal knowledge we have of the prevalence of this disease, on hearsay, and the very imperfect reports of the several district inquirers. These reports, correct as they are as to the number of lepers in the colony, fully support what we apprehended, a natural reluctance amongst the people to admit that the disease existed or had existed in any member of their families, and a determined resolution to keep back information. We hesitate to give the numbers hereafter stated as even approximatively correct. It is, however, certain that leprosy exists in its worst form in British Guiana; and that there are many persons known and unknown who are labouring under this affliction.

The second question, as to the progress of leprosy in this colony, is one which it is evident cannot be answered without some data, as to the number of cases existing at some previous fixed period, being first obtained. Without such data no comparison can be made, no deduction drawn as to its progress.

The question is evidently put to elucidate the correctness of the statement so often made that leprosy was on the increase.

This question "as to its progress" is a hopeless one, and must remain so, unless mere popular clamour be considered sufficient ground to justify the assertion that leprosy has increased within, say, the last twenty-five years. That those who are suffering from this malignant disease expose themselves publicly more than they used to do, there can be no doubt; and it is more than likely that this greater exposure has led to the belief that the disease was increasing as to numbers. We cannot, however, but state that it is our opinion that leprosy is on the increase, although we must express our regret that we have no plausible reason to offer for such an opinion; and, moreover, we much fear that the information respecting the number of lepers now existing will be but a very imperfect statistical record by which to judge hereafter as to the progress of leprosy in British Guiana.

We do not think it is our province, nor is it our intention, to enter upon the "questio vexata" of the contagious or non-contagious nature of leprosy. This question must, however, be settled before any comprehensive and justifiable enactment could be passed for the disposal of the unfortunates who are afflicted with this direful malady. Any sanitary measures, which might be adopted to arrest if possible this loathsome disease, must rest altogether on the question of contagion or non-contagion,—a question to which we are not prepared to give even a qualified answer, notwithstanding the decision at which the Royal College of Physicians of England have arrived at, that leprosy was not contagious.

If leprosy be not contagious, no enactment to enforce separation of the afflicted is required. The disease must be considered and dealt with as with other diseases. Asylums and houses of refuge for the poor who will avail themselves of these establishments must nevertheless be kept up, for it would be but an act of barbarity to admit such persons into any of the charitable institutions where the indigent are received.

If leprosy be contagious, and thereby means be required to prevent contact between the healthy and the unclean, Ordinance No. 10 of 1858 is not sufficient. Complete separation must be enforced, not only by taking up those who expose themselves in the thoroughfares, but also by removing those (a far more numerous and dangerous class) who hide themselves and are the source of the spread of the disease, besides being a nuisance to their neighbours, from whom incessant complaints are received. An Ordinance to enforce the removal and seclusion of those only who are seen in the public thoroughfares would be delusive and lead to no practical good. We are, however, deeply impressed with the almost impossibility of passing and enforcing an enactment, which would lead to the most heartbreaking scenes, and to obstinate resistance on the part of relatives and friends of the afflicted.

Without any reference to the question of contagion, we would strongly recommend that adequate means be immediately taken to enforce the removal of all lepers who are seen in the public thoroughfares to the general asylum.

Every right-minded person will, we are persuaded, join with us in asserting that it is the duty of the public to provide every comfort to those unfortunates who may be separated from family and friends, a separation called for solely for the benefit of the public at large.

We are convinced that if kindness and commiseration were shown to these afflicted persons; if good and cheerful abodes, sufficient and varied food, with perhaps some few indulgences, were allowed to those labouring under this dreadful disease (considered by the great majority of the public as highly contagious), there would be far less reluctance from these persons to become inmates of an institution conducted upon the principles of humanity and sympathy.

We must also strongly impress upon his Excellency the necessity for a more complete separation of the sexes amongst the inmates of the Leper Asylum, as the means hitherto provided fall far short of what is required for that purpose.

At the time when the accompanying reports were received, there were in three counties the following numbers of lepers:—

	Males.	Females.	Total.
Berbice	80	56	136
Demerara	53	32	85
Essequebo	28	25	53
Georgetown	38	26	64
Leper Asylum	96	35	131
Total			469

The number of lepers on estates in Doctor Sheir's report was 90. From this number about one third must be deducted, as those parties have already been entered in the inquirer's returns. Therefore add to the 469 + 60, and we have the total number, as far as we have been able to ascertain, of 529 lepers in British Guiana.

(Signed) E. T. A. Manget,
Surgeon-General.
(Signed) A. Houstoun,
Chairman, Poor Law Commissioners.

Public Hospital, Georgetown,
Sir, October 17, 1858.

The Secretary of State having desired that a Medical Commission should be appointed to inquire into the origin, nature, and history of leprosy in this colony, his Excellency the Governor has been pleased to appoint such commission, composed of Dr. Shier, chairman of the Board of Poor Law Commissioners, Dr. Johnstone, health officer of the city and port of Georgetown, and myself.

I have, therefore, taken the liberty to forward you a copy of the Queries sent by the Secretary of State, and to request that you will kindly co-operate with us in this difficult task, by giving us, before the 1st of January next, your answers to said Queries, and any other information on the subject that you may think

of importance in our researches. We are well aware of the great difficulty and even impossibility of answering many of the Queries, and therefore must apologize for the trouble we may impose upon you.

I remain, &c.

E. T. A. Manget, Surgeon-General,
Chairman of the Commission.

Queries,

To aid a Local Medical Investigation into the Nature, History, and Origin of the Leprosy, said to prevail among the Inhabitants of British Guiana.

1. Does Leprosy prevail indiscriminately among all classes of the population, or does it exist exclusively or chiefly among persons of a particular race, whether white or coloured ?

2. Does Leprosy prevail chiefly or exclusively in particular districts, or in districts possessed of a common character ? *e.g.*

a. Does it prevail chiefly on the seacoast or at inland places ?

b. Does it prevail most in elevated or low-lying situations, and if in low-lying places, whether is the lowness of site absolute in reference to the sea level, or comparative in relation to the surrounding districts ?

c. Does humidity of soil or of atmosphere influence the prevalence of Leprosy ?

3. Are the inmates of particular dwellings more or less liable to Leprosy, according to the character and position of their habitations ? *e.g.*

a. Whether dry or damp ?

b. Whether the floors be below, or on a level with, or elevated above the surrounding surface ?

c. Whether close and confined, or roomy and well ventilated ?

d. Whether or not overcrowded with inhabitants ?

e. Whether clean or dirty ?

f. Whether exposed to or free from malaria or the exhalations arising from any particular kind of decomposing animal matter ?

4. Are the habits of persons liable to Leprosy in any respect peculiar as regards either—

a. Diet ? *

b. Cleanliness ?

c. Dress ?

d. Occupation ? †

5. Does personal hardship,—as exposure to the weather, or privation, as deficiency of food or clothing,—appear to exercise any influence over the production or the development of Leprosy ?

6. What is the proportion of lepers to the population of particular districts, or to the number of persons belonging to the class in which Leprosy chiefly or exclusively prevails ?

7. What proportion do the deaths from Leprosy bear to the deaths from all causes ?

8. What are the symptoms and character of Leprosy as regards the external appearance, and its effect on the general health ?

9. Does Leprosy run through a regular course, and if so, what are its earliest symptoms, and what its subsequent progress ?

10. Does Leprosy manifest any tendency to a spontaneous cure, and if so, at what stage of the disease ?

10 *a*. What is the proportion of cures to the whole number of cases of Leprosy known ?

11. Does Leprosy commonly begin at any particular period of life, and if so, at what age do persons first become liable to it ?

12. Is Leprosy most frequent among males or females, or are both sexes equally liable to it ?

13. Is Leprosy limited to the skin, or does it also affect internal organs, particularly membraneous surfaces ?

14. If internal organs are attacked by Leprosy, what appearances do they present after death ? ‡

15. Is Leprosy frequently fatal, and if so, by what symptoms is the fatal result indicated, and what is the immediate cause of death ?

16. Does Leprosy generally attack persons who have hitherto enjoyed good health, or is it commonly preceded by a period of disordered health, or by some other disease, such as

a. Yaws ?

b. Syphilis ?

c. Secondary syphilis, whether hereditary or acquired ?

17. Does Leprosy show a tendency to attack successive generations of the same family, and if so, does it become developed at a particular period of life ; in persons of both sexes or in one sex only ; and if in one sex only, is this always the same, or does the sex of the sufferers vary in different families ?

18. If Leprosy appears to be hereditary, does it become developed, irrespective of the habits, residence, or occupation of the predisposed, or is it more liable to become developed in consequence of residence in a particular kind of district or dwelling, or of particular habits, diet, or occupation ?

19. If there is reason to consider Leprosy as capable of hereditary transmission, does it also sometimes or frequently occur in persons who cannot have derived the tendency to it either from their immediate or more remote parents ?

20. If Leprosy thus arises, irrespective of hereditary transmission, have the persons in such cases usually been in *immediate* contact with another leper at some time previous to the attack, or in *mediate* contact, as by lying in the same bed or wearing the same clothes ?

21. If a healthy person intermarries with a person who either is already or subsequently becomes leprous, does the healthy person contract Leprosy from cohabitation with the leper ?

22. If there is reason to suppose that Leprosy is sometimes contagious and at other times incapable of propagation by contagion, is the contagiousness exclusively manifested at any particular stage of the disease, or is it only contagious under particular circumstances ?

23. Supposing Leprosy to be sometimes contagious, does it become so only when associated with some other and infectious disease, as itch, yaws, or syphilis ?

24. Specify carefully the course of treatment at present followed in the hospitals of British Guiana ?

Sub-Enclosure A. No. 1.

An Ordinance to establish an Asylum for Lepers, and to provide for their Care and Maintenance therein.

Ordinance enacted by his Excellency William Walker, Esquire, Lieutenant-Governor and Commander-in-Chief in and over the Colony of British Guiana, Vice-Admiral and Ordinary of the same, &c. &c. &c., by and with the advice and consent of the Honourable the Court of Policy of the said Colony.

To all to whom these presents do, may, or shall come, greeting : Be it known—

Preamble. Whereas there is reason to apprehend that the disease called Leprosy has of late years increased in this colony, and it is expedient to make provision for the care and maintenance of persons so afflicted in certain premises at Mahaica which have been pur-

* The kind and quality of the food and drink used by lepers or by the class or race among whom leprosy is most prevalent should here be stated.

† Any peculiarity in the manner as well as the nature of the occupation should be explained.

‡ It would be desirable to append some detailed reports of *post mortem* examinations to the reply to this query.

chased by the Colony for the purpose of there establishing a general Leper Asylum for the colony of British Guiana: Be it therefore enacted by his Excellency the Lieutenant-Governor of British Guiana, with the advice and consent of the Court of Policy thereof, as follows:—

Governor may establish by proclamation a general Leper Asylum at Mahaica.

1. It shall be lawful for the Governor, by proclamation under his hand and seal, to be published in the "Official Gazette" and one other newspaper of the colony, to declare that the premises situate on the west bank of the Mahaica Creek, in the county of Demerara, and recently occupied as a military post, with the lands thereto attached, shall be, according to the extent, limits, and boundaries thereof, as defined by a diagram of the Crown Surveyor deposited in the Registrar's office for the counties of Demerara and Essequebo, a general asylum for lepers for the colony of British Guiana.

Leper Asylum to be under control of the Poor Law Commissioners.

2. The said asylum shall be under the general control and superintendence of the Poor Law Commissioners appointed under Ordinance No. 6 of the year 1855.

Appointment and salaries of officers.

3. It shall be lawful for the Governor to appoint a medical practitioner, a resident superintendent, and a sufficient number of nurses and attendants for such asylum, with such salaries and allowances respectively as the Governor and Court of Policy, with the financial representatives in combined court assembled, shall from time to time vote for such purpose.

Ward for patients capable of paying.

4. The Poor Law Commissioners shall set apart one or more wards of the asylum for the accommodation of persons afflicted with leprosy who, not requiring gratuitous relief, may be desirous of becoming inmates of the asylum, and such wards shall be kept distinct from the other wards of the asylum, and any person afflicted with leprosy producing a recommendation from any justice of the peace and paying in advance such monthly sum as shall be from time to time agreed upon between such person and the Poor Law Commissioners, shall be admitted into the said asylum, and shall be entitled to receive and enjoy all the advantages of patients in said asylum.

Admission of paupers afflicted with leprosy.

5. From and after such proclamation aforesaid, every person resident in this colony afflicted with leprosy and requiring gratuitous relief shall, on his or her application to the medical practitioner of the asylum, or on the order of the Poor Law Commissioners, or any two justices, made on the application of any person so afflicted, be entitled to admission into and be received as an inmate of such asylum, free of charge.

Leper exposing his person in any public place may be summoned before a stipendiary or special justice.

6. From and after such proclamation, it shall be lawful for any stipendiary or special justice of the peace, upon information on oath of any credible witness that any person afflicted with leprosy has been seen wandering about begging or collecting alms, or seeking precarious support, or exposing his or her person in any public road, street, or place, to summon such person to appear before him, or if he shall think it necessary such justice shall issue a warrant under his hand, directed to any constable or officer of police, authorizing and directing such constable or officer of police to cause any such person to be brought before him at a time and place to be specified in such summons or warrant.

On the hearing of the case, justice empowered to make an order of removal to the asylum.

7. If upon the hearing of the case it shall be made to appear to the satisfaction of the said justice, upon the oath of any medical practitioner duly admitted to practise in this colony, that such person is afflicted with leprosy, and if it shall be made further to appear upon the oath of some credible witness that such person has been seen wandering abroad begging or collecting alms, or seeking precarious support, or exposing his or her person in any public road, street, or place, then it shall and may be lawful for such justice, unless security be given as herein-after provided, to make an order, directed to any constable or officer of police, and to the resident superintendent of the Leper Asylum, ordering and directing such constable or officer of police to remove and convey such person to such asylum, and authorizing and directing the resident superintendent to keep and detain such person as an inmate of such asylum, until he or she shall be discharged by order of the Governor, as herein-after mentioned.

No such to be m security for the t ment of leper in

8. If upon the hearing of the case, the person so afflicted, or any one on his behalf, shall give security to the Poor Law Commissioners, by a bond to their satisfaction to the extent of ninety-six dollars, that such person shall be properly maintained and treated in private, and shall not be suffered to be at large or to endanger the public health, the said justice shall abstain from making an order of removal.

Leper, v cured, t discharg the asyl

9. Whenever it shall appear to the medical practitioner of the Leper Asylum that any inmate thereof may be discharged without danger to the public health, such medical practitioner shall certify the same to the Governor; and thereupon it shall and may be lawful for the Governor to direct that such person shall be discharged.

Leper, a not cure be disch on givin curity fo treatmer private.

10. If at any time any inmate of the said asylum, although not cured, or any person on his behalf, shall give security to the Poor Law Commissioners, by a bond to their satisfaction to the extent of ninety-six dollars, that such inmate shall be properly maintained and treated in private and shall not be suffered to be at large or to endanger the public health, the said Commissioners shall forthwith report the same to the Governor and obtain his order for the discharge of such inmate from the said asylum.

Power o peal to a of the Se Court.

11. In case any person ordered to be removed to such asylum, or in case any person detained therein, shall at any time be desirous of appealing from such order or such detention, such person may present a petition for appeal to any one of the Judges of the Supreme Court of the colony, without charge or expense, which Judge shall have full power and authority to inquire into such appeal and to cause such witnesses to be examined before him as he may consider necessary, and thereupon to make such order for the discharge of such person from the said asylum, or otherwise, as he may consider meet.

* * * * *

Punishm any pers assisting abetting removal inmate o asylum authority

13. If any person shall aid, assist, or abet any inmate of the Leper Asylum in removing or attempting to remove therefrom before he shall have obtained the order of the Governor for his discharge, every such person shall be guilty of a misdemeanor, and shall be liable, on conviction, to a fine not exceeding ninety-six dollars, or to imprisonment, with or without hard labour, not exceeding three months, or to both such fine and such imprisonment with or without hard labour; and all prosecutions under this section shall be instituted in the name of the Poor Law Commissioners, and may be heard and determined by the Inferior Court of Criminal Justice for the county of Demerara.

Punishm case of w employm any leper sale of fo

14. No person afflicted with leprosy shall be in any way employed, whether for hire or not, in the preparation for sale or in the sale of any article of human food, and in case any such person shall be so employed the person knowingly employing him shall be guilty of a misdemeanor, and shall be liable, on conviction, to the same punishment by the aforesaid Inferior Court of Criminal Justice as is provided in the preceding section.

* * * * *

When O nance to effect.

21. This Ordinance shall come into operation and take effect on the publication thereof.

And that no ignorance may be pretended of this our Ordinance, these presents shall be printed and published in the customary manner.

Thus done and enacted at our adjourned assembly, held at the Guiana public buildings, Georgetown, Demerara, this twenty-second day of March One thousand eight hundred and fifty-eight, and published on the twenty-fourth following.

WILLIAM WALKER.

By command of the Court.

J. GARDINER AUSTIN,
Acting Secretary.

MAURITIUS.

DESPATCH from Sir H. BARKLY to the Duke of NEWCASTLE.

Mauritius.

MY LORD DUKE, 5th January 1864.

YOUR Grace's Circular Despatch of the 28th August 1862 having been brought under my notice amongst the other subjects which were under the consideration of the Government at the time of my arrival, I immediately made inquiries as to the causes of the delay which had occurred in following up an inquiry which appears likely to be of such vital importance to the welfare of the inhabitants of this and other tropical colonies.

2. I was surprised to hear from the chief medical officers that but little interest had been displayed by the medical men of the colony in the investigation, and that he had been as yet unable to obtain answers to repeated references which he had made to them upon the subject.

Enclosure. Dr. Gordon to Colonial Secretary, No. 127-28-12, 63, (and enclosures).

3. He has since then, however, placed in my hands the replies which I now enclose, from five out of seventeen medical practitioners who were invited by him to offer their opinion, and though I shall hope to be able yet to obtain further information upon the subject, I think it is better at once to forward that which I have received, as the result of the experience of these gentlemen, for in the absence of any properly verified statistics, it is, I fear, unlikely that any very valuable addition will be made by this colony to the data which the College of Physicians are collecting for the purpose of their proposed report.

4. It will be seen that no public institution exists, or has ever existed in Mauritius for the reception of lepers, and it would appear comparatively useless to found one now, unless under far more stringent regulations—even if seclusion therein were not made compulsory—than could be adopted consistently with the present position of the population.

5. In the West Indies the lazarettos were everywhere abandoned as soon as emancipation took place.

6. A private institution, the hospital of St. Lazare, is carried on under the benevolent auspices of the sisters of charity, and the replies of Dr. Regnaud, its medical attendant, show that no less than 52 patients are at present under treatment in it.

7. Fortunately, however, leprosy has not increased in this island, according to the evidence now forwarded, nearly in proportion to the increase in the number of its inhabitants, notwithstanding the fact that a large part of the addition has been from India, where it is still very prevalent among the natives.

8. This is probably attributable to the greatly improved condition of the Mauritius labourer of late years, and it affords ground, I trust, for hoping that with more generous diet and cleanlier personal habits this loathsome disease will gradually die out here as it has done in modern days throughout Europe.

I have, &c.

His Grace (Signed) HENRY BARKLY.
The Duke of Newcastle, K.G.
&c. &c. &c.

Documents relating to Leprosy in the Island last century.

LÈPRE. An 8.

Isle de France.

Hôpital de la République.

Extrait du Registre des Procès-verbaux déposé au Bureau de l'Hôpital.

En présence de Messieurs les Chefs de la Colonie.

Aujourd'hui, 4 Septembre 1781, en vertu des ordres de M. Chevreau, Intendant des Colonies, aux Isles de France et de Bourbon, nous, Commissaire des Colonies, préposé au détail et inspection des Hôpitaux du Roi en cette île, avons convoqué l'assemblée à l'Hôpital de Sa Majesté en ce port, de l'officier d'administration chargé du détail des dits hôpitaux, de l'aumonier, des médecins, du chirurgien-major, des chirurgiens aides-majors, des apothicaires-majors, et de la supérieure de sœurs hospitalières chargeé de la manutention des effets du dit hôpital, pour, en présence de Messieurs les Chefs de la Colonie, ainsi qu'en présence de MM. Mellis, commissaire-général, Heriard, contrôleur aux dites îles, rendre compte chacun en ce qui concerne de la situation des malades, et de l'état des réparations jugées nécessaires et ordonnées suivant le procès-verbal d'assemblée de premier Août dernier, à quoi procédant, tous ont unanimement dit, quant à la situation des malades, que leurs observations sont les mêmes que celles constatées par le sus-dit procès-verbal relativement aux aliments, aux remèdes et médicaments, aux bons soins, à la police et au bon ordre ils ajoutent que les anciens ulcérés et convalescents se rétablissent promptement et parfaitement à l'Hopital de la Grande Rivière.

Ensuite l'officier d'administration chargé du détail des hôpitaux aurait observé que l'on travaille actuellement à la réparation des planchées des salles du dit hôpital.

Qu'on n'a point encore commencé les réparations des latrines et de la cour, non plus que le mur devant servir de clôture à l'avant-cour, et la salle des morts, dont la confection devait être donnée à l'entreprise.

Qu'il avait aussi ordonné que le laboratoire de pharmacie de l'hôpital serait agrandi, qu'on n'a pas encore commencé.

Qu'il est indispensable d'établir des vieilles aux fenêtres de la salle des vénériens qui font passer des boissons, aliments ou fruits par les barreaux des dites fenêtres, ce qui rend en partie inutile la précaution prise de les renfermer.

A quoi Messieurs les Chefs ont dit que les réparations et autres travaux seraient rappelés à Monsieur l'Ingénieur-en-chef pour s'en occuper selon les moyens qui lui restent en ouvriers et matériaux.

Les médecins et chirurgien-major auraient chacun lu un mémoire tendant à prouver que la maladie dont quelques blancs et quelques noirs de cette colonie sont attaquées, et qu'on nomme lèpre, n'est point celle des anciens, que c'est mal-à-propos qu'on s'en alarme, qu'elle n'est point communicative, et qu'elle peut être regardée comme un mélange des maux vénériens, scorbutiques, scrophuleux et dartreux négligés par les gens qui en étaient, ou en sont attaqués, ou qui ont résisté aux secours de l'art.

Messieurs les Chefs, satisfaits de l'exposé de ces deux mémoires, ont decidé qu'il en serait inséré un extrait dans les feuilles de la Gazette pour tranquilliser le public sur les alarmes.

Aucun autre officier de l'hôpital n'ayant rien eu à exposer ni proposer, nous avons dressé le présent procès-verbal qu'ont signé avec nous les principaux officiers du dit hôpital, et que Messieurs les Chefs ont visé pour servir et valoir ce que de raison.

Fait en la salle d'assemblée à l'Hôpital Royal au Port Louis, de l'Ile de France, les jours, mois et an que dessus. (Signé) SŒUR, VOLLANFANTS, GRENI, ROCHARD, BECANE, AUSERMES, DESCHAMPS, HÉRIARD, et DÉCHAUVALON et MÉLIS.

Au bas est écrit :

Vu par nous Intendant des Colonies aux Iles de France et de Bourbon. (Signé) CHEVREAU.

Mémoire présenté et lu à la dite Assemblée par le Chirurgien-Major.

Messieurs,

Le bien qui vous anime pour l'intérêt du Roi par une administration sage et prudente ne vous laisse rien oublier pour le bonheur des sujets confiés à vos soins, et vos vues de bienfaisance pour seconder les intentions du Roi s'étendant sur des malheureuses victimes du sort, votre pitié et votre compassion vont jusqu'à chercher les moyens de leur procurer des secours et des asiles, pour n'être en spectacle à leurs semblables qu'ils sont déjà obligés de fuir, afin de leur épargner le dégoût de voir une maladie hideuse, et de ne leur plus laisser la crainte de la communication.

Cette maladie pour laquelle vous prenez le plus grand intérêt, qu'on nomme ici la lèpre, est l'objet des recherches que vous m'avez ordonnée de faire pour connaitre seulement la quantité de blancs ou de noirs qui s'en trouvaient attaqués, de vous en rendre compte et d'y ajouter mes réflexions.

Suivant le rapport de MM. les chirurgiens traitans dans l'ile, qui ont répondu à la lettre circulaire que je leur ai écrite, il existe dans cette île douze blancs et cinquante neuf noirs, sans compter douze qui ont existé soit disant abandonnés à leur malheureux sort.

Malgré ce petit nombre, qui se trouve de beaucoup inférieur à celui dont on vous avait fait le récit, ce ne serait pas moins un objet intéressant que par des ordres expresses vous forciez ces malheureux d'abandonner ce séjour, s'il avait du danger pour la communication et la propagation.

C'est un problème à résoudre si cette maladie est réellement la lèpre, si elle se communique, pourquoi elle accroit : ce ne peut être qu'après le plus mûr examen, et la plus scrupuleuse attention des gens de l'art de guérir, qui puissent s'en assurer, et qui ayant bien reconnu, 1° l'état des malades, 2° le genre de malade, 3° la cause qui la produit, 4° si on doit la regarder comme curable ou non.

Heureusement la lèpre décrite par les anciens, celle qui était communicative et contagieuse, désignée par le mot Eliphantiasis. est éteinte parmi nous depuis 3 à 4 siècles ; ce n'est que par des traditions, que nous en avons connaissance, qui se sont perpétuées jusqu'à nous et se perpétueront tant qu'il y aura des plumes et de presses même dans les siècles à venir, mais comme toutes les maladies dégénèrent, celle dont il est question ayant une fausse analogie à l'ancienne, on la désigne aussi sous l'ancien nom générique de la lèpre.

Ce serait l'objet d'un très grand travail d'un homme consommé à écrire, sur une maladie aussi épineuse qui celle-ci, surtout lorsqu'il est question de séquestrer des malheureux sous la simple idée que ce mal est communicatif, vous auriez de justes sujets de craindre, Messieurs, pour la colonie, les suites fâcheuses qu'elle pourrait entrainer, et qu'avec les sentiments d'humanité qui vous conduisent, on ne vous reprochât de n'être pas venus à temps, arrêter le progrès d'un fleau qui le serait pour quelque pays habité que ce soit ; mais puisque vous m'avez ordonné de m'en instruire, et de vous en rendre un compte exact, suspendez, je vous prie, votre jugement, avant de prononcer sur une maladie dont le nom seul fait horreur.

De la Lèpre des Anciens.

La lèpre, qui est une maladie de la peau qui l'intéresse en tout ou en partie, qui attaque les muscles, les os, occasionne des atrophies, ankyloses, perte de phalanges des extrémités tant supérieures qu'inférieures, forme sur la peau des tubercules rouges, farineux, souvent suppurans, d'odeur à alkali très fœtide. La peau souvent découpée en long, en travers, son siège le plus ordinaire est à la face, au cuir chevelu, aux oreilles, au nez, qui deviennent ou ulcéreux ou chancreux ou farineux, avec perte d'une ou de plusieurs de ces parties.

Elle se communique couchant ensemble dans le même lit, respirant le même air, dans la même chambre, se servant des mêmes hardes, des mêmes vaisselles, des alimens touchés ou préparés par des lépreux, c'est à peu près la description des ancêtres *si elle a existé*, sans compter qu'elle était manifestement héréditaire jusqu'à génération très reculées.

Les causes qui l'ont produite nous seront inintéligiblement transmises, et on ne peut guère asseoir un raisonnement certain. Le plus positif est que ces maladies reconnus tels étaient fuis et abandonnés comme il y a encore quelque pays ou on en fait autant, sans essayer d'y porter d'autres remèdes que l'éloignement de la société pour ces malheureux.

De la Lèpre de l'Isle de France.

La lèpre que je cherche à décrire est également comme celle des anciens par rapport à la couleur, aux tubercules rouges suppurants et farineux ; je n'y ajoute point des nodosités aux muscles, aux aponeuroses, aux tendons des exostoses, et perte de phalanges, c'est une maladie compliquée qui est d'un genre différent.

Son siège est également à la face, au cuir chevelu, aux cuisses et aux extrémités, tant supérieures qu'inférieures.

Les causes sont des gales, des dartres, du schrophul, de la vérole et de scorbut traités sans soins, sans préparations, sans dépurations, sans évacuations, seulement palliés avec des topiques qui ont répercuté l'humeur dans la masse du sang lorsque la nature cherchait à s'en débarrasser au dehors. De l'assemblage de plusieurs de ces vices nait une maladie qui porte un caractère différent de chacune de ces causes en particulier.

Cette maladie n'est point ici communicative d'après le rapport des gens de l'art qui l'ont suivie avec soin : un mari ou une femme, l'un ou l'autre attaqués de cette maladie, habitent ensemble, ont des enfants, celui qui est infecté de ce vice ne le transmet point à l'autre ni aux enfants issus de leur commerce ; il arrive cependant quelquefois qu'un ou deux de ces enfans en ayant quelque marque ; il faudrait être bien assuré qu'aucune autre cause que ce virus transmis à l'enfant ne tire pas son origine d'ailleurs ; si ce ne serait pas d'un mauvais lait sucé, et impregné de quelques virus, ou si la nature des alimens, en égard à la faiblesse des estomacs des enfans, ne pourrait pas de lui-même attaquer et vicier le sang, conséquemment la lymphe qui pourrait être le siège de ce mal.

Pour bien juger si cette prétendue lèpre est communicative il faut être bien sur qu'elle ne soit pas curable. L'expérience multipliée des chirurgiens qui ont traité ces sortes de maladies prouve évidemment qu'il y a des moyens de guérir. Un de ces messieurs dit en avoir traité douze, avoir reussi sur onze ; un seul a résisté aux remèdes. Beaucoup d'autres en ont guéri et en guériront encore, s'ils pouvaient fournir aux malades les alimens propres à rétablir la masse du sang, jointes aux remèdes employés sous différentes formes.

Il pourrait bien être arrivé que lorsque cette maladie a été nommé lèpre que le préjugé, qui de tout temps l'a fait regarder comme communicative et contagieuse, on ait abandonné ces gens à leur malheureux sort, sans secours presque pour la vie animale, les secours de l'art et les vêtemens ; c'est aussi ce qu'un chirurgien rapporte dans la lettre que depuis quinze ans il en a eu connaissance de douze qui ont été abandonnés et tout péris : la grande répugnance qu'on a eu pour une telle maladie a bien pu faire taire l'humanité.

Elle n'est pas communicative, parcequ'il n'y a pas d'exemple d'un maître ou d'une maîtresse attaqués de cette maladie, et dont leurs esclaves obligés de les habiller, déshabiller, laver leur linge, manger souvent les restes de leur repas, ont été atteints de ce mal. Sa communication git donc dans l'imagination, et on

peut aisément rassurer la colonie, malgré que le nombre de ces lépreux soit augmenté.

Vous me demanderez peut-être, Messieurs, pourquoi cette maladie, qui n'est point communicative, s'est accrue si considérablement, et qu'il y a vingt ans qu'a peine on en connaissait un. La question serait difficile à résoudre, si je n'avais pour moi le même sentiment que j'ai eu plus haut ; l'émigration des différents pays que s'est faite depuis ce temps, des noirs et négresses de Madagascar, dont la plus grande partie sont attaqués de schrophul et de variole; des Indiens et Indiennes de dartres, de gale et de variole; des Mozambiques de gale et de variole, tous d'un traitement très long et très couteux, qui souvent deviennent très onéreux au maitre ; ajoutez à cela l'indocilité des malades qui ne veulent pas s'abstenir à un régime et aux rémedes propres à diminuer dans les premiers temps le principe de leur maladie.

La facilité que le climat donne et le genre de vie qu'on mène ici, la communication des deux sexes et le changement varié parmi les esclaves, doit nécessairement vicier les humeurs au dernier degré. Il faut donc regarder cette maladie, non comme un mal sans remèdes, et apporter seulement ses soins à donner de soulagement à ces malheureux, avant qu'ils ne parviennent à un dégre incurable, ainsi qu'il arrive dans presque toutes les maladies; le schropul, la vérole et les chancres nous sont des preuves que les maladies portées au plus haut période échappent à nos soins qui deviennent infructueux.

J'éspère de ce que je viens d'avoir l'honneur de vous représenter que la soi-disant lèpre de cette ile n'est pas plus dangereux que la gale, les dartres, le schropul, la vérole qui l'est beaucoup plus, la teigne, la pierre, le goitre, et le cancer.

Je soumets d'ailleurs mes réflexions au jugement de Messieurs les médecins et chirurgiens du Roi. Si je n'ai pas rencontré juste, je ne croirai pas avoir démerité si on me prouve physiquement que je me suis égaré ; quand on travaille de bonne foi pour l'humanité on ne peut craindre de dire ce qu'on pense.

Au Port Louis, Ile de France, le 4 Septembre 1781.

(Signé) Deschamps.

Mémoire présenté à la dite Assemblée par le Médecin: Recherches sur une Maladie connue sous le nom de Lèpre de l'Ile de France.

La maladie désignée sous le nom de lèpre dans cette ile n'a de commun avec celle des anciens que d'attaquer la peau et de résister à tous les remèdes qu'on lui oppose.

Elle n'en a pas la contagion, puisque même, dans l'état de mariage, elle respecte celui des deux qui n'en a pas l'impression ; transmise seulement par le sang, elle présente les mêmes caractères que le virus schropuleux et psorique, et parait être aux pays chauds et maritimes ce que ceux-ci sont aux pays froids et temperés. Les bords de la mer étant plus infesté que les autres lieux de cette maladie, on pourrait déduire les causes qui la produisent, du levain scorbutique poussée à son dernier période, uni aux dartreux, la manière de vivre commune aux habitants des côtes de tous les pays. L'usage de poisson salé, celui de cochon qui de tous les temps a été regardée comme capable de donner des maladies de peau, raison qui l'a fait ranger dans la classe des immondes par les législateurs qui ont cru devoir ajouter à la pureté de l'âme celle du corps encore plus utile à la santé des citoyens ; joignez à cela l'intempérance des boissons spiritueuses et on aura les causes qui constituent le plus à son developpement, et il serait aussi difficile de l'anéantir que les vices, les régimes et les circonstances qui y donnent lieu.

Les Juifs isolaient les lépreux autant pour seconder la vengeance du ciel qu'ils croyaient se déployer sur eux, que dans la crainte de leur communication, prevenues comme ils l'étaient que l'Etre Suprême désignait, par quelques désastres, les hommes qu'ils vouaient à l'anathème.

Des temps plus éclairés ont vengé l'humanité des attentats exercés contre elle dans les siècles de superstition, et nous ne punissons plus les hommes des malheurs de leur tempérament et des circonstances qui ont ruiné leur santé ; nous adoucissons leurs maux quand ils sont incurables, et il faut des circonstances extrêmes pour isoler des individus afin de prévenir la contagion. Je ne crois pas la maladie dont il s'agit assez dangereuse et de communication assez facile pour exiger ce sacrifice.

J'ai donné mes soins à plusieurs de ces malades; leurs domestiques et ceux qui avaient le plus de relation directe avec eux étaient très sains : je regarde comme causes les alarmes suscités à ce trajet. J'ai habité des iles de la côte de Bretagne ; plusieurs habitants sont sujets à cette maladie. La côte de l'Inde offre aux yeux le même spectacle. La caste des parias compte beaucoup de cette espèce de lépreux, et la Chine dont nous admirons la police en fourmille.

D'après cet exposé on peut conclure que dans différents pays la même manière de vivre, et les mêmes circonstances produisent les mêmes maladies, et qu'il n'est pas plus possible d'extirper cette espèce de lèpre que la gale, le scorbut, les écrouelles, et le vice vénérien qui, séparement, tourmentent, les deux tiers du monde connue, puisque ces maladies tiennent au régime, aux vices de la société, autant qu'à la communication immédiate des individus.

La maladie dénommée lèpre dans cette colonie peut donc jouir de la tolérance dont jouissent celles que nous venons de nommer très communicatives et bien plus nuisible à l'espèce humaine.

Au Port Louis, Ile de France, le 4 Septembre 1781.

(Signé) Rochard.

Pour copie conforme à l'original deposé au bureau de l'hôpital.

(Signé) F. Bigaijudre.

Assemblée Coloniale.

No. 726.

4 Ventose, An 8.

Maladie de Lèpre.

Séance du 4 ventose, au soir, an 8.

L'assemblée coloniale délibérant sur les diverses petitions à elle adressées au sujet des progrès que fait dans cette colonie la maladie appelée vulgairement lépre, et voulant á cet égard calmer les vives inquiétudes des citoyens, a arrêté et arrête.

Art. 1.

Dans quinzaine à compter de la promulgation du présent arrêté les officiers de santé exerçans seront tenus et les officiers de santé ayant exercé sont invités à donner leurs opinions motivées sur la maladie appelée vulgairement lèpre dans cette colonie.

Art. 2.

Aussitôt la réception du présent arrêté, les municipalités de chaque canton de l'île le notifieront aux dits officiers de santé domiciliés dans leur arrondissement à l'effet de s'y conformer.

Art. 3.

La notification faite les dits officiers de santé donneront séparément et par écrit leurs opinions sur la susdite maladie en repondant aux questions suivantes :

1re Question.—La maladie appelée vulgairement lèpra dans la Colonie est-elle véritablement une lèpre ?

2me Question.—Quelle que soit cette maladie, est-elle contagieuse ou non ?

Art. 4.

Les avis par écrit et signés des officiers de santé sur les questions ci-dessus seront donnés par eux sous cachet aux municipalitiés dans leurs cantons, qui les feront parvenir en cet état au Directoire, lequel les adressera de suite à la commission intermédiaire.

Art. 5.

Tout officier de santé exerçant qui refuserait de donner son avis sera puni par la privation des droits de citoyen actif pendant deux ans.

Art. 6.

Les municipalités seront chargées d'employer les moyens les plus prompts pour l'exécution du présent arrêté.

Et sera le présent porté a la sanction du Gouverneur Général, lu, publié, imprimé et affiché dans le plus bref délai. (Signé) BESTEL.

Par l'assemblée Coloniale,
(Signé) F. A. CHANAL.

Plus bas est écrit :

Je consens, et ferai exécuter suivant la forme et teneur au Port N. O. Ile de France le 6 ventose, an 8 de la République Française une et indivisible.

Le Gouverneur Général. (Signé) MALARTIC.

Transcrit par moi, greffier du tribunal d'appel de l'Ile de France soussigné, oui et ce requérant le commissaire national au désir de l'arrêt de ce jour, 7 ventose, an 8 de la Republique Française une et indivisible.

(Signé) AUFFRAY.

No. 741.
Messidor, An 8.
Lèpre.

ASSEMBLÉE COLONIALE.

Séance du huit messidor, au matin, an 8.

L'assemblée sur le rapport fait à la commission intermédiaire par la municipalité du Port Nord Ouest, relativement au progrès d'une maladie appelée lèpre, et sur le danger qui résulte de laisser vagabonder les rues et les chemins les individus attaqués de cette maladie :

Arrête qu'elle charge le Directoire et la municipalité du Port Nord Ouest de s'entendre avec les administrateurs généraux à l'effet de déterminer un local convenable et sur, soit à l'hôpital, soit ailleurs, pour servir de réclusion aux individus qui sont attaqués de la lèpre :

Il est enjoint à toutes les municipalités de la colonie de faire arrêter tous individus attaqués de cette maladie qui seront rencontrés dans les rues et chemins pour être reclus dans le lieu qui aura été designé :

Et sera le présent porté à la sanction du Gouverneur Général, vu, publié, imprimé et affiché dans le plus bref délai.

(Signé) A. CHAUVET,
Président.

Par l'assemblée coloniale,
(Signé) R. DEMMEREN,
Sécrétaire.

Plus bas est écrit :

Je consens, et ferai exécuter selon la forme et teneur au Port Nord Ouest, Ile de France, le neuf messidor l'an huit de la République Française une et indivisible.

Le Gouverneur Général,
(Signé) MALARTIC.

Transcrit par moi, greffier du tribunal d'appel de l'Ile de France soussigné, oui, et ce requérant le commissaire national au désir de l'arrêt de ce jour, 15 messidor, an 8 de la République Française une et indivisible.

(Signé) AUFFRAY.

No. 742.
Messidor, An 8.
Lèpre.

ASSEMBLÉE COLONIALE.

Séance du huit messidor, au matin, an huit.

L'assemblée, sur la proposition de la commission intermédiaire, arrête que tous les Officiers de Santé exerçant ou qui ont exercé dans la colonie, sont tenus de faire parvenir dans le délai de quinze jours, et sous cachet, à la commission intermédiaire, le nom et la demeure de tous individus quelconques qu'ils auront reconnus être atteints de la maladie appelée lèpre ; de déclarer en même temps les circonstances de cette maladie qui peuvent être parvenus à leur connaissance, ses progrès sur chaque individu, et la manière dont ils ont été atteints de cette maladie, et si c'est par contagion ou génération.

Les contrevenants à la présente loi seront punis d'un mois de prison et de cent piastres effectives d'amende, au profit de la commune générale, et du double en cas de récidive.

Le présent sera porté à la sanction du Gouverneur Général ; lu, publié, imprimé et affiché dans le plus bref délai.

(Signé) A. CHAUVET,
Président.

Par l'Assemblée Coloniale,
(Signé) N. DEMMEREN,
Sécrétaire.

Plus bas est écrit :

Je consens, et ferai exécuter selon la forme et teneur.

Au Port Nord Ouest, Ile de France, le neuf messidor l'an huit de la République Française une et indivisible.

Le Gouverneur General,
(Signé) MALARTIC.

Pour copie conforme :
Le Gouverneur Général,
(Signé) MALARTIC.

Transcrit oui, et ce requérant le commissaire national au désir de l'arrêt de ce jour, 15 messidor, an 8 de la République Française une et indivisible.

(Signé) AUFFRAY.

MADAGASCAR.

The following extracts are from "An Account of Tubercular Leprosy in the Island of Madagascar," by Dr. Davison, founded on the notes of nearly a hundred cases of the disease treated in the dispensary at Antananarivo during 1862.

THE progress of tubercular leprosy may be divided into three stages. The first characterised by the appearance of spots, the second by tubercles, and the third by ulceration or falling off of the members. These three stages may co-exist simultaneously in different parts of the body ; thus, leprous spots may be seen on the trunk, tubercles on the face, and ulceration may be going on at the extremities.

The disease usually begins so insidiously that the patient is unable to state the precise period of its commencement. He probably discovers accidentally a small patch of his skin presenting a tint different from the rest of the body. Such spot may be seated anywhere, very frequently about the back or shoulders. It may be of any shape, but it is generally oval or circular, and varies in size from that of a sixpence to the palm of the hand. The first change in the colour is to a light brassy tint which, as the disease advances, becomes more distinct. The texture as well as the colour of the skin soon is affected. It becomes cracked, fissures running across the spots in all directions. The hairs upon the part become yellow and stunted, and after a time fall off, leaving the hair-bulbs empty, patent, and enlarged, especially on the face, so as to present one of the most diagnostic signs of the malady. So characteristic is this of leprosy, either as a latent diathesis or a developed disease, that I have never known a leper who did not present it ; nay more, I have often been able, from this condition of the hair follicles alone, to recognize members of a leprous family in whom the disease was yet latent.

The affected skin acquires a greasy look, as if it were glazed or varnished, and ceases to be perspirable. From an early period the spots become thickened, but are not at first elevated above the surrounding healthy skin. This thickening depends upon effusion into the subcutaneous cellular tissue. As the disease advances, the true skin becomes the seat of effusion, and is felt to be slightly elevated to the touch.

Sensation is at first heightened; slight wandering pains, and formication or itching may be felt over the body, or in the affected parts only. After a few months, this hyperæsthesia gives place to anæsthesia; thus it not unfrequently occurs that one or more of the older spots are decidedly numb and feelingless, while there is excited sensibility in the more recent ones. Some writers describe as a distinct variety a lepra anæsthesiaca; but anæsthesia is present more or less in every instance.

The second or tubercular stage supervenes upon the first with various degrees of rapidity, sometimes within a few months, at others after the lapse of years. The tubercles, usually of a dusky colour, smooth and distinct, begin to show themselves on the face. The lobes of the ears are thickened and irregular, and the whole external ear curved forwards toward the cheeks. The alæ of the nose grow heavy, the nostrils dilating, and the nose becoming flattened and studded with tubercles. The lips swell and are livid, the lower one more so than the upper, and the chin is lengthened and mishapen; the whole face bagged or puffy. The hands are livid as if from cold, the fingers swell, the arch of the foot becomes flattened by leprous effusion beneath the fascia. In fact, tubercles may appear in any part of the body, although they are most common in the situations mentioned. They affect also more or less the mucous surfaces. In the nose they give rise to difficulty of breathing and ozæna; in the larynx and trachea to laboured respiration, husky voice, and occasionally to aphonia.

As these changes are going on, ulceration begins to take place, commencing generally on the hands or feet. These become livid as if half frozen; the temperature is really lower than that of health. The nails grow dry, shrivelled, and fall without pain. Tubercles burst in succession, discharge a thin watery matter, and after a time dry up. Other ulcers form on the fingers close to the joints, and deep until the joints, already infiltrated by leprous effusion, their vitality all but extinguished, drop off. After the part falls away, the ulcer heals over for a time; thus member after member dies as it were on the yet living body, leaving the sufferer as helpless to himself as he is loathsome to those who have to minister to his wants.

The fatal termination in leprosy is often owing to some affection of the respiratory organs.

Dr. Davison relates numerous instances which prove the frequently hereditary nature of the disease.

Leprosy occasionally remains latent for at least one generation, and reappears in the next, as in the case of Manakavana, whose own parents were healthy but whose grandmother and sister were lepers. In all such instances, however, the leprous diathesis may be recognised in those who escape the fully developed disease. The signs of this diathesis are falling of the hair of the cheeks, and a patent condition of the hair follicles—loss of hair from the outer angle of the eyebrows—enlargement of the lobes of the ears—mental and physical torpitude.

Where a liability to the disease exists, exposure, overwork, grief, poor or bad diet, cold and damp, imprudence and debauchery, form determining causes; and, when it has taken hold of the system, these circumstances powerfully tend to aggravate it. As men are more exposed to the operation of these causes than women, we may account for the fact that women are less liable to the disease than men, and the well-to-do members of society than the poverty-stricken; while sobriety and care will tend to prevent its development or render its progress slower and milder.

The disease is looked on as a disgrace, and few will admit that it is real leprosy from which they suffer.

In the vast majority of cases an hereditary taint may be discovered.

The disease cannot be highly contagious in the ordinary sense of the word; for we constantly see husbands suffering from the disease living for years with their wives without communicating it, and vice versâ. It certainly deserves notice that, while the laws of Madagascar excluded leprous persons from society, the disease was kept within bounds; but after this law was permitted to fall into disuse, it has spread to an almost incredible extent. There is no doubt that this result is partly owing to lepers being allowed to marry without any hindrance, but the natives are also strongly impressed with the conviction that the disease is inoculable. Upon this point my cases cast no light.

In Madagascar there are a number of different races of all shades of colour, from the pure Negro to the Hovah, whose complexion is not darker than a native of Spain. These occupy widely varying climates. The central provinces, from their great elevation, have a temperate climate similar to that of the south of France. The climate of the plains, on the other hand, is tropical, and towards the north excessively warm. The circumstances and modes of life of these races are as varied as their origins and the nature of the localities in which they reside. Yet leprosy affects all alike. The Hovah, who lives in European fashion and in a temperate climate, is not less exempt from this scourge than the African slave. It is found amongst the Betsemasarahas who eat pork, and amongst the Betanmenas who abhor it. It occurs where fish is an article of food, but it is also to be seen where no fish is to be had, and where rice and vegetables satisfy the simple wants of the population; it exists in town and country; at the elevation of 7,000 feet above sea level, along the coast line, and through all intermediate elevations. Probably the dirty habits so prevalent in half civilized nations must tend to aggravate it; eating from a common dish with the fingers; the custom, very common in Madagascar, of interchanging garments, and of all lying huddled promiscuously together at night, cannot fail to render it more inveterate, even if they do nothing in the way of originating it.

A treatment directed to the improvement of the general health, with the use of tonics and occasionally of cholagogue purgatives if the liver is inactive, will be of service. Should the ulceration be troublesome, quassia (in large and frequently repeated doses) alone, or in suitable combinations, will promote the healing process. Iodide of potassium, given at intervals and in small doses, will promote the absorption of the effusion, care being taken to suspend it if the appetite fail or the health suffer. The tepid bath will always be useful in promoting the action of the skin and the comfort of the patient. Inunction with olive oil, thoroughly rubbed into the skin twice a day, after the patient comes out of the bath, is probably more serviceable than any single remedy. By the persevering use of these simple means, many of the patients experienced benefit, although none were entirely cured.

(*Edinburgh Medical Journal, July* 1864.)

HONG KONG.

DESPATCH from Acting Governor MERCER to the DUKE OF NEWCASTLE.

No. 57. Hong Kong,
MY LORD DUKE, 7th March 1863.

I HAD the honour to receive your Grace's Circular Despatch of 28th August last, and in obedience to the instructions contained therein I at once placed the queries on the subject of leprosy before the colonial surgeon, the principal medical officers of the army and navy, and eight other medical gentlemen resident in this colony.

2. Three only of these, Drs. Dickson, Schetelig, and Enscoe have been able to give me any information, and I enclose their remarks and replies to such of the interrogatories as they conceived themselves competent to answer.

3. Dr. Dickson was originally an assistant-surgeon in the army, and resided for some years in Canton as a private practitioner; his paper, though brief, will I think, be found useful.

4. Dr. Schetelig, I should mention to deprecate criticism of his style, is a German, and has taken some pains with his contribution, which he accompanies with a box (separate) containing models of diseased limbs and the photogram of a patient, attached to his report.

5. Dr. Enscoe is resident surgeon of the Seamen's Hospital.

6. I have caused the thanks of this government to be conveyed to these gentlemen for the assistance they have afforded.

7. Hearing that a Leper Hospital existed in the neighbouring colony of Macao (a description of which is given by Dr. Schetelig) I communicated with the Council of Government there, and enclose translation of their reply.

8. I also addressed the British Consular Agent at Macao, but his reply is merely a confirmation of the brief account of the institution given by the Council.

9. Some years ago Dr. Hobson, of the Medical Missionary Society at Canton, published certain remarks on this subject in a very useful but now defunct miscellany called the Chinese Repository. These I annex to the present despatch.

10. I transmit likewise a very singular passage, with which I recently chanced to meet in a book not long since published, Dr. Seeman's Mission to to Viti, or the Feejee Islands. It relates to the cure of leprosy by the smoke of the plant Sinugaga, and I thought it well to note it, lest it should possibly escape attention elsewhere.

11. I am not aware of any other sources from which I could obtain the information for which your Grace has called but I may suggest that Dr. Lockhart of the Medical Missionary Society is very likely to be able to make a valuable contribution to the stock of knowledge which may be collected, and he may be reached through Her Majesty's Minister at Peking, where Dr. Lockhart, as I am told, is at present resident.

I have, &c.
(Signed) W. S. Mercer.

His Grace
The Duke of Newcastle, K.G.
&c. &c. &c.

Extract from Dr. Seeman's Mission to Viti.
Pages 336–338.

Another tree, the contact with which is avoided by the Fijians, is the sinu gaga (*Excœcaria Agallocha*, Linn.), or poison sinu, called so in contradistinction to the sinu damu (*Leucosmia Burnettiana*, Bth.), and the sinu mataivi (*Wikstræmia Indica*, C. A. Meyer), both of which, like the sinu gaga, are littoral plants. The sinu gaga is found in mangrove swamps or on dry ground, just above high-water mark. It is 60 feet high, has a glossy foliage, oblong leaves, and minute green flowers arranged in catkins. It is difficult to exterminate, for unless the stumps are taken up, innumerable young shoots spring up the moment the main stem is felled. When the tree is wounded abundance of white milky juice flows, which causes a burning effect on coming in contact with the skin. Some natives, however, can handle this poisonous juice with perfect impunity . . . . . none, save those who have been sufferers from the effect of these poisons, can form any adequate conception of the agonies endured and the courage displayed by a Fijian who voluntarily submits himself to being cured of leprosy by the smoke of the sinu gaga wood. The Rev. W. Moore, of Rewa, was well acquainted with a young man of the name of Wiliami Lawaleou, who underwent the process of being smoked. Mr. Moore gave me the full particulars of this remarkable case when I was his guest in 1860, and he has also published a full account of it in "the Wesleyan Missionary Notices," Sydney, 1859, p. 157. After stating that he knew Wiliami as a fine healthy young fellow, Mr. Moore was surprised to find him one day so much altered by the effects of leprosy. Some time after he again met him full of health, and on inquiry learnt the treatment adopted to bring about this change. Taken to a small empty house, the leper is stripped of every article of clothing, his body rubbed all over with green leaves, and then buried in them. A small fire is then kindled, and a few pieces of the sinu gaga laid on it. As soon as the thick black smoke begins to ascend, the leper is bound hand and foot, a rope fastened to his heels, by means of which he is drawn up over the fire, so that his head is some fifteen inches from the ground, in the midst of the poisonous smoke. The door is then closed, and his friends retire a little distance, whilst the poor sufferer is left to cry and shout, and plead from the midst of the suffocating stream; but he is often allowed to remain for hours, and finally faints away. When he is thought sufficiently smoked the fire is removed, the slime scraped from the body, and deep gashes cut into the skin until the blood flows freely. The leper is now taken down and laid on his mats to await the result. In some cases death, in many life and health. Wiliami had undergone this fearful process. He had taken some of the youths of the place, and on his way to the smoking-house told them his pitiable condition, his shame as an outcast, and his willingness to suffer anything to obtain a cure, and much would depend on their firmness. They were not to be moved by his groans and cries, and for the love they bore him he begged them to do the operation well, and threatened to punish them if they performed it only half. Imagine the scene! They proceed to the lonely house. Wiliami's companions, as much afraid of overdoing as underdoing their sad task, leave the poor leper drawn up by his heels in the midst of a thick black smoke; they retire to some distance, and presently are horrified by his piteous cries and groans. Some weep, some run home, others rush into the smoking-house; but, with Spartan-like endurance, he commands them not to terminate his suffering until the process is complete. At last they take him down, he is faint and exhausted—the operation has been successful. Wiliami is no longer a leper, but again walks God's earth, a healthy man.

MACAO.

Letter from the President to the Acting Governor of Hong Kong.

Macao,
Most excellent Sir, 12th February 1863.

In the name of the Council of Government over which I preside, I have the honour to acknowledge the receipt of your Excellency's despatch of the 3d instant, applying for certain particulars relative to the Hospital for Lepers which you were informed existed in this city. I have to state that this establishment is not a hospital, but simply an asylum for lepers. The Holy House of Mercy has for many years received, according to its means, a limited number of these unfortunates, and admits into the same establishment any others the cost of whose maintenance may be defrayed by private charity.

In 1837 an attempt was made to enlarge its sphere of usefulness by subjecting the sick to regular treatment; but the result was that the lepers not only refused to submit to medical treatment but also rejected the diet which it was considered absolutely necessary to establish; and the Holy House of Mercy, fearing perhaps that the lepers would abandon the establishment, and thereby deprive the society of the opportunity of exercising its charity, decided on resuming the former system, which is followed to this day—the sick being housed in the asylum, and food and money supplied them, as also medicines when demanded.

There are now 34 inmates, 19 males and 15 females, in separate wards, all being Chinese, and all afflicted with the elephantiasis of the Greeks.

God preserve your Excellency.

JOÃO FERREIRA PINTO,
President of the Council of Government.

His Excellency W. T. Mercer, Esq.,
Acting Governor of Hong Kong.

NEW ZEALAND.

The disease among the New Zealanders, called by them "Ngerengere," and described by Dr. A. Thomson, surgeon of the 58th Regiment, under the appellation of "lepra gangrenosa," appears to be a form of true leprosy.* It commences with scaly patches on the extremities, extending over the trunk, and occasionally accompanied with cracks or fissures of the skin, and great local irritation. After a period of many months or years, the face, nose, lips, and eyebrows become swollen and shining, but without any tubercles; the eyelashes, beard, and whiskers fall out; the voice changes its tone; and the skin of the whole body, but especially of the face, becomes pale and livid, but there is at this time no loss of sensation. Subsequently, a small boil, blister, or dry crack appears along the flexure of the last joint of some of the fingers or toes; ulceration eats down, and eventually the phalanx drops off, generally with little or no uneasiness. In course of time, another phalanx becomes separated in a similar way, and the process may be repeated until the whole of the toes or fingers are lost. This slow and gradual mortification sometimes involves the metacarpal and carpal, or the metatarsal and the tarsal bones. The general health may be but little affected, and the patients are usually cheerful and happy.

The disease appears generally after puberty, and under thirty. Five of the six cases seen by Dr. Thomson were in males; all the patients were highly scrofulous. The duration of the malady is said to be from one to five or eight years. Death usually results from bronchitis or diarrhœa.

It is not confined to any particular part of the country. "I have heard," says Dr. Thomson, "of cases "in the Middle Island, in the northern parts, in the "southern parts, in the interior, and at the sea-"coasts of the Northern Island; but most of the "cases I have seen or heard about, occurred among "the tribes living in the interior, near the lakes of "Taupo and Roturna." From all accounts the disease seems to have been more common twenty years ago than at present (1853). Travellers rarely see the sufferers unless they ask about them. Four patients have been seen at the Colonial Hospital at Auckland during the last four years (1849–53), two of whom died.

The Arabian elephantiasis is rare in New Zealand; it is not unfrequent in most of the tropical Polynesian islands in the Southern Ocean.

Dr. Thomson considers that the favouring causes of the "ngerengere" are probably the use of poor or bad food, neglect of personal cleanliness, and indolence of body and mind. "It is a disease indicative of a "low state of civilization." Many New Zealanders, during the six cold months, sleep, eat, and walk about in dirty, stinking, coarse mats, the pores of the skin glued up with dirt; the consequence is that cutaneous diseases are very numerous.

Captain Cook has recorded that the New Zealanders eat food which the natives of Van Diemen's Land rejected; indeed, they will eat almost anything. They have a custom of putting maize and potatoes into water, where they are allowed to remain until they become putrid. The smell which issues from the places where this process is carried on is worse than from any dunghill. In this state the mixture is boiled and eaten, and it is highly relished. The smell of the food, when cooked, is like human excrement, but its taste is not bad, being somewhat like cheese. A similar plan is adopted in preparing other kinds of food in New Zealand and among the Polynesian islands in the Southern Ocean. Every patient I have seen with "ngerengere" was very partial to the above food, and where the disease is most common the people are in the habit of using much of it.

The disease is regarded by the natives to be most frequently inflicted by the gods, through priests and witches, for a violation of the laws of Tupu, and other transgressions. Formerly, and even now, sufferers are tapued (tabooed ?); a house is built for them, and they are fed apart from healthy people; and it is still believed that the disease may be communicated by the touch. The sufferers are held in disgust.

Since the improvement in the condition of the New Zealanders by intercourse with Europeans, the disease is becoming rare; probably, in twenty years more, civilization and her handmaidens industry and cleanliness will have extended themselves to the tribes in the interior of the country, and the malady may become extinct.

[The above notice is taken from Dr. Thomson's paper on the Customs and Diseases of the New Zealanders, in the number of the British and Foreign Medico-Chirurgical Review for April 1854.]

* The natives have got two names for the disease,—'ngerengere' in the south, and 'tuwhenua' in the north part of the island.

NEW SOUTH WALES.

The Annual Reports of the Registrar-General for 1856 (the year in which the Act for the registration of births, marriages, and deaths passed the Legislature), 1857, 1858, 1859, 1860, and 1861 have been received.

The following table shows the deaths registered in the colony during each quarter of the years 1857 to 1861 inclusive:—

		Estimated Population at the middle of each Year.	31 March.	30 June.	30 September.	31 December.	Total.	Ratio per 1,000.
Sydney	1857	54,100	343	275	201	408	1,317	24·34
	1858	54,625	543	401	220	494	1,647	30·11
	1859	55,298	394	320	281	411	1,406	25·43
	1860	55,910	503	573	522	338	1,826	32·66
	1861	56,532	300	312	265	372	1,249	22·09
		—	1,883	1,881	1,658	2,023	7,445	—
Suburban	1857	30,180	197	150	120	179	626	20·74
	1858	31,790	212	181	157	225	775	24·42
	1859	33,510	199	159	110	223	691	20·62
	1860	35,345	208	228	264	198	898	25·41
	1861	37,500	159	132	109	176	596	15·98
		—	975	850	760	1,001	3,586	—
Country Districts	1857	205,720	908	642	667	686	2,903	14·11
	1858	223,505	826	762	980	993	3,461	15·59
	1859	242,052	1,853	848	774	870	3,545	14·65
	1860	239,585	942	1,030	935	931	3,838	16·02
	1861	229,500	880	913	832	873	3,498	15·48
		—	4,679	4,195	4,188	4,263	17,245	—
					SUMMARY.			
New South Wales	1857	290,000	1,448	1,067	1,078	1,273	4,846	16·71
	1858	309,790	1,581	1,344	1,356	1,622	5,883	18·99
	1859	330,860	1,646	1,327	1,165	1,504	5,642	17·05
	1860	330,840	1,545	1,831	1,721	1,467	6,562	19·83
	1861	353,532	1,339	1,377	1,206	1,421	5,343	15·12
		—	7,537	6,926	6,526	7,287	28,276	—

The year 1860 was marked by the ravages of a very severe influenza epidemic followed by measles, which proved fatal to a large number of children.

The classification of diseases used is the original one adopted by the Registrar-General of England. On this subject, it is remarked in the report for 1860—"Since this classification was adopted, Dr. Farr has "elaborated the English tables, and produced seven-

" teen divisions instead of twelve, but it does not " seem desirable to introduce a more elaborate classifi- " cation in these colonies, where the primary causes " of deaths are, in many instances, unknown, and " where the immediate cause of death is often recorded " without the guarantee of a medical certificate."

Besides the annual registration returns, the annual reports of the Health Officer of Port Jackson,—communicating particulars respecting the number of vessels arriving in the port, their sanitary condition, the state of health of the crews and passengers during the voyage and on arrival, the necessity or otherwise of detention in quarantine, &c.—for 1856 to 1860, have been received; also, the annual reports of the medical adviser to the Government on vaccination, from 1856 to 1861.

VICTORIA.

The Annual Report of the Registrar-General on the Vital Statistics of the Colony for 1861 gives the following return of the mean population of males and females living in Victoria during the year (1861), the number of deaths of either sex, and the number of deaths to every thousand living :—

Sexes.	Mean Population.	No. of Deaths.	No. of Deaths per 1,000 of Population.
Males -	325,530	6,124	18·81
Females -	215,495	4,398	20·41
Total -	541,025	10,522	19·45

The following table shows the number of deaths among persons of both sexes, under and over five years of age, registered in Victoria during each month of the year 1861 :—

Month.	Under 5 Years.	Over 5 Years.	Total.
January - -	789	396	1,185
February - -	619	345	964
March - -	706	457	1,163
April - -	652	419	1,071
May - -	505	400	905
June - - -	424	392	816
July - -	386	403	789
August - -	360	406	766
September - -	320	370	690
October - - -	356	357	713
November - -	335	290	625
December - -	491	344	835
Total -	5,943	4,579	10,522
Monthly average -	495·25	381·58	876·83
Daily average -	16·28	12·54	28·82

Along with the annual report for 1861, the monthly reports of the Registrar-General on the Vital Statistics of Melbourne and suburbs during 1862, and for January and February of 1863, have been received. In the report for January 1862, it is stated :—" It " will be observed that in this report the diseases are " classified upon a different system from that hitherto " adopted. This change has been made in order to " assimilate the classification with that recently " accepted in England, so as to enable comparisons to " be readily made between the returns published " in Victoria and those which emanate from the " Registrar-General of England."

TASMANIA.

At the last Census enumeration of this island, 7th April 1861, the population was 89,977, which I have embodied from the Census tables in the subjoined condensed form :—

	Males.	Females.	Total.	
Under 1 year of age	1,612	1,505	3,117	
Above 1 to 5 -	6,027	5,855	11,882	
„ 5 to 10 -	5,545	5,563	11,108	
„ 10 to 15 -	4,182	4,058	8,240	41,649
Total under 15	17,366	16,981	34,347	
„ 15 to 20 -	3,384	3,918	7,302	
„ 20 to 30 -	5,965	7,157	13,122	
„ 30 to 40 -	7,976	5,644	13,620	
„ 40 to 50 -	7,322	3,769	11,091	44,162
„ 50 to 60 -	4,504	1,825	6,329	
„ 60 to 70 -	2,270	822	3,092	
„ 70 to 80 -	631	226	857	
„ 80 to 90 -	154	39	193	4,166
„ 90 to 100 and above -	21	3	24	
	49,593	40,384	89,977	89,977
Married -	15,893	15,616	31,509	
Single - -	33,700	24,768	58,468	

At the 7th April 1863, the estimated population was about 91,000, and from the emigration of male adults to the gold diggings in the adjoining colonies, the adult males would be less than at the Census ; while adult females would be unchanged, children much increased, and both sexes above 60 somewhat greater. In reference to the queries respecting leprosy, it is necessary to remark, that the population of Tasmania is almost exclusively of British origin. Chinese, or other northern Asiatics, Polynesians, negroes, are scarcely known in *this* colony. The aboriginal Tasmanians are dwindled down to two males and six females.

Since September 1838, there has been a general and uniform registration of births and deaths, including the " causes of death." I am familiar with these returns since the commencement. For the last eight years I have every month drawn up " health-reports " from them, though I have no official connection with the department of registration. A death from leprosy has never been recorded since the registration was initiated. The climate of Tasmania is eminently salubrious. The rate of mortality for the whole population of the island in 1862 was somewhat less than that of Glendale in Northumberland, but the purely rural rate was only 10 per 1,000. An equally favourable rate exists so far for 1863. It is becoming daily more evident, that as the convict element is annually forming a smaller proportion to the rest of the population, and as the native-born are so rapidly preponderating over all other elements, that the death-rate is fast reducing, notwithstanding the younger character of the general population. This climate is peculiarly propitious to infant life.

E. Swarbreck Hall.

Hobartown, 21 Sept. 1863.

CEYLON.

Extract from Report of the Civil Medical Department for the Year 1862.

Leper Hospital.

The Leper Hospital is beautifully situate at Hendelle near the mouth of the river Kalany, in the centre of a large compound filled with cocoa-nut and other fruit-bearing trees.

Its primary object is the reception of pauper lepers, but by the return it will appear that other cases of sickness are admitted into it—these are a few chronic cases from the Government Civil Hospitals of Colombo which, it is considered may be benefited by the salubrious air at Hendelle, chronic ulcers and rheumatic affections being the principal of these. It is thus used as a sanatorium, and as the accommodation is more than sufficient for the lepers, who have an entire wing of the building to themselves, it affords an important and invaluable assistance in the treatment of chronic and debilitated cases which would either sink in the general hospital, or their cure would be retarded, and their cost to government consequently increased.

The lepers appear in the column of skin diseases: 67 were treated in 1862, of whom 11 died, or 164·1 per 1000.

The number treated from the Government Civil Hospital was 57, of whom 11 died, or 19·3 per 1000. Both these death-rates are high, but it should be considered, in regard to the lepers, that the disease is frequently rapid in its course, and has a tendency to shorten life, and in regard to the other cases, that they are affected with chronic disease and are in a state of great debility when first admitted.

The lepers have indulgences which are not allowed to the inmates of other hospitals; they have a daily allowance of betel, are provided entirely by the government with clothes, and annually a dollar is presented to each as a gratuity from the government, with a good strong pocket handkerchief. From the nature of their complaint and with their sense of being outcasts from society and shunned by their own friends, their feelings become morbid. They are dissatisfied and prone to complain; and although they are allowed to collect around them little articles of property, books, and other sources of amusement, the time passes heavily with them, and they contract habits of idleness. All who choose are permitted to cultivate small patches of ground within the large hospital compound, but many are maimed by their complaint and unable to handle a spade or a hoe, while others are too lazy.

This querulousness, encouraged by the want of occupation, often breaks out into open mutiny, when they are led on by one or two more turbulent than the rest. Small things are made the subject of loud complaint, and threats next follow. On one occasion they absolutely refused to receive the annual gift of the pocket handkerchief, because it was not of sufficiently fine texture to please them. Their food is frequently made a source of complaint, but in this respect Mr. Gill, the Medical Officer, has indulged them beyond a reasonable limit, and numbers are allowed to have their meals cooked in a chetty separate from the rest. I append for the information of government the diet tables in use in all the Colombo hospitals, by which it will be seen that their food is ample.

The costs of this establishment amounted to 795*l.* 17*s.* 6*d.*, or at the rate of 6*l.* 8*s.* 4¼*d.* per head. This high rate, as in the Lunatic Asylum, is dependent on the permanent nature of the cases.

DESPATCH from Major-General O'BRIEN to Mr. Secretary CARDWELL.

Queen's House, Colombo,
SIR, November 14, 1864.

IN accordance with the instructions contained in the Duke of Newcastle's Circular Despatch of the 28th of August 1862, the interrogatories on the subject of leprosy therewith transmitted were forwarded to the principal medical officers in this colony, and to other medical men of ability and experience, with a request that they would furnish every information in their power in answer to them.

2. Dr. Dane, the principal military medical officer, has stated that as cases of leprosy have not been observed among the soldiers serving in this command, he is unable to furnish the information required, and Dr. Willisford, the superintendent of vaccination, reports that as his practice is confined to the European inhabitants of Colombo and to the upper classes of natives, who are generally free from a leprous taint, he has had no opportunity of watching its progress. Dr. Thwaites, a private practitioner of long experience in Ceylon, declines to give any information.

3. I have also received from the acting principal civil medical officer the accompanying copies of replies furnished by certain officers of the civil medical department, which afford all the information which it is at present in the power of this Government to give in answer to the interrogatories prepared by the Royal College of Physicians.

4. I have received your Despatch, No. 98, of the 8th June last, expressing your regret at the omission on the part of the officers of this Government to supply the information sought for by the Royal College of Physicians. I communicated the substance of your Despatch to the acting principal civil medical officer, and received in reply on the 5th instant the papers which I now do myself the honour to transmit to you. I have, &c.

(Signed) TERENCE O'BRIEN,
Major-General.

The Right Hon. E. Cardwell, M.P.,
&c. &c. &c.

BOMBAY.

The Grant Medical College,
MY DEAR SIR, January 15, 1863.

ALONG with this letter I send the loose sheets of an article on "Leprosy," as it appears in India, forming part of the 8th vol., new series, of the Transactions of the Medical and Physical Society of Bombay, now passing through the press under my editing as secretary of the Society.

You will readily understand why I am anxious that the results of my inquiries into this interesting, but almost ignored, subject should come thus early before your notice, in connection, that is, with the inquiry just set afoot by the English Government; and I am the more desirous that they should be known, because they are both new and of much physiological interest.

I believe I am the first to describe the minute structural changes which take place in the nerves: MM. Danielssen and Boeck, in Norway, apparently not having made use of the microscope for this object.

Nor has the eruption in leprosy, to my knowledge, received separate notice until now; in looking through my paper, it will be seen that I find reason for identifying this eruption (which is not to be confounded with the well-known tubercles) with some form of Lepra (Græcorum) so called; this is a new view.

It will also be noticed, how different my results (negatively so) are as regards the great nervous centres, when compared with those of the Norwegian authors.

I have given a tolerably complete account of the morbid anatomy of the disease, and a full list of the nerves affected, based entirely upon actual dissections; there can, indeed, be few places in India equally favourable to pathological inquiry into this subject as Bombay and its Native Hospital. The work, though arduous, was not without its interest, and I feel the more pleasure in offering you, first, its results, because of the permanent (slight though it be) mutual interest that exists between teacher and pupil in London, a sentiment not deficient in any way at St. George's.

Believe me, my dear Sir,
Yours very truly,
H. V. CARTER,
Assistant-Surgeon, H.M. Bombay Army, and Teacher to the Medical College, Bombay.

To Dr. H. Pitman,
&c. &c. &c.,
Royal College of Physicians, London.

MADRAS.

The following communication, dated 21st January 1863, is from Thomas Hogg, Esq., who was 35 years in the medical service of the late Honourable East India Company, and is now resident at Mervale Five Dock, near Sydney, New South Wales.

EXTRACT from the Medical Report of the Chindadrapellah Dispensary at Madras, for the Half-year ending 30th June 1850.

Leprosy and Elephantiasis.—These diseases prevail to a great extent in Madras. In some cases the former disease makes rapid progress. The following table shows the caste and sex of the persons that applied for relief during the years 1848, 1849, and first half-year of 1850.

——	Lepra.							
	1848.		1849.		½ of 1850.		Total.	
	M.	F.	M.	F.	M.	F.	M.	F.
Mahomedans	4	—	10	18	4	8	18	26
Malabars -	1	—	8	5	3	1	12	6
Gentoos -	—	—	2	1	4	3	6	4
Brahmins -	—	—	1	—	2	—	3	—
Rajpoots -	—	—	—	—	—	—	—	—
Mahrattahs -	—	—	—	—	—	—	—	—
Europeans -	—	—	2	—	1	—	3	—
Indo-Britons	—	—	—	—	1	—	1	—
Pariahs -	1	1	—	3	—	2	1	6
Total -	6	1	23	27	15	14	44	43

——	Elephantiasis.							
	1848.		1849.		½ of 1850.		Total.	
	M.	F.	M.	F.	M.	F.	M.	F.
Mahomedans	5	10	13	32	7	10	25	52
Malabars -	5	—	5	8	—	2	10	10
Gentoos -	—	2	5	8	—	3	5	13
Brahmins -	1	—	—	—	2	—	3	—
Rajpoots -	—	1	—	—	1	—	1	1
Mahrattahs -	—	—	—	1	—	—	—	1
Europeans -	—	—	—	—	—	—	—	—
Indo-Britons -	—	—	—	—	—	—	—	—
Pariahs -	—	1	2	—	—	3	2	4
Total -	11	14	25	49	10	18	46	81

I have observed, in almost every instance, the great want of perseverance on the part of lepers to continue a course of medicine for the length of time required to make an impression on the disease. As soon as they are in the least relieved, they cease to attend, or they become impatient at the imperceptible or slow progress they make to recovery, lose confidence in the treatment, and, perhaps, for other reasons also, discontinue their attendance. The bright white leprosy of Leviticus, ch. xiii., in some cases affects the palm of the hands; in others, it is seen in patches on various parts of the body; the hair becomes changed to white or grey, on the diseased parts. Very frequently these patches are seen on the genitals (the glans penis), at the back of the head, on the under part of the female breast, &c. The disease in this form prevails in Madras to a greater extent than, I think, is generally known or credited. Hence the necessity of examining domestic servants. A few cases of the more loathsome species with ulcers on the feet and toes, with exfoliation of the metatarsal bones, came under treatment. Several cases of nigrescent or "Black Leprosy" came to the dispensary; this species of the disease is more amenable to medicine than any other. Donavan's mixture from five to ten min.: with decoction of sarsaparilla was administered three times a day in all cases. The compound iodine ointment was rubbed in daily into the affected parts, and to prevent the patches spreading the margin was from time to time freely rubbed with a stick of the nitrate of silver. In the cases of leprous ulcers, nitric acid was substituted for the above mixture. The first symptom of improvement was a cessation of the internal burning heat; and in the cases of cutaneous eruption, this gradually disappeared. In several cases where the treatment was discontinued, the disease after the lapse of some months was observed to have rapidly increased.

Elephantiasis.—Two species of this disease came under treatment. First, the tubercular elephantiasis, or the enlarged thickened rugged leg and foot, from the knee downwards; the skin was generally insensible, and of a dusky or darker hue than other parts of the body. This species often affected the scrotum, of which several cases applied for relief. The other form was the thickened leg or arm with smooth surface. In both varieties, the patient had periodical attacks of inflammation of the affected limb, and fever. I have seen one case of metastasis from the arm to the penis, and *vice versâ*. The treatment in both varieties was nearly the same; while the former derived little or no benefit from it, the latter when steadily persevered in for a considerable time was certainly much improved. The medicines consisted of the iodide of potash, with the compound decoction of sarsa internally, and daily friction with the compound iodine, or creosote, ointment and the use of a flannel roller.

CALCUTTA.

During ten years that I was surgeon to the Native Hospital of Calcutta, leprosy in all its forms, and in every stage of its progress, came daily under our observation amongst the out-patients of that institution, and whose numbers averaged 100,000 per annum. It was soon observed that applicants of both sexes, who had sweating of the hands or the feet, or of both, had frequently dead white patches, or glistening, dusky, olive stains, on their bodies, or extremities; and further, that the children in arms often had such patches when either of the parents were affected with sweating of the feet and hands.

These facts I made known to my European friends, with a view to suggesting caution in the choice of domestic servants; and every day some of the Native Hospital dressers were employed by families in the examinations of such persons prior to their being admitted into service. The directions given to the dressers were,—to inquire and examine carefully into the condition of the general health, the family history, and the previous personal health-history of each individual; making a minute examination of both hands and feet; rejecting all who had any appearance such as that of sweating.

In making a choice of native wet-nurses, and of native children from whom to vaccinate those of English families, still greater care was used; the hospital dressers being here aided in their investigations by experienced native sick-nurses.

We soon became aware that, in a large city like Calcutta, a course of procedure such as is here mentioned had become one of expediency at least, if not one of necessity, if the bare possibility of contagion was to be guarded against.

With such ample materials as you possess, in the form of able reports from all parts of India, it is unnecessary that I should offer you any notices upon the nature of this formidable and loathsome disease.

J. RANALD MARTIN.

37, Upper Brook Street,
March 5, 1866.

The dangers to Europeans arise chiefly from vaccination, and from wet-nursing.

I felt that very early in my career in India, and I took the precautions which are here recorded.

I saw an English lady last year in a horrible condition, (she said) from having been vaccinated from a leprous native child.

J. R. M.

SKETCH of the Geographical Distribution of Leprosy at the present Time. By GAVIN MILROY, M.D., F.R.C.P., and Honorary Secretary of the Leprosy Committee of the College.

The great bulk of the following statements is derived from the "Handbuch der Historisch-geographischen Pathologie" of Dr. August Hirsch, of Berlin, 1860,—a work of the highest merit and usefulness.

The chief seats of leprosy in recent times continue to be the same regions of Africa and Asia where it was originally seen, and where it is known to have been most common in remote ages. It is still endemic in Egypt along the valley of the Nile, and on the shores of the Mediterranean and Red Sea. Aubert Roche and other recent visitants of the country confirm the statements of Bruce and Larrey at the end of last century. In Abyssinia it is said to be frequent, not only in the plains, but also in the mountainous plateaus. Mungo Park, as well as the earlier traveller Moore,* found it among the inhabitants of Darfur in the interior; and Daniell states,† that the slaves brought from Soudan to the west coast of the continent are frequently affected with the disease. It is common along the whole of the north coast of Africa. That it is frequent in many parts of Algeria, appears from many recent notices in French periodicals. Morocco and Senegambia have long been known to be infested with it, and there seems to be scarcely a district along the west coast which is entirely exempt.‡ At the Cape of Good Hope, it is common among all the native races and tribes: the inhabitants of the great sandy plains are more subject to it than those of the fruitful and cultivated districts. Whether the disease is prevalent along the east coast of Africa, we cannot say from want of evidence; but that it exists as an endemic in Madagascar, and in Mauritius and Isle of Bourbon, is perfectly well known.

The Asiatic continent appears to be nearly, if not quite, as much infested with leprosy as the African. In Syria, especially in the southern districts about Beyrout, Jaffa, and other places in Palestine,§ it is still common; and even some of the lofty districts of the Lebanon are far from being free. In Arabia, too, it continues to be endemic;‖ and the same may be said of various parts of Persia, where the poor sufferers are compelled to herd together in miserable hovels at some distance from the towns, and are generally left in the greatest wretchedness.¶ Burnes and other travellers mention the frequency of the disease in Bokara; it is known there under the name of "mukkow" and "kolee." It is common also in Ladakh, Cashmere, &c. In India, one of the most ancient seats of the malady, it is still widely and extensively prevalent. The sea-coast districts, it is generally believed, are more afflicted with it than the inland. In many parts, however, in the interior of the country it is very common, as at Patna, Tirhoot, Rungur, and various places in the north-western provinces. Some estimate of the prevalence of the disease may be formed from the statements of Dr. Morehead that in two years, 1851 and 1852, there were received into the Leper Hospital at Madras 212 patients, and that 391 were admitted into the Bombay hospital from 1848 to 1853.** The statement, made by some persons, that the disease, which attracted considerable notice in several of the southern districts of the Madras Presidency, had been introduced by negroes from the coast of Africa into Tranquebar, is very questionable.

Leprosy is very frequent in Ceylon, and especially in the southern parts of the island. It is stated to be much more common along the sea coast than in the interior; in the hilly districts it is believed to be rarely met with. The disease is said to be rare in Burmah; the unhappy sufferers are treated as if they were criminals rather than as the victims of a cruel malady. From the official report of Drs. Ward and Grant on the Medical Statistics and Topography of Malacca, 1830, it appears that leprosy was so prevalent among the poor, that Government deemed it proper to establish a hospital for the reception of the sufferers. In Java, Sumatra, and other islands in the Indian Ocean,†† leprosy abounds; and some accounts state that it is by no means confined to the inhabitants of the sea coast. Several recent writers, as Lockhart, Hobson, Wilson, &c., have noticed the great prevalence of the disease in China, where lazar houses are as numerous and crowded in the present day as they used to be in England, and other countries of Europe, before the 15th century. Whether it extends to the northern provinces of the land, we are unable to say.‡‡ A Russian writer has recently stated that it is not uncommon in Kamschatka. In respect to all these remote countries, it deserves to be re-

* Travels into the Inland Parts of Africa, 1738.

† Sketch of the Medical Topography of the Gulf of Guinea, 1842.

‡ Dr. Clark, in Vol. I., Transactions of the Epidemiological Society, 1864.

§ "Just outside the town (Ramley, between Jaffa and Jerusalem,) sat a group of dirty Arabs in rags. They rose from their stony seats, and advanced holding out little tin cups for alms. Their faces were so disfigured that they scarcely looked human; the eyelids and lips of some were quite destroyed, while the faces of others were swollen into frightful masses. Leprous families intermarry, and sometimes the immediate offspring are free from any appearance of the disease; but it is sure to revive in the succeeding generation. Some of them appear quite healthy till 19 or 20 years of age; but they feel themselves a doomed race, and live quite apart from the rest of the world, subsisting almost entirely on charity; for often their fingers rot off, and their hands are rendered useless."—*Domestic Life in Palestine*, 1862.

‖ "The list of cutaneous disorders is long and loathsome, from *lupus exedens* to simple *impetigo*. Leprosy abounds; sometimes it assumes the blotchy and not dangerous form called 'baras'; sometimes it is the hideous 'djedâm,' under which the joints first swell, then break out into sluggish, yet corroding, ulcers, and at last drop off piecemeal. However disgusting, it does not render its victims legally impure (as was the case with the Jewish leprosy), nor does any one believe it to be contagious."—*Palgrave's Journey through Central and Eastern Arabia*, vol. 2, p. 3; 1865.

¶ Herodotus says:—"Should any citizen have a leprosy or white eruption he is not allowed to enter into the city, nor to have any intercourse with other Persians; and they say that he suffers because he has sinned against the sun. And should it be a foreigner who is attacked by one of these diseases, in many places they go so far as even to expel him from the country."—*British and Foreign Med. Chirurg. Review, for April* 1864, p. 382.

** Dr. Morehead in his valuable "Clinical Researches on Disease in India," 2nd edition, 1860, remarks:—"Leprosy is common in India. The numbers received into the Leper establishment at Calcutta are unknown to me; but I visited this institution in 1853, and found the accommodation and arrangements altogether inadequate for the comfort and well-being of those afflicted with this sad disease. * * * The system followed in the Madras Leper Hospital, at the time of my visit, under the judicious management of Dr. Hunter, formed a pleasing contrast to that of Calcutta. The patients were classified according to their previous habits and position in life. Books were provided for the educated, and gardening and other light occupations conducive to health and happiness were encouraged. The arrangements for lepers in Bombay, inferior to those at Madras, are superior to those at Calcutta. There is accommodation allotted for them in the Jamsetjee Jejeebhoy Dhurmsala; and, under exacerbations of the disease, they are received into a ward of the Jamsetjee Jejeebhoy Hospital appropriated for the purpose."

†† Sir John Bowring remarks, in his "Visit to the Philippine Islands," 1859, that "Elephantiasis, leprosy, and St. Anthony's fire are the scourges of the Indians, and the wilder races of the interior suffer from a variety of cutaneous complaints. The biri-biri is common and fatal. Venereal diseases are widely spread, but easily cured."

‡‡ Dr. Scherer, in the recent "Voyage of the Novara" round the world, states that "common as leprosy is in Southern China, it is unknown in the north; its area of manifestation seems to be confined within the tropics. Many Chinese in good circumstances when attacked have, it is said, removed to Pekin, where after two years' residence they lost all trace of the disease. It broke out anew, however, soon after their return to the south."—1863–4.

marked that it seems far from improbable that various secondary and tertiary forms of syphilitic disease may often be confounded with true leprosy.

It seems uncertain whether the malady has been recognized among the inhabitants of the Australian Continent, or of the Australasian Archipelago. The endemic disease among the New Zealanders, described by Dr. Thomson in 1854, appears to be of a leprous nature.

Although leprosy has been but little known in Europe generally since the latter part of the seventeenth century, it nevertheless continued to exist in certain localities in different regions throughout the following century; nor has it even yet disappeared from them as an endemic disease. The southern regions near to the frontiers of Asia are still considerably infested with it.* In many of the islands of the Ægean, both Turkish and Greek, it is far from being uncommon at the present time. In Crete it prevails to a very considerable extent, nor is it altogether unknown in the Ionian group (Hennen particularly mentions Cephalonia), and, according to Danielssen and Boeck, in Malta. In Greece, where the disease is regarded as a legal ground for divorce in married persons, the localities said to be most affected with it are certain districts of the Peloponnesus. Attica and Bœotia are not entirely free. In 1840, the number of lepers throughout the kingdom of Greece was stated, in an official document, to be 161; and in 1851 the number was set down at 350. This apparent increase of the disease was probably due to the inaccuracy of the earlier return.†

As to what extent it prevails throughout Turkey, no information exists. It has been asserted that it is unknown in Wallachia. On the other hand, it is notorious that the south-eastern provinces of European Russia are more or less extensively affected, along the whole of the vast region extending from the Crimea by the shores of the sea of Azof, and by the Caucasus, away to Astracan on the Caspian. It seems to have been endemic for centuries past among different tribes of the Cossacks. In various localities also in the Baltic provinces of the empire, as in Courland, Esthionia, and Finland, it is known to exist, and Meyer states that it is not confined to the population on the coast.

In Sweden, where the malady was far from being unfrequent at the close of last century and in the early years of the present one, it has according to the testimony of Drs. Huss and Berg, of recent years in a great measure disappeared. The localities where it was most common 70 years ago were the districts of Angermanland, Medelpad, Helsingland, Upland, and Bohuslan. Within the last 30 years, there were 29 inmates in the Leper Hospital at Hernosand, independently of other cases of the disease scattered over the district. Since then no fresh patients have applied for admission. In the district of Medelpad too, where the malady is believed to have been endemic for centuries, it has become very rare; and in Helsingland, which was formerly one of the chief seats of leprosy in Sweden, the cases are now only solitary and sporadic, where once they were numerous and common. The same may be said of the districts of Upland and Bohuslan. The disease has lingered longest along the coasts of Abyfiord; but there too it is much less frequent than formerly. In all these different districts, the localities chiefly affected seemed to have been the deep valleys and the shores of the fiords, which are liable to frequent inundations.

Norway has continued to be very much more infested with the malady than Sweden. It is still endemic there, under the name of Spedalskhed, along almost the entire coast from Stavanger in the south to Finmark in the north, between the 59th and 72nd parallels of latitude; and, within the last 12 or 15 years, it seems to have been extended somewhat more into the interior of the country in certain districts. In 1846, the number of persons known to the public authorities to be affected with leprosy throughout the country was 1,122; but the actual number was, doubtless, much greater, as very many cases of the disease in its early stages were, it was notorious, studiously concealed by the relatives of the sufferers, as well as by the patients themselves.‡

While the malady has, since the end of last century, disappeared from the Shetland and the Faroe Islands, it is still met with in Iceland, although to a much less extent than formerly. A century ago, the number of lepers there was set down at 280; in 1838 the number was estimated at 128; and ten years later, Schleisner, who officially visited the whole island, found only 66 persons affected with the disease. A good many, however, of the patients had been, it was believed, cut off by the epidemic of measles which had prevailed and was very fatal the year before, 1847.

In the south of Europe leprosy is still endemic, although to a very partial extent, in some points of the coast of North Italy and of the south-east of France. The only place on the east coast of Italy where it is known to exist is Comacchio, situated close to the notoriously unhealthy lagunes of Ferrara, and where the malady has been endemic for ages past. It is confined almost entirely to the town and its immediate neighbourhood, and happily it has of late years diminished in frequency, so that the total number of lepers now in Comacchio is believed not to exceed a dozen or so at most. Along the coast of the Gulf of Genoa, from Chiavari to the frontiers of France, it appears to be somewhat more common in certain spots, as at Chiari and Varazze in the district of Genoa, but specially in the province of Nice, as at Monaco, Pigna, Castelfranco, Turbie, &c. In the official report made in 1843, the number of leprous persons in the Sardinian states is stated not to exceed 100 in all; but, if this statement were then correct, the malady would seem to have become more frequent since; as in 1858 the Government found it necessary to convert a monastery at St. Remo into a lazar house, into which 40 patients from the surrounding district alone were at once admitted. The disease appears to be confined to the poor population of the coast. At some points of the French coast, too, along the shores of the Mediterranean, in Provence, Languedoc, and Roussillon, it is still met with. Formerly, it was extremely common there; and even down to the latter half of last century, it existed to a considerable extent in some districts. The Delta of the Rhone, especially about Martiguez§ and Vitrolles,

* Many of the cases of the disease seen in Constantinople are in persons from different places in Asia Minor, where the disease is probably much more frequent than on the European side of the Bosphorus.

† "In Greece leprosy is endemic; the statistics lately published by Dr. Dekigalla of Syros show to what extent it prevails. According to this author, the lepers are left in a sad condition, some living in solitary huts or caves, and others herded together in lazar houses of the most wretched description."—*London Medical Review*, 1861.

‡ Professor Daa, at the meeting of the International Statistical Congress held in London in 1860, said:—"The most remarkable affliction in my country is that particular disease, elephantiasis, which has spread all along the fishing districts, and in the damp localities along the coasts, and only there; it does not enter the mountainous parts of the country, nor in general does it penetrate to the interior. The number of persons afflicted with the disease in 1858 was 2,087."

Professor Daa added:—"Diseases of the mind are likewise more prevalent in Norway than in many other countries, and several reasons have been assigned for this deplorable fact. It is the same, I believe, both in the islands and the mountains, where the people live very simply, and with very little change of food." Hereditary transmission appears to play an important part in respect both of mental disorders and of elephantiasis among the Norwegian population.—*Report of the Proceedings, &c.*, p. 29; 1861.

Sir W. Wilde, in his valuable "Status of Disease" in connection with the Irish Census of 1861, enumerates leprosy among the various causes of the great frequency of blindness in Norway, where the proportion of the blind to the population is higher than in any other country in Europe.—p. 38.

§ There are two very interesting papers on the leprosy at Martiguez, on the coast of Provence and not far from Marseilles, in the Memoirs of the Royal Society of Medicine in France, for 1779 and 1787, by Dr. Vidal, a resident physician there. These papers were followed by "*Recherches sur état actuel de la Lèpre en Europe, &c.*," *par MM. Chanscreu et Coquereau*, in Vol. V. of the same work.

also Berre, Rognes, and other places near Marseilles and Toulon, were the localities which were most affected, and where scattered cases have continued to be observed during the present century. Throughout last century, even down to its close, the disease was by no means uncommon also in Auvergne, about the district of the Mont d'Or, under the name of the "Mal S. Main." In the course of the present century, it seems to have entirely disappeared from this part of France, as it had previously done from other parts of the country, as for example from the coast of Brittany and Normandy, where it formerly prevailed to a considerable extent.*

Spain continues to be more infested with leprosy than most other European countries; but our information as to the extent of its prevalence in different parts is very scanty and imperfect. In the latter part of last century it was common in Andalusia, Asturias, Galicia, &c.; there were many lazar houses in these provinces at that time, occupied by numbers of inmates. It still exists to a considerable extent not only in these parts of the peninsula, but also in Grenada,† and in Catalonia. Dr. Grasset, writing in 1820, mentions particularly in the last-named province the towns of Reus, Rindoms, Vilaseca, and the mountainous district of Prades near Tarragona, as localities where many leprous cases were to be seen.

In Portugal, the chief seat of the disease in recent times has been the hilly district of Lafoes, in which the number of leprous persons was, about 30 years ago, variously estimated at 300 to as many thousands. It is still endemic also in the provinces of Lower Beira and the Algarve. There is a leper hospital in Lisbon. Forty or fifty years ago, the number of inmates was said to be about 40; since that time, the usual number appears to have been larger. When visited by Dr. Webster in 1861, it contained 69 patients, 49 males and 20 females.‡ The disease is known in Portugal, and in the Brazils, under the name of "Morfea" or of "Mal de San Lazaro."

With respect to the other countries of Europe hitherto not mentioned, viz., Great Britain, the Netherlands, Denmark, Germany, and Switzerland, cases of the disease have, during the present century, been of very rare occurrence among the native residents. Most of the examples that have been met with in England (and the remark applies, we believe, to Holland also,) have occurred in persons who either were natives of some of the tropical countries where the malady is still common, as in the West or East Indies, &c., or who had resided there for many years.

Before passing over from the old to the new world, it is to be noted that leprosy continues to exist in several of the islands off the western coast of Africa. It is still endemic in Madeira, although not now to the extent that it was at the end of last century. There is a leper hospital near Funchal. The number admitted between 1702 and 1803, according to Dr. Adams in his work on morbid poisons, was 890, of whom 526 were males and 373 females. In 1829, Dr. Kinnis found 17 males and 7 females in the establishment affected with tubercular or articular leprosy, in various degrees of severity. To what extent it exists in the Canary and Cape de Verde Islands has not been ascertained. Cases have been met with in St. Helena, and the disease is still seen in the Azores.

In the new world, the countries which appear to be chiefly affected are Mexico and other parts of Central America, Brazil, and several of the West India Islands. In Mexico it has been long known; it occurs chiefly among the Indian tribes, not only near the coast and in the low plains, but also in many elevated plateaus, a thousand feet and more above the sea-level. It is common also in New Grenada, Venezuela, and Ecuador. Ulloa mentions its prevalence in and around Carthagena; and, in a memorial addressed to the first congress of the Republic of Colombia in 1823, the towns of Bogota, Tunja, Casanare, Socorro, Pampluna, &c., are enumerated as being infested with it. Throughout the whole extent of Guiana—Dutch, French, and British—it is common, and is often known there under the names of "mal-rouge," "coco-be," or "boasie." In 1786, a French royal commission reported on it as it prevailed in the colony of Cayenne, where it was popularly called "Le mal rouge." Forty years later, the number of inmates in the leper-house in the town of that name averaged 60; but this number was only a small proportion of the lepers in the province. It has been recently stated that the malady has decidedly increased, of late years, in Dutch Guiana or Surinam.

It is exceedingly prevalent in different parts of the Brazilian empire, and especially in the inland provinces of Matto Grosso and Minas Geraes, and in the maritime district, of S. Paolo. In some places, almost every family is said to be tainted with the "morfea." The Governor of S. Paolo, in his report for 1840, remarked:—"It is indeed a sad spectacle, on "the road from Rio de Janeiro to this town, to meet "such numbers of persons infected with the leprosy. "In the neighbourhood of every village in the "district we find a hut or shed which serves as a "refuge for these unfortunates, who are excluded "from all society." Notwithstanding the wide prevalence of the disease throughout the entire kingdom,§ there are only three leper hospitals in Brazil, viz., one at Rio de Janeiro, one at Bahia, and one at Pernambuco.

---

* The introduction of the disease into New Brunswick has been attributed, as will have been seen from the documentary evidence in the Report, to emigrants from St. Malo during the present century.

† "The Leper Hospital at Grenada, founded by Queen Isabella, "contained (in 1859) 53 inmates, 39 males and 14 females. "Their ages varied from 14 to the grand climacteric. In a few "of the inmates, the only symptoms were small dark eruptions "on the skin; but in the majority there were tubercular elevations and excrescences on the face, forehead, nose, ears, and "frequently also on the neck, arms, and hands. In the advanced "cases, the features were much deformed by swelling and ulceration, the mouth and tongue were ulcerated, the voice was "low and husky, and occasionally one of the eyes was lost. "Several had lost fingers, toes, and even a hand; and in two "cases the whole body was one mass of corruption.

"Almost all the patients, it is stated, were inhabitants of the "sea coast in the south-eastern provinces of the country, "especially in Almeria, Adra, Motril, Malaga, Velez-Malaga, "or of Cadiz and its vicinity.

"Senor Mendez Alveiro recently stated to the Royal Academy "of Medicine at Madrid that, in 1851, there were ascertained "to be 284 lepers in nine provinces of Spain, without reckoning "many more about whom no statistical return had been ob"tained from the districts where they resided. It has been "asserted by some writers that the disease has increased since "the beginning of the present century. Of the above 284 "patients, 188 were males and 96 females. Their ages varied "from 15 years to 45; three fourths of the whole were persons "of middle age. 79 had been affected with the disease, at the "time they were officially enumerated, from one to five years, "and 122 from five to ten years. The remainder had been "afflicted for much longer periods.

"Both here (Grenada) and elsewhere it is confidently stated "that the ordinary attendants at leper houses rarely, if ever, "manifest any symptoms of the disease, notwithstanding they "have long resided in such establishments; and leprous patients "may remain at home for years, without infecting any other "member of their family."—*Dr. Webster in the Transactions "of the R. Med. Chirurg. Society*, vol. 43.

‡ Dr. Webster informs me that these inmates "were labouring "under various forms of leprosy, but none appeared examples "of pure Arabian elephantiasis; that variety being of rare "occurrence throughout this district of Europe."

§ Mr. Bates, in his recent work "The Naturalist on the Amazons, 1863," mentions the great frequency of leprosy in some parts in the interior, especially at Santarem, situated at the junction of the Tapajos with the Amazon, and which is known as the "cidade dos lazaros." Some of the best families in the place are tainted with the disease; it falls on all races alike, white, Indian, and negro, but he never heard of a well authenticated case in a European. The staple food of all classes in most parts of the Lower Amazon country is salted fish.

In the La Plata states, the disease is said to be little known, and only seen in the provinces of Parana and Uraguay in the interior. In the countries on the west side of South America, as in Chili and Peru, it seems to have been scarcely, if at all, observed, until quite recently. Cases have been met with of late years in the city of Quito.

With respect to the West Indies, the prevalence of leprosy seems to vary a good deal in different islands; for while the disease is common in Cuba, Jamaica, Barbadoes, Guadeloupe,* and St. Bartholomew, it is alleged to be of rare occurrence in Porto Rico, Martinique, and St. Lucie.

The only parts of North America, to the north of Mexico, where the disease has been met with are one one or two districts in the province of New Brunswick, Greenland, and the Aleutian Islands in the Sea of Kamschatka, between the continents of Asia and America.

Notes respecting the Leprosy of Scripture. By Gavin Milroy, M.D., &c.

The characters of the Mosaic leprosy, according to the confused and imperfect description given in Leviticus, ch. xiii., seem to consist in an eruption on the skin of raised or tuberculated, scabby or squamous, or smooth shining spots or blotches ("a rising or swelling, a scab, or bright spot"), depressed in their centre, and with the hair on them being turned white.

The colour of the spots is sometimes described as white, or reddish-white. Elsewhere we read of the eruption being "white as snow."

Various sorts of skin disease were obviously very like to the eruption of the true leprosy, and not easily distinguished from it. The main diagnostic characters of the latter were the tendency of the eruption "to spread much abroad in the skin," and the spots being "in sight lower than the (surrounding) skin," and "the hair being turned white."

The commencement of the leprous eruption in an erythematous rash seems to be indicated.

The liability to suppuration of the tuberculated spots and to ulceration may be inferred from the mention of "boils,"† and of "quick raw flesh in the rising or swelling"; and the cicatrisation of the sores is probably alluded to in the "raw flesh turning again and being changed into white."

There is no notice whatever of the destruction or falling off of the joints of the hands or feet in any cases.

No mention is made of anæsthesia or other symptom of nervous lesion, so notable a characteristic of true leprosy.‡

That leprosy was often the direct and immediate result of a Divine rebuke or judgment is distinctly affirmed. Beyond this, nothing can be gathered as to the exciting or predisponent causes of the disease. Numb. xii. 2 Kings v. 2 Chron. 19.

When its existence was suspected, the person was directed not to consult a physician, but to apply to a priest and submit to hisinjunctions; and he was required to abide by the decision of the priest.

An attack of the disease was unquestionably often temporary or of limited duration, and it was far from being always persistent or lifelong. In other cases, it was more chronic, and continued throughout life.

In the recovery of the afflicted, medicinal treatment seems to have had no part; as far as the use of ordinary remedies was concerned, the cure seems to have been "spontaneous."

The cure of Naaman by washing in the Jordan was clearly miraculous, and it seems to be implied that his malady could not be removed by merely human means.

The term "cleansing" is much more frequently used than that of "healing," when the recovery of lepers is spoken of; and "cleansing" was (at least in the Old Testament) rather an act of ceremonial purification, prior to re-admission to sacred ordinances and social intercourse, than an act of direct healing or cure. 2 Kings,

It does not seem that the disease was generally, or even frequently, hereditary. The judgment upon Gehazi, that it should "cleave unto his seed for ever," looks like a special and exceptional infliction in his case.

Individual instances of the malady in a family seem to have been of frequent, if not of usual, occurrence.

Neither is there any proof that it was considered to be contagious, or communicable from the patient to other persons by proximity or intercourse. The leper was excluded from society, and especially from participation in religious rites, because he was ceremonially "unclean"; but the like "uncleanness" was induced by other causes besides the leprosy.

It would seem that the priests might visit a leper, and even touch him, without contracting defilement.

Gehazi appears to have continued to wait upon Elisha notwithstanding the judgment that had been inflicted upon him; nor does it seem that Naaman was avoided by his family or his retinue. Uzziah, however, "dwelt in a several (separate) house, and "he was cut off from the house of the Lord," 2 Kings vii. 3. The condition of the poor lepers outside the gate of Samaria seems to have been altogether the same as existed many centuries later, in the time of our Saviour, and as it continues to exist in the present day.

As to the described signs of leprosy in garments, or in the walls of a house,—consisting, it would seem, mainly in patches or stains of greenish or reddish discoloration upon them,—and the manner in which the suspected or infected materials were to be dealt with, according to the decision of the priest, it is unnecessary to make any remark. We know of no appearances on inanimate objects that are in any way indicative of the existence of leprosy, or indeed of any particular malady. Foul and mildewed stains on clothing or on the walls of houses are, of course, evidences of impurity and unwholesomeness, and as such, they point to the necessity for sanitary purification. Beyond this, more cannot be said. Lev. xiii. 4 xiv. 34–4

I am indebted to my friend Dr. Greenhill for the following note:—

"Of the Hebrew used for *leprosy* (tsara'ath), Lee, "in his lexicon, says, that the etymology is doubtful, "but the nearest word in the cognate dialects is the "Arabic name for *epilepsy*, 'quâ prosternitur "homo.'

"In the Septuagint the word used for leprosy is "λέπρα (certainly sometimes, probably always), which "is connected with λέπις, a husk or scale."

---

* Dr. Adam Neale quotes, from the 50th vol. of the "Philos. Transactions," the Report of a Commission appointed by the French Government in 1748 to inquire into the prevalence of the disease in Guadeloupe, where it had first attracted notice about 25 or 30 years before. The Commissioners examined 256 suspected persons; of this number, 125 (22 whites, 6 mulattos, and 97 negroes) were affected with the developed disease. As many of the patients resided on elevated situations as in the low marshy plains. The prevalent belief was that the disease had been introduced into the island by negroes brought from Africa, with the disease already upon them when they arrived.

† Whether the "sore botch that cannot be healed, from the sole of thy foot unto the top of thy head," was of the nature of leprosy can, of course, only be conjectured.—*Deut.* xxviii. 35.

‡ Possibly, the withering or wasting of the flesh, and the paralysis or loss of power in the parts affected, in the cases of Miriam, Naaman, and Jeroboam (whose sin was similar to that of Uzziah, when he was smitten with leprosy,) may be allusions to this class of symptoms. The expressions referred to are these:—

"Let her not be as one dead, of whom the flesh is half consumed when he cometh out of his mother's womb."—*Numb.* xii. 12.

"Go, wash in Jordan seven times, and thy flesh shall come again to thee."—2 *Kings* v. 10.

"And his hand, which he put forth, dried up so that he could not pull it in again to him."—1 *Kings* xiii 4.

Answers to the Interrogatories on Leprosy by W. E. Nourse, F.R.C.S.

1. I have seen leprosy in *England*, in *Egypt*, and in *Norway*, and will answer as far as I know respecting each.

a. I am acquainted with two forms only of leprosy, the tubercular and the anæsthetic. In *Norway*, I saw instances of both forms; in *England*, the tubercular form only; in *Egypt*, both forms.

b. I consider these two forms only as varieties of one common morbid state or action, and not as distinct diseases. But the "Barbados-leg" I look upon as a totally distinct affection, having nothing to do with leprosy, though some have thought otherwise. A Hakim or Arab doctor at Assouan told me, on my inquiring for leprosy by its Arab name of *dsjuddam* or *judam*, that he was perfectly well acquainted with it, and every now and then saw a case. I also asked him if he were acquainted with the elephantiasis Arabum or Barbados-leg, calling it by its Arab name of *dal fil*. He said that he sometimes saw it, and he thought it quite distinct from the other. There appeared no reason to doubt this man's assertions. Assouan, the ancient Syene, is of importance as a place of call on the journey between Egypt and Abyssinia, and, among the various races of people passing up and down and residing there, he would be likely to observe many forms of disease.

c. In the anæsthetic form of leprosy, of which I have seen but few cases, the characters noticed were paralysis associated with various blotches on the skin and a clubbed appearance of the hand where the fingers had been destroyed by necrosis. In the tubercular leprosy, which seems to me to be the more common form, the characters noticed were soft purplish blotches on the face, deposit of tubercles along the eyebrows, giving a sort of fierce and lion-like aspect (the leontiasis of the older writers), thickening of the lips, tubercular swellings in a state of ulceration with a very evil smell, and destruction of the sight by tubercular deposits on the cornea.

2. I am not acquainted with any facts showing the commencement of leprosy to be limited to any particular age. In three cases only did I see the beginning of the disease. One was a patient ætat. about 44, who had repeated attacks of erythema of the cheeks, lips, and chin, leaving irregular thickening. Another was a patient of about 50, who had chronic tubercles deposited upon the forehead and neck. The third was about 60, and had soft purplish blotches over the face.

6. Leprosy appears to me to be confined to the lower order of people, and to be most frequent:

a. Near the sea.

b. In dirty, ill-ventilated, ill-drained houses.

c. Among people of personally dirty habits, and who are compelled by poverty to wear their clothes a long time; and

d. Among ill-fed people, who would not only get *insufficient* food, but who would also eat things rejected by others as being of *inferior quality*.

8. Leprosy is considered in Norway to be undoubtedly hereditary, and to be perpetuated and increased there by lepers marrying and having children.

9. I have no reason to believe that leprosy is connected with any other disease, except in the rare and curious recorded cases of its co-existence with scabies Norvegica, and except so far as we may think we trace the remains of it in lupus, cheloid, &c., in the present day.

10. I have met with no instance of leprosy communicated by contagion.

11. In the absence of any cure for leprosy, the the legislature of Norway had it in contemplation to enact a law for confining lepers in asylums, that the disease might not be perpetuated and increased, as was the case, by marriages; but in the session of Storthing for 1851 the proposition was rejected.

12. In Norway there are at Bergen separate hospitals into which lepers are admitted. These hospitals form one stitution only, but are erected as distinct buildings for convenience, being made of wood. The old building in 1850 was dark, close, and ill-ventilated; and being used for the severer and incurable cases, in which there is often extensive foul ulceration, had a bad smell. The new building was clean, light, airy, and spacious. Here were placed the cases in which there was a chance of cure. In the session of Storthing for 1851, 30,000 dollars were voted towards the erection of another building to the hospital, any further expense to be defrayed by the neighbouring counties.

15. With respect to spontaneous cure of leprosy, I saw at Bergen two formerly bad cases in which a spontaneous cure had taken place. One of them, an elderly woman, is figured in the Atlas of Drs. Danielssen and Boeck. Both patients were seamed with cicatrices where former ulceration had gone on.

Brighton, December 16, 1862.

Observations on the true Leprosy or Elephantiasis, with Cases, by Erasmus Wilson, F.R.S.

The term elephantiasis is applied by the ancient writers to two diseases, distinct in their nature and without analogy with each other, the one being a constitutional, the other a local, affection; hence the terms elephantiasis Græcorum and elephantiasis Arabum, in other words, elephantiasis as understood by the Greeks and elephantiasis as understood by the Arabs. It is the former of these which is recognized at the present day as the true elephantiasis or leprosy, and which forms the subject of the present enquiry.

About 20 cases of elephantiasis have come under my observation, of which I have preserved the notes of 19. Eighteen of this number occurred in the persons of Europeans, and one in a native of Hindostan. The sources from which the cases were derived are the East Indies, including the islands of Ceylon and Mauritius, which together number 16, and three from the West Indies. Their particular source was as follows:—

Hindostan	10
Ceylon	1
Mauritius	5
West Indies	3

In reference to sex, 16 were males and three females; the age of origin ranging between 7 years and 67, and the duration of the disease being 10 years.

These cases illustrate very fairly the three periods of the disease, namely, its *latent* period, its *febrile* period, and its *persistent* period; together with its chief varieties of manifestation, namely, neurotic or anæsthetic, cutaneous or tubercular, and mixed tubercular and anæsthetic. Case 11 draws the attention to a remarkable resemblance between elephantiasis and syphilis, and suggests a comparison with the latter disease. And several of the cases raise the question of the possibility of contagion by inoculation or by lactation.

It is evident that long residence in countries in which the disease is endemic predisposes to its attack, while birth in an infected country takes the place of long residence. The disease is not contagious in the ordinary intercourse of life, and possibly also in the more intimate intercourse which takes place among married persons. On the other hand it is clearly *hereditary*, and manifests all the variety which belongs to hereditity; one child only of an infected parent out of a family of several children may be attacked, or the transmission may be collateral, or one generation may be passed over and the succeeding generation be the sufferer. In one of the cases the disease was developed after vaccination, but vaccination may have been only the exciting cause. In another the disease followed syphilis, and was thought to be secondary syphilis; but time discovered its true nature, and further enquiry determined that

the source of the syphilitic poison was a leprous woman. And in this case it may be asked, Did the leprous taint creep into the blood with the syphilitic poison, or did the syphilitic disease merely act the part of an exciting cause to the leprous diathesis already engendered by birth and residence in an infected country? This question important in itself, becomes doubly so in relation to lactation; many European mothers in Hindostan are too feeble to suckle their own infants and the latter are consequently entrusted to native nurses. In India there is a religious abhorence of leprosy; the existence of a leper would be quickly discovered, and, being discovered, the person would be shunned. But the cases before us show that leprosy may exist in the system in a latent form for months, and probably for years, without declaring its presence; and, therefore, with all the care that could be taken, a nurse might be selected for the infant, and in that nurse's system, unknown to herself or to others, the seeds of the disease might be lurking and might be conveyed to the foster child.

Elephantiasis corresponds with the exanthemata and with constitutional syphilis in having its period of latency and its period of activity. But the period of latency of rubeola, scarlatina, and variola is only of a few days' duration, the period of latency of syphilis, a few weeks; while the period of latency of leprosy is many months, possibly years. Even the exanthema of elephantiasis may be developed in the skin by so insidious a process as to remain undiscovered until it had been in existence for many months. Sooner or later, however, the fever of leprosy declares the exanthematous relations of the disease; after several days of constitutional febrile excitement, an erythematous exanthem is thrown out upon the skin, and this operation being effected, the febrile excitement suddenly subsides. But here a contrast becomes apparent between the ordinary exanthemata and elephantiasis, and we can find a parallel only in syphilis. Rubeola, scarlatina, and variola having entered upon the exanthematous period, run a specific course and cease, never to return from the same infection. But after the exanthematic period of syphilis has subsided, it may return from time to time intermittingly and at irregular intervals for a number of years. So also is it with elephantiasis; after the first exanthematous attack has subsided, an interval follows of more or less complete rest; and then the febrile period returns and runs the same course as before; and a similar succession, of febrile excitement, of exanthematic exacerbation and subsequent rest constitutes the course of the disease and continues in an intermittent form for the rest of the patient's life.

Another parallel with the exanthemata is evinced in the irregularity of the stages of elephantiasis; just as we may have rubeola and scarlatina and syphiloderma, *sine febre*, so we may equally have elephantiasis passing imperceptibly from its latent to its persistent stage without any trace of febrile excitement being discoverable. On the other hand, the febrile attack is sometimes remarkable for its severity, and may assume an intermittent character, each febrile paroxysm being followed and relieved by an exanthem or by a neurotic congestion.

The cases also serve to illustrate the independence of elephantiasis and syphilis; in one, syphilis preceded elephantiasis, and was cured before the symptoms of the latter affection attracted attention. In another, the patient became the subject of syphilis after the elephantiasis had been in existence for some years. Nevertheless, elephantiasis approaches more nearly to syphilis in its phenomena than to any other disease with which we are acquainted. In both there is the long period of latency; in both the exanthematic fever, the eruption on the skin, the affection of the mucous membrane, the neurotic symptoms, the ulceration of the soft tissues, and the affection of the bones. In both there are the lengthened intermissions, and the recurrence of the same series of symptoms during the entire lifetime of the sufferer. In both also there is a destructive metamorphosis, more or less complete, of the tissues which are attacked. But there are differences also as well as resemblances; syphilis tends in its processes to spontaneous cure; elephantiasis has heretofore been deemed incurable. The intermissions of syphilis are periods of complete suspension of morbid action. The intermissions of elephantiasis are simply a diminution of the severity of the symptoms; a temporary retirement of the disease, to be followed possibly by a powerful reaction. In admitting therefore an analogy between elephantiasis and syphilis, we should be unwilling to recognize an identity, however remote. The analogy is simply that which belongs to the exanthemata in general; and we possess a sufficient insight into the morbid phenomena of elephantiasis to be enabled to assign to it a place, not far removed from the more common exanthemata, but separated from them by the interposition of syphilis.

In referring to the analogies of elephantiasis and syphilis, we allude to the constitutional affection of the latter, embracing the two periods known as the secondary and the tertiary. The mode of transmission of the primary affection bears no resemblance to that which obtains in elephantiasis; but recent researches have placed beyond a doubt that syphilis in its secondary stage, and not improbably in its tertiary stage, is transmissible; and it is with these periods alone that elephantiasis admits of being compared. If ever there existed a period in elephantiasis corresponding with the primary period of syphilis, the symptoms of such a period have long since been lost, and at the present day are unknown. There may, in earlier times, have been such a period; and the elephantiasis of the present day may be only the constitutional affection which that disease has left behind it; but we see no grounds for such a belief.

The poison of syphilis is known; but the poison of the common exanthemata is unknown; and the poison of elephantiasis is equally unknown. This unknown poison, whatever its source, whether malarious or organic, produces a slow disorganization of the blood; the blood, having reached a certain stage of disorganisation, occasions paralysis of the vasomotor nerves of the capillary plexus, let us say, of the skin; the capillary vessels lose their contractile power and become dilated; a congestion results; this congestion occurring in rounded spots in the vascular layer of the corium of the skin is the exanthema of elephantiasis. The exanthem may be a single congested spot, say on the cheek, as in Case 9, or it may be a sprinkling of similar spots more or less numerously, and more or less extensively distributed over the limbs, the trunk, or the entire surface of the body.

In the early stage of the disease, the exanthematous spot is the only pathological lesion of the skin; but after awhile, with or without a febrile paroxysm, and as a consequence of a further exhaustion of vital power of the part and possibly of the entire organization; the congested spot relieves its vessels by transudation of the serous portion of the blood into the intervascular tissues. The spot is no longer simply coloured; it is hard to the touch, it is elevated; sometimes the elevation is of small extent and dense, constituting a tubercle; sometimes it is broad, constituting a circumscribed blotch. In either case the surrounding cellular element of the corium and subcutaneous tissues sympathises; the former becomes thickened, the latter œdematous; the skin acquires an aspect of coarseness resembling the rind of an orange, commonly, but erroneously, expressed as an enlargement of the pores of the follicles, while the infiltration of the cellular tissue produces puffiness and swelling.

When first seen, the exanthematous spot is a mere erythema or blush; after a while, a distended vascular network makes its appearance and occupies its area; while later still, the vascular network disappears, and a few straggling venules remain in its place. Co-

incident with these changes, the affected spot is at first opaque like the surrounding skin, and subsequently semitransparent like the outer covering of brawn, and as though gelatinized. As the appearance of gelatinification advances, the vascularity of the skin diminishes, and when it reaches the highest point of transparency, then a few scattered venules are all that remains of its original vascularity. Tested with the microscope, the gelatinous tissue is found to correspond with the lowest and most immature form of cellular tissue; it has undergone a complete structural degeneration, and like fœtal cellular tissue is made up of multinucleated cells in process of proliferation, surrounded by a gelatinous albuminous element and fat-cells. It is manifest that the lowered vitality of the part has resulted in structural degeneration; and that this structural degeneration is the preliminary stage of atrophy and ulceration. In the former case the skin becomes thin and smooth like a cicatrix, and like a cicatrix loses its normal texture and pigment; in the latter case it passes into a state of unhealthy suppuration or destructive ulceration which sinks through the investing soft tissue down to the bone.

Gelatiniform degeneration is not an uncommon process in the pathology of the skin; we have described it in connection with the third period of syphilis, and also in lupus non-exedens, and in both instances, as well as in lupus erythematosus, it is accompanied with atrophy. While in tertiary syphilis the structural changes preceding the state of atrophy, are similar to those above noticed in relation to elephantiasis;—there is the cutaneous blush; the hypertrophy of the capillary plexus; the transparency of the infiltrated tissue; its subsequent disappearance; and the depression caused by the absorption of the degenerated tissue, in other words, atrophy resulting in a cicatrix, where no superficial solution of continuity had previously existed.

The cutaneous phenomena of elephantiasis, being under our visible observation, are the first to attract attention; and they are by no means the least important, inasmuch as the morbid processes which we are enabled to see in progress there may be shown to be identical with those which are taking place in hidden parts of the economy. In the skin we have the erythematous blush, of a red, verging on blue, the intermediate tints being lilac, rose, purple, and livid, more and less intermingled with the yellow and the green of cachexia. Then we have an excess of black pigment, deposited in the skin, resulting doubtless from a destructive metamorphosis of the red particles of the blood. And lastly, we have the destructive degeneration of the tissues of the skin, and the consequent removal of the pigment and atrophy; leaving in its place the white spot of *leuce*.

Our cases also illustrate an affection of the mucous membrane, similar to that already described in the skin; the conjunctiva sometimes congested with a network of dilated capillary vessels; sometimes anæmic and streaked with small venules, and sometimes infiltrated and thickened; the mucous membrane of the nares exhibiting similar changes, as evinced by dryness and obstruction of the nostrils, sometimes copious mucous discharges, the latter being occasionally tinged with blood, as though the distended capillaries had yielded to the pressure of their contents, and had given way. Then the spotted buccal membrane, the palate, and the fauces; the thickening of the columns of the soft palate; the enlargement of the mucous glands of the pharynx; and the thickening of the mucous lining of the glottis and chordæ vocales, rendering the voice hoarse, and destroying its power. Then at a later stage of the disease, albuminaria, chronic diarrhœa, and dysentery, conjoined, as proved by post-mortem inspection, with congestion of the kidneys, and enlargement and ulceration of the mucous glands of the intestines.

But there is another phenomenon, of the first importance in connection with elephantiasis. Heretofore we have regarded only the surface manifestation of the disease, cutaneous and mucous, that form of manifestation, which exhausting its violence on the skin, gives rise to no very serious organic symptoms; which however carries the morbid processes in the cutaneous tissues to their highest point of development, which produces tubercles on the face and on other parts of the body, and causes deformity of the features, without a corresponding exhaustion of the general powers of the economy, which, in fact, constitutes *tubercular leprosy*. The other phenomenon to which we refer being an affection of the nervous system. Tubercular elephantiasis may run its course, even to a fatal issue, without pain; but, occasionally, pain takes a prominent part in the phenomena, and we are made aware from the first that we have before us a disease in which the nervous system is specially involved; this is *anæsthetic leprosy*. The pains sometimes seem to be confined to the skin, and are associated with the cutaneous exanthem, and sometimes they shoot along the limbs assuming a fugitive, an intermittent, and at a later period, a permanent character.

Pains may be present at all the three periods of the disease; they may be too slight to attract attention in the latent period, and be set down to neuralgia or rheumatism; they may be acute and wearisome in the febrile period; and they may accompany the persistent period to the end, and be the chief symptom of the presence of the disease. Danielssen and Boeck have shown that the pathological changes, which give rise to the nervous pains, are identical with those already described as taking place in the skin, that there is congestion of the capillary plexus of the sheaths of the nerves, giving them a deep red colour, followed by the exudation of a viscous gelatinous fluid, which infiltrates the cellular tissue of the sheaths, and the connecting tissue of the nervous fibrillæ, and distends the nervous trunks to double or treble their natural size, causing them to become so big that they can be felt, and sometimes seen through the integument.

In the cutaneous exanthem the nervous plexuses are necessarily pressed upon by the enlarged and distended capillary vessels, and the congested skin becomes painful and highly sensitive to the touch, constituting *hyperæsthesia*, while an increase of the pressure by exudation benumbs the sensibility of the skin, and induces *anæsthesia*. Hence with the erythematous congestion there is commonly an augmentation of sensibility, while a few weeks or months later the tender part may have lost its sensation more or less completely, and may be pinched or pricked without exciting the attention of the patient; and sometimes, as we see illustrated in Case 13, the sensation of the part may be destroyed without any foregone pain, and without any notice to the patient of the morbid process being in operation.

The neurotic affection of elephantiasis begins at the periphery, and proceeds towards the centre; the cutaneous nerves are first destroyed, then the nervous trunks that supply those nerves, and slowly and by degrees the nervous centres, namely, the spinal cord and the brain. At first and for years these morbid changes are attended with fugitive and shooting pains; but ultimately they terminate in perfect insensibility, so that the knife may be used without pain, or a taper may be held to the affected skin, without being discovered by the patient.

In Case 9 it is mentioned that a part of the foot or hand of the patient was seized with a dull aching pain; that in a few days the pain ceased, and a blister formed upon the painful part; the blister broke, its exudation was discharged, and the part healed. This process began in the foot, then attacked one hand; at a later period both feet and both hands. The pathological operation was in each case the same—a vascular congestion involving a branch of a nerve, and producing hyperæsthesia and pain; then an exudation into the nervous sheath, producing pressure on the nervous filaments, and benumbing

their sensation; then effusion upon the surface of the corium, and the production of a blister. The process is not very dissimilar to that which occurs in chilblain, and in both instances is attributable to the owered vitality of the part, the material difference being that the one is referable to a temporary and the other to a permanent cause.

But after a time the blister no longer heals with the readiness that it exhibited at first; the skin ulcerates, and a sore is formed which may remain open for months or years, and continue discharging an albuminous and semipurulent secretion; or, it may happen that a part of the integument of the foot or of the hand becomes painful and swollen, and in a short time shows signs of suppuration. It soon after bursts, and discloses a deep ulcer, which discharges copiously a semipurulent and thick viscid albuminous fluid. The ulcer is insensible, and is deeply excavated; but after a time ceases to discharge, dries up, and heals, leaving behind it a bluish white, thin, and smooth cicatrix.

After a preliminary ulcer of this kind other ulcers are apt to form in the same manner; generally one only at a time, and most frequently in the first instance on the foot. The new ulcer shows no disposition to heal, but sinks deeply into the substance of the part, wasting the soft tissues until it reaches the bone; then the exposed bone loosens, if a toe it will probably be the middle phalanx, if the sole of the foot it may be a tarsal bone; in either case the loosened bone is discharged after a time through the ulcerous opening; the ulcer contracts, the sore heals, and the member is distorted by the loss of its osseous support; a toe or a finger, or several toes or fingers, may thus be drawn back upon the dorsum of the foot or hand, or inwards upon the sole or palm, or the foot may be clubbed.

One of the most striking of the features of anæsthetic leprosy is the great relief which is afforded to the whole system of the patient by the abundant discharges which take place from these ulcers. So long as the discharge continues the patient enjoys a state of comfort, but the moment it ceases, fugitive pains and febrile symptoms are set up in the economy; sometimes a low form of delirium; and are again relieved when a new ulcer forms and runs through the same course as its predecessor, to the destruction and loss of another bone, and the consequent production of further distortion and deformity. These ulcers are usually confined to the extremities—the feet and the hands, and owe their origin to the loss of nervous power, occasioned by the morbid changes already described as taking place in the nervous system. Danielssen and Boeck remark that the first ulcer robs the foot of a middle phalanx, subsequently other phalanges, with the metatarsal and the tarsal bones, are lost, until the entire foot is amputated by a painless operation at the ankle joint; the cartilage of the joint possibly blending with the cicatrix of the ntegument. As we have before remarked, these ulcers are commonly solitary, first attacking one foot, then, perchance, a hand, then the other foot, and then returning to a hand. The relief to the general system resulting from the discharges from these ulcers is probably derivative in its operation.

A sensation of coldness of the surface and of the extremities is a common symptom of elephantiasis, and is generally associated with anæsthesia, and not with an actual reduction of temperature. Cases 3 and 12 are examples of great suffering from the sensation of cold; the hands and feet were warm to the touch, while the sensation of the patient was one of icy coldness. In advanced stages of the disease Danielssen and Boeck have observed a real reduction of temperature amounting to upwards of twenty degrees of Fahrenheit (10° Reaumqr) in the hands, and nearly five degrees (2° Reaumur) in the mouth, anus, axillæ, and groins. Under these circumstances the sufferers are comfortable only when placed close to the fire, or covered up with bedclothes. The gentleman whose state is reported in Case 12 wore warm gloves in his apartment in the summer season, and at the same time had a fire in his room.

When elephantiasis makes its attack before puberty the functions of that period are delayed or suspended; in males the hair of the beard fails to be produced; the voice and manner remain puerile; and in females menstruation is deferred, and is ultimately deficient and irregular. After puberty the male generative system may possibly be unduly stimulated. Cases 2 and 11 had contracted syphilis, and both these patients suffered considerably from nocturnal emissions and the exhaustion attendant on that disagreeable affection. Among the females it will be seen that Case 9 became pregnant for the first time, and after eight years of marriage, subsequent to the invasion of the disease; that her general state of health improved during the pregnancy, and that she was safely delivered, at the full period, of a remarkably fine child.

Treatment.—In seeking to establish a principle of treatment of elephantiasis we must endeavour to arrive at some conclusion with reference to the nature and cause of the disease as well as with regard to the signification of its pathological phenomena. It seems probable that the morbid influence under which the disease is generated is a *malaria*, and that in its nature the disease is an *exanthematous intermittent fever* of the asthenic type. We hear of it first as prevailing on the banks of the River Nile, and thence spreading along the coast of Syria, of Turkey, and Greece, and through Italy and France into England. From England we find it moving northward into Scotland, and thence to the coasts of Norway and Sweden. Uninfluenced by climate, and existing at the same moment in the tropics and near the pole, it remains true to its selection of the coasts of the sea or the borders of large rivers. Pursuing the coast of the Red Sea it may have found its way to Hindostan, to China, and to the islands of the Indian Ocean. Some of the most prolific nests of the disease are to be met with in this region, namely, in Madagascar and the Mauritius. And following the coast of Africa in a westerly direction, it has accompanied the African race in their migration to South America and the West Indies.

The causes of elephantiasis, whatever they may be, tend to the production of a *diathesis*, and such diathesis is transmissible by generation. Our cases also favour the supposition of the existence of other modes of transmission, namely, by lactation, by vaccine inoculation, and by syphilitic inoculation. The first of these methods of contagion lies beyond the reach of remedy, the others are preventible. But whatever the origin of the disease, the principle of treatment must in every case be the same. On the suspicion of the existence of the disease, and during its latent period, our endeavour must be to prevent the maturity of the diathesis. The febrile period must be controlled by antiphlogistic remedies, and the persistent period treated with a view to the maintenance of the natural functions, to the support of the powers of the constitution, and by such specific means as experience has shown to be useful in this disease.

The first effect of the malarious poison on the system is to produce malassimilation; we must, therefore, endeavour to improve assimilation. And, to this end, we may expect to find quinine, nitro-muriatic acid with a bitter infusion, small doses of arsenic, and saline aperients, combined with the use of mildly stimulating baths, generous diet, good air, and regular exercise, of great service; or, we may conjoin with a tonic-aperient system the administration of catalytic remedies, such as the sulphites, to neutralize the operation of the morbid processes in the blood. And in some instances we may expect results from the nutritive influence of cod-liver oil. The baths specially adapted for this disease are the ammonia bath, and the nitro-muriatic acid bath.

The febrile period is to be combated with the ordinary saline treatment and mild aperients.

The persistent period will demand an extension of the plan laid down for the latent period, with the addition of more decided tonics such as the tincture of the sesqui-chloride of iron, iron with phosphoric acid, the citrate of iron and quinine, iron with arsenic, quassia, and a continuance of the catalytic remedies and baths.

Assuming elephantiasis to be a mal-assimilation originating in malaria, we should not *à priori* expect to derive much assistance from mercury and iodide of potassium, the great emunctory remedies so valuable in syphilis; and experience has proved that these remedies employed as emunctories have been more injurious than useful in this disease. Cases 11 and 12, under an erroneous diagnosis were both treated largely with mercury and iodide of potassium, and the symptoms of the disease were certainly aggravated by the remedies. Nevertheless I can conceive the existence of circumstances that might render the administration of mercury and iodine in a modified form of considerable utility. Iodide of potassium is suggested not only on account of its antisyphilitic powers, but also as a remedy against the neuralgic pains, and an absorbent of the deposits accumulated in the tissues constituting thickening and tubercles. The opinion of Danielssen, however, on this point is far from being encouraging.

CASE 1.—*Elephantiasis tuberculosa; duration of latent period, two years; total duration, five years; no pains; febrile attack simulating rubeola; vaccinated from a native child.*

A young gentleman, aged 16, with fair hair and complexion, and somewhat more youthful in appearance than might be expected of his age, has been afflicted with the tubercular form of leprosy about five years. He was born in Ceylon, is the son of European parents, and one of six children, all of whom are healthy. His father and mother have always enjoyed good health, the father having resided in Ceylon for 20 years, the mother since her marriage. He was nursed by his mother, but vaccinated with lymph taken from a native child.

Our patient was sent to England for his education at the age of nine; he had suffered from dysentery while in Ceylon, but had recovered and was in good health on his arrival in this country. About two years after that period his mother remarked an alteration in the appearance of his countenance; it was pallid, had a yellowish brown tint, and was somewhat spread out, as though the features were enlarged and flattened; he shunned amusements; was fond of sitting alone and secluding himself; became remarkably timid, and had frequent fits of crying. There was no alteration of the animal functions and no suspicion of his being out of health; his peculiar habits being attributed to idiosyncracy rather than to disease. In March 1863, when he was thirteen years and three months old, he was seized with an exanthematous fever, which was regarded as rubeola, and which confined him to his room for 14 days. There was nothing unusual in the febrile symptoms; he was chilly and sleepy; had headache, thirst, and loss of appetite; and, being sent to bed, an exanthem appeared upon his body, chiefly he thinks on his legs. He does not remember if he had coryza and catarrh; but he was the only boy in the school seized with the disorder; and the spots which then broke out upon his skin became permanent, and have remained so until the present time.

His face and the uncovered parts of his neck are of a reddish brown hue, contrasting strongly with his light hair and the normal fairness of his skin; the deepest tint of brown with a yellow tinge is apparent on the forehead, and a roseate and purplish tint plays about his nose and ears. His hands are deeper in hue than his face, and are of a blackish brown or bronze colour. These are the three varieties of colour commonly met with in the skin in this disease; a brown, which is sometimes reddish or copper coloured, sometimes yellowish, and sometimes blackish, or melasmic, or bronze coloured. On removing his clothes the brown tint was found rising up the arm to the shoulder and from the foot to the groin, becoming lighter in its ascent and leaving the trunk of the body of its normal, fair-complexioned tint. The feet are of a livid brown colour and always cold.

The skin of the face is of an uniform tint; there are no maculæ, but there is an evident swelling or thickening of the integument, which has altered the natural appearance of the features. The brow is somewhat heavy, the alæ of the nose spread out, and the ears prominent. The pores of the skin also are more apparent than usual from hypertrophy of the intermediate skin. But a more striking character perceptible on the face is a crop of small tubercles, two lines in diameter and one in elevation, sprinkled over the surface. About forty of these tubercles are dispersed upon the forehead, a cluster of fourteen being situated just above the root of the nose. A few of the tubercles are three lines, and three upwards four lines in diameter. The smaller tubercles do not differ in tint of colour from the surrounding skin, but the larger ones are semi-transparent, as though gelatinized and traversed by three or four minute venules. There is also an incipient nodulation of the anterior border of the helix of the external ear. Before leaving the face we may remark that the eyebrows are scanty and thin, there is a general baldness of appearance of the face, and the conjunctiva is pallid and traversed by hypertrophied venules.

There are no signs of disorder in the mucous membrane of the nose, mouth, or fauces; but the voice is weak and somewhat altered from its natural tone.

The tubercles on the face were originally maculæ of a pale pink colour, and were not elevated into their present shape until a year after the supposed rubeola. Similar spots were apparent on the lower limbs during the rubeolous fever, and are now to be seen on both lower and upper extremities, together with a faint roseolous rash on the front of the chest and abdomen.

The circular maculæ dispersed on the arms and legs have a reddish and yellowish brown tint, they are slightly elevated by transudation into the tissues of the corium, and larger on the legs than on the arms. For the most part isolated, and having an average diameter of somewhat more than two lines; they are here and there collected into circular blotches measuring nearly half an inch in diameter, and are variously elevated according to the amount of œdematous infiltration. They are scantily dispersed over the scapula, are numerous at the point of the shoulder and the back of the upper arm, but most abundant on the forearm, and are absent on the hands, their place on the latter being occupied by the bronzing of colour already mentioned and by a puffy œdema of the back of the metacarpus, more particularly at the radial side. On the lower extremities there is a cluster of raised maculæ over the buttock, a few on the upper part of the thigh, but many on the leg, and the instep like the back of the hand is puffed by œdematous infiltration. The maculæ are numerous on the soles of the feet, and the integument near the root of the toes is somewhat œdematous and benumbed. As we have already noted, there is no melasmic pigmentation of the skin of the trunk of the body, and the front of the chest and abdomen presents a faint roseolous mottling.

Turning to the mucous membrane, we find the conjunctiva pale on the inside of the lids, but congested on the eyeballs. He has had a feeling of "stuffiness" of the nostrils for about two years, and is subject to frequent attacks of catarrh. About six months back the mucus from the nose was streaked with blood. The mucous lining of the fauces is normal, and no change is visible in the neighbourhood of the glottis to account for his change of voice. His tongue is clean and appetite good, but he suffers occasionally from what he calls bilious attacks. The abdominal organs are apparently healthy, and his general condition normal.

He has had no pains or aches of any kind, nor any indication of affection of the nervous system, beyond a feeling of numbness in the sole of the feet, a numbness that extends up the right leg to the hip, and a constant coldness of the feet. These are symptoms which have scarcely attracted his attention, but may be the beginning of neurotic disorder. He sleeps well without dreams or discomfort, and although greatly depressed in spirits formerly and frequently weeping, he is now applying his mind cheerfully and hopefully to the study of the classics preparatory to commencing a professional education.

It cannot be questioned that this is a case of tubercular elephantiasis, for the skin and mucous membrane are almost solely attacked; there have been no neuralgic pains, and only a very trifling affection of the cutaneous nervous system. It must be noted also that the tubercles are not whitish as they sometimes are in tubercular leprosy, but transparent and yellowish, the tissue of the skin having undergone a gelatinous metamorphosis, common in this affection, and met with also in tubercular syphilis and lupus non-exedens and cyrthematosus. We have remarked above that the semitransparent tubercles are streaked on the surface by the straggling trunks of several minute veins. This case is interesting, also, as exhibiting the insidious and progressive character of the invasion of elephantiasis. With the exception of the rubeoloid attack, nearly three years ago, he has suffered no febrile symptoms whatever.

Case 2.—*Elephantiasis tuberculosa; ten years' duration; neuralgic pains; cutaneous anæsthesia; a brother fatally attacked with the mixed form of leprosy.*

A young man, aged 17 years and 10 months (1865), was born of European parents in Bombay, and resided in that city until April 1863, when he was sent to England for his health.

His father went from England to India at an early age, and held a civil appointment there; his mother was born in India of European parents. The father was twice married, and had children by both wives; seven by the first and four by the second. The mother was also married twice, and by her former husband had four children. She died, at the age of 32, of disease of the liver; and the father died at 49, of disease of the thoracic organs, when our patient was one year old.

Of the three sets of children, the first two families were healthy, and of the last, four in number, the eldest and the youngest became the subjects of elephantiasis; the two intermediate children, a brother and a sister, remaining sound. The eldest son died of mixed elephantiasis, at the age of 23 (Case 14). The youngest is the patient whose case we are now recording.

Our patient had good health as a child, and underwent the operation of vaccination with success. At the age of seven or eight, while at school, and without previous illness, he first perceived a brown spot or blotch upon the left forearm; subsequently, a similar spot appeared upon the outer side of the right leg, and after an interval, on the inner side of the left knee, and afterwards on the thigh. With the exception of the spot on the right leg, the right side of the body remained free until 10 years later. The spots were more numerous on the lower limbs than on the arms and occupied the region supplied by the cutaneous branches of the crural nerve in the leg and the internal cutaneous nerve in the arm. Subsequently to these appearances on the limbs, numerous spots, of the size of a small wafer, appeared upon the face and entire body.

Having his attention drawn to the occurrence of spots upon the skin, he noticed that their colour, at their first appearance, was a beautiful pink, that by degrees they assumed a purple tint, and subsequently faded to a dirty brown. At the present time there are examples of these shades of colour, excepting the early pink, on different parts of the body. There is a slightly-elevated tumour of about an inch in diameter upon the left cheek, the surface of the tumour being mottled with pink and purple, and a swelling over the ball of the thumb has the same tints, resembling a large chilblain. A similar swelling on the inner side of the left calf is knotty, and involves the saphenous vein, and the femoral glands on that side are enlarged. The colour of the principal spots may be compared to that of the mulberry; and when chilled they have a leaden hue.

The swelling of the blotches is a recent event, and did not occur until a year back, after he had become affected with chancre and was salivated for its cure. During this treatment he was feverish and ill, and lost his appetite. He then had "pains in the flesh;" these pains were followed by redness and swelling, and, by degrees, the pains ceased. The attack of pains was periodical, occurring once a month; he lost them however during his voyage to England, and regained his appetite, but having become wet and chilled during the late inclement weather of October the pains have returned. They are not deep-seated, but simply cutaneous pains of the flesh, as he terms them; and he remarks that they had increased in severity at each recurrence.

During the prevalence of the pains "in his flesh" he has some degree of feverishness which comes on in the evening with chilliness, and while in bed is followed by burning heat, but he has no perspiration, and his skin is commonly dry. When suffering from these feverish attacks he loses his appetite. He has also been troubled, since he left India, with nocturnal emissions; they take place for two or three nights in succession, and after a similar interval, and sometimes occur twice in the course of the night.

In the interval of the feverish periods and the cutaneous pains his spirits are cheerful; he reads, and sees sights, and he enjoys himself. He sleeps well at night, and has no drowsiness during the day. He was taken from school at the age of 15, in consequence of the illness under which he now suffers, and was put into a merchant's office, where he remained until his present visit to England.

In general appearance he is short and thin; his head is somewhat large for his body, and the face pale and tawny. The expression of his face is dull and dejected; the skin is thickened and roughened by small whitish tubercles of about the size of a split pea, which have shown themselves during the last month, and the spaces between the tubercles mottled with a dirty brown tint. The only hair on his face, with the exception of the eyelashes, is that of his eyebrows, which are thin and scanty.

On closer inspection the integument of the forehead is seen to be thickened and nodulated, particularly in the region of the eyebrows. The eyes are dull, the conjunctiva pale; the nose enlarged and nodulated; the cheeks are also thickened and nodulated; and the ears present the same character. The heavy brow gives a pensive thoughtfulness to the face, and reminds us of the leonine countenance characteristic of leprosy. Numerous small whitish tubercles, of the size of a split pea, are dispersed over the whole face, and on the left cheek is a large prominence, looking like a subcutaneous abscess, mottled with red and purple. This prominence is affected with the periodical pains already described, but is not tender to the touch, on the contrary, it evinces a degree of anæsthesia, which is also met with in the similar swellings on his leg and arms.

It is evident that the manifestation of the disease has been accompanied by an arrest of development of the body generally, and the check to development is especially shown in the non-production of hair, not only on the face but upon the entire skin, with the exception of the head and pubes. We have already remarked on the thinness of the eyebrows, which gives a bald appearance to the face; and he informs us that his brother lost the whole of the hair of the pubes previously to his death.

The voice is puerile and weak and somewhat hoarse, indicating thickening of the mucous lining of the larynx; the columnar folds of the pharynx are red and swollen; he has a sensation of tickling in the fauces, and an occasional slight cough, which raises a small quantity of mucus. He complains of a bad taste in his mouth; the lips and tongue have a feeling of soreness, and the latter is pink towards the tip. The hoarseness has been evident for about a year; the affection of the mouth is recent.

His most annoying symptom however is a sense of fulness and dryness of the nostrils, which commenced eight months back; this inconvenience has gone on increasing, and within the last week has been accompanied with the discharge of a small quantity of clotted blood. There is evidently considerable swelling and thickening of the lining membrane of the nostrils and possibly some slight degree of ulceration, but, with this exception, there is no excoriation of any part of the surface of the body, and no tendency to the formation of blisters on the skin.

He sees and hears well, and his appetite is good excepting on the invasion of feverish symptoms and pains. The pains are, in kind, shooting and aching, and they are always followed by an increase of swelling and congestion of the inflamed blotches, of which there are not more than four or five dispersed over the body. Some of these blotches of longest duration are beginning to show signs of anæsthesia, but the insensibility is superficial and moderate in degree. And there is some degree of anæsthesia and loss of power of the left hand.

The hands are mottled, blue, and brown, and somewhat swollen, while on the inside of the wrist and ball of the thumb of the left hand is a swollen tuberculous blotch. The soles of the feet are covered with small brown spots as large as lentils, and some of these spots have been recently developed into whitish tubercles.

In summing up the special characters of tubercular elephantiasis as presented by this case, we are struck with the chronicity of its nature; already ten years in existence, and so little progress made; then, its first appearance as a single dark-coloured spot, followed slowly by other similar spots; next the periodical attacks of fever of no great severity preceding pains in a circumscribed patch of integument; then the roseate blush, the tumefaction, the purplish tinge, and the deep brown stain;—these symptoms repeated at longer or shorter intervals for years, and succeeded by a moderate amount of anæsthesia, but as yet no leucosmic change. Next the signs of morbid action in the mucous membrane, the hoarseness of voice, the dryness and obstruction of the nares. Then the nodulated thickening of the integument of the forehead, cheeks, and ears, and the development of whitish tubercles. Moreover, the arrest of development and growth, and the absence of hair.

CASE 3.—*Elephantiasis tuberculosa; four years' duration; no pains; extreme chilliness; extreme mental dejection.*

A young gentleman, aged 21, born in Jamaica of European parents, was brought to me in 1850, affected with tubercular leprosy.

He had been sent to England in 1846 for his education; he arrived in September; the winter was severe, and he suffered very much from the cold. During the following year, he first observed reddish brown maculæ on the legs below the knee; a year after they appeared on the face, and twelve months later spread to the trunk. With the development of maculæ on the limbs and body, the face, the hands, and the feet became discoloured; the face had a deep reddish brown hue; the hands were of a blackish brown colour, the discoloration extending up the arms to the shoulders and becoming fainter in its ascent; the feet were also deeply coloured, a livid blackish brown, and the colour rose upwards to the top of the thighs, being deeper below the knee than above. With the completion of the maculation of the body, the skin of the face and especially of the forehead, became coarse and thickened, tubercular elevations were produced along the eyebrows, upon the nose, lips, and chin, and upon the prominent ridges of the ears. The thickening of the integument of the brow gave a frowning and dejected expression to the countenance, the appearance of dejection being increased by the presence of a leaden or purplish tinge. The skin was as though pricked over with depressed points, the mouths of the follicles, while the interfollicular portions were puffed and semitransparent, and suggested the idea of the rind of an orange. The tubercles were firm to the touch, and somewhat more transparent than the surrounding skin. He had no whiskers or beard, and the hair had fallen from his eyebrows.

Close examination of the maculæ showed that the lining of the follicles was more deeply tinted than the interfollicular spaces; a condition that gave a spotted character to the maculæ. The skin was shining as though from a greasy moisture, but nearer inspection proved that this appearance resulted from the tumefaction of the corium; that the maculæ were really drier than the rest of the skin, and defective in perspiration and sebaceous secretion; and that, as a consequence, the face was liable to be much irritated by the rays of the sun. The maculated portions of the skin were likewise deficient in sensation.

The mucous membrane of the eyelids and mouth was paler than natural, the conjunctivæ were suffused, the nares somewhat obstructed, and the voice was weak and husky as though from thickening of the lining membrane of the larynx.

He was much depressed in spirits and incapable of applying himself either to amusement or study; his manner was listless and melancholic, while the redness of the conjunctiva, combined with the heavy brow and severe expression of feature, gave an occasional gleam of savageness to his countenance. He was not troubled with pains of any kind, but his hands and feet were habitually cold even in the summer time; indeed, he suffered more from the cold during the summer than the winter, and his favourite position was by the fireside. His hands, besides being deeply bronzed, were slightly puffed on the back; the fingers were attenuated; there was a visible waste of substance of the interossei muscles of the metacarpal spaces and loss of power of the fingers and wrists.

The general health of the patient seemed good; he had a fair appetite and the functions of the body were properly performed. He was behindhand in sexual development and instinct.

We were unable to follow the history of this patient further, in consequence of his leaving London.

CASE 4.—*Elephantiasis tuberculosa; no pains; ulceration of skin and mucous membrane; fatal issue in ten years.*

A young lady, the daughter of European parents, residing in the island of Mauritius, was brought to me in the summer of 1852, suffering under tubercular leprosy. Her countenance was pale, broad, and puffed, of a yellowish brown colour, with a purplish almost livid blush on the nose, cheeks, and chin. The brow was heavy and frowning, the eye sunken, anæmic, and glistening, and the general expression of the features listless and melancholic. Her hands were thin, the fingers taper, and with her feet were deeper in tint of colour than the face, the discoloration extending upwards upon the limbs. On the arms and legs were scattered a number of round maculæ about half an inch in diameter and of various tints of colour; they had come out successively, were flat and smooth on the surface, but hard to the touch, both the hardness and the colour becoming gradually diffused in the surrounding skin. The most recent of the maculæ had a delicate roseate tint, this became deeper with time, purplish, and livid; in some the redness had

entirely disappeared and a deep brown stain remained behind, and in three or four the centre of the maculæ was undergoing a process of bleaching, and formed a pale disc surrounded by a halo of dark brown, fading at the circumference into the general tint of the skin. There was, besides, a feeling of numbness of the limbs, a loss of sensation in parts of the skin, on the legs just above the ancle, and on the older maculæ, more particularly those that had undergone the melasmic and the leucosmic change, and an arrest of perspiratory secretion.

The disease had probably existed in a latent state for some time before it was observed, the first symptoms that were noticed were the exanthematous spots which immediately followed a slight intermittent feverishness of a few days' duration. With the development of the spots the feverish symptoms subsided, but new spots were developed from time to time without the recurrence of the febrile affection. The spots had first shown themselves two years before the time of my seeing her; and at the latter period she had no constitutional symptoms of any kind, excepting some degree of paleness of the mucous membrane approaching anæmia, coldness of extremities inappreciable to herself, and a certain listlessness, heaviness, sleepiness, and indisposition for exertion of every kind.

After an absence of six years, I again saw this young lady, and found that the disease had made serious progress. The face was covered with tubercles, her complexion was yellowish brown, the frowning eyebrows had lost their hair, the conjunctivæ were anæmic and glassy, the eyelids were drawn widely open, the hair of the head was scanty and presented a state of alopecia, the lobes of the ears were enlarged; her limbs were thin and shrunken, hands and feet wasted, and fingers attenuated.

She died two years later at the age of 17, she suffered no pain and seemed to have no idea of her repulsive state. During the latter months of her life her vision was weakened; she had ulceration of the larynx, ulceration of the integument of the arms extending from the shoulders to the wrists, the legs were œdematous, the urine albuminous, the feet ulcerated, thick ichorous and semipurulent matter oozed from large openings in her face, and her failing powers were ultimately exhausted by diarrhœa and dysentery.

Case 5.—*Elephantiasis tuberculosa; insidious invasion and progress; fever of intermittent type; sharp exanthematous fever.*

A gentleman, aged 43, a captain in the Indian Army, who had resided in that country 17 years, noticed, while in Scinde, at about the 10th year of his Indian service, a spotted discoloration of the skin of his limbs accompanied with a brown discoloration of his hands, feet, and face. He was otherwise in good health, and performed his military duties without inconvenience.

Four years later he suffered from a succession of feverish attacks, intermittent in their character, which progressively increased in severity for two years and rendered it necessary that he should return to Europe for relief. He describes his symptoms at this period as being a constant state of fever with exacerbations and rigors every other day. For these symptoms he was sent to Kissengen and after a course of the waters had an attack of his old fever of greater severity than usual, accompanied with cerebral symptoms which he called a "determination of blood to the head."

After a few days of this severe exanthematous fever numerous fresh spots appeared on his body and limbs, while the spots on his forehead and face were raised into small tubercles. The fever then subsided somewhat suddenly and he had no return of the feverish symptoms up to the date of this report, namely, a year and a half.

His application to me had reference to the maculæ on the skin generally and the maculæ and tubercles on the face, he considered his health to be good, and looked upon the feverish attack at Kissengen as a bath crisis; his only present complaint was coldness of feet and hands, which was as troublesome in summer as in the winter season. His face, his hands, and his feet, at this period, were of a deep purplish brown hue, the discoloration extended up his limbs for some distance and half way down his neck, but the trunk of the body had not undergone the same melasmic change, although it was sprinkled over with small round maculæ and blotches of various size. Along and immediately above the eyebrows were 12 or 14 prominences at each side, of about the size and elevation of a split pea; in the lower part of the skin of the forehead and towards the inner end of the eyebrows the tubercles were isolated, along its outer half they were clustered and confluent. On close examination the tubercles were whitish and semitransparent and streaked by the ramifications of several small venules, the cuticle covering them being of a dark colour like that of the surrounding skin. The hair of the eyebrows was thin and absent on the tubercles, while the dusky hue of the skin of the forehead and the heavy frown of the rugous and hairless eyebrows gave a strongly marked *leonine* character to the countenance.

The hands were thin, the interosseous muscles of the metacarpus shrunken, particularly those of the first metarcarpal space. The fingers had a leaden hue, and the skin was smooth and polished, shining with the metallic lustre of lead or oxydised silver. On the limbs some of the blotches were raised by infiltration and semitransparent, others had undergone a partial absorption and were collapsed and wrinkled, but all the older blotches were dry from the absence of cutaneous secretion and less sensitive than the surrounding integument.

Case 6.—*Elephantiasis tuberculosa; insidious invasion and progress of the disease; absence of pains or fever; death in six or seven years.*

A gentleman in the judicial service of India, aged about 60, who had resided in the East for upwards of 20 years, consulted me in 1857 for tubercular leprosy. The whole face, including forehead, cheeks, nose, lips, chin, and ears was studded with opake tegumentary tubercles of about the size of a split pea, a few being larger. There were also a number of maculæ dispersed over the limbs and some on the body.

He considered his bodily health to be good, he had suffered no illness of any kind, and consulted me only for the eruption which had made its appearance two years before and had somewhat increased. He was listless and dull in his manner and seemed incredulous of any aberration of health, ascribing his want of energy to the exhaustion consequent on a residence in India for many years. I lost sight of this gentleman a few months after his first visit to me; he returned to India, and I have since heard of his death. The duration of the disease in his case was six or seven years.

Case 7.—*Elephantiasis tuberculosa; insidious invasion and progress; extreme dejection; smart febrile attack; leontiasis.*

A captain in the Indian army, who had served through the mutiny, first observed symptoms of tubercular leprosy in 1857, and came before me for consultation in 1860. At this period his face presented a deep malasmic discoloration, and was covered with tubercles, which gave a frowning and morose expression to his countenance. The conjunctiva was reddened by congestion; his feet and hands were dark brown and purplish in colour, cold, and swollen. The limbs and body were sprinkled over with maculæ. His voice was husky, and his manner dejected, listless, and melancholy. He was sleepless and restless at night, and during the day, would sit for hours in his chair without occupation and without attempting to make any exertion.

He had a severe febrile attack, resulting as usual in an increase of the exanthem, and greater prominence of the tubercles, while under my care; and presented a good example of the kind of countenance, sombre and frowning, which has been compared to that of the lion, and has gained for the disease the synonym *leontiasis*.

This gentleman left London a few months after my seeing him, and I was unable to follow his case further.

Case 8.—*Elephantiasis tuberculosa; intermittent febrile attacks; neuralgic pains; anæsthesia; ulceration; death from chronic diarrhœa and dysentery; Satyriasis.*

A colonel in the army, aged about 60, and who had spent many years in the West Indies, became the subject of tubercular leprosy about 10 years before he came under my notice in 1856. He died of asthenia from chronic diarrhœa and dysentery in 1859; the disease had existed altogether about 14 years, and he believed it to have arisen from sleeping in an unclean bed in a negro's hut.

The appearance of this gentleman was very remarkable, his countenance resembling that of a Satyr as represented in the paintings of the Italian masters, and suggesting one explanation of the term Satyriasis, as applied to this disease. His features were large, and of a deep red-brown or copper colour; the forehead deeply wrinkled and studded with tubercles; two of the tubercles at the upper angles of the forehead resembling young horns; the brow was thickened, heavy, frowning, and deprived of hair; the eyes suffused with redness; the nose, lips, and chin large, and sprinkled with tubercles; the cheeks hollow, and the ears tuberculated, projecting, and singularly elongated. His voice was hoarse and sonorous, his speech indistinct; he breathed noisily through the larynx and nose; and the mucous membrane of the fauces was covered with small tubercles, some in a state of ulceration.

His hands were of a dark colour and swollen; the discoloration extending upwards to the shoulders; the trunk of his body was spotted with large yellowish brown blotches, composed of an aggregation of maculæ, the interspaces of the blotches being mottled with separate maculæ. His arms and legs were similarly spotted, and the feet swollen, œdematous, and somewhat insensible. Moreover, on the heel of one foot was a large superficial ulcer, which was insensible to the touch or the application of caustic, and which poured out a copious glairy albuminous and semipurulent secretion.

During the four years this patient was under my observation he had repeated febrile attacks, accompanied with neuralgic pains of a fugitive character, and followed in each instance by an augmentation of the exanthem, and an increase in the number of the tubercles. Superficial ulcerations formed and healed on his feet and hands, and he ultimately sank from asthenia, consequent upon chronic diarrhœa and dysentery.

Case 9.—*Elephantiasis anæsthetica following vaccination; insidious invasion; suspension of symptoms during pregnancy; neuralgic pains; vesication; anæsthesia.*

A lady, aged 26, the wife of an officer of the Indian army, became affected with elephantiasis in 1861. She was born in Calcutta of European parents, and brought to England when two years old; she returned to India in 1853; was married in 1855; has been eight years married, and has now visited England for medical treatment; the length of her residence in India being 10 years.

In 1861, being then in Oude, she was vaccinated from a native child, and shortly after the vaccination "a slight spot came on her cheek, and increased in "size to the diameter of a shilling." The spot was hard to the touch, a little raised above the level of the surrounding skin; of a dull red colour, and without pain or tenderness. The swelling was painted with iodine, and afterwards blistered several times and the blister kept open, but, although somewhat reduced in size the prominence was not removed.

About six months later dull-red flat spots appeared, dispersed over the greater part of the body. Her hands and feet became swollen, and she had pains of some severity in her joints and feet.

She reports that at the present time (1863) her health is good; she has a good appetite, and digests well. Her pulse, however, is feeble, and menstruation scanty, and she has had no family.

The spots on the skin vary in size from a quarter of an inch to an inch in diameter; some are mere erythematous blotches; these assume a dusky brown tint; then the brown colour is discharged, and patches of white take their place. The first spot that appeared had a prominent character from the beginning, the elevation being occasioned by serous infiltration into the cutaneous tissue. Two or three other similar prominent blotches have formed subsequently. That on the face retains its brown colour, while around it is a ring of white, and, bounding the ring of white, a deep tint of brown, which fades away gradually into the surrounding skin.

In this case are seen the dull-red erythematous blotches characteristic of the disease; secondly, the brown blotches verging to black; thirdly, the bleached and colourless blotches; fourthly, the prominent blotches caused by serous infiltration of the tissues of the skin; and fifthly, the insensibility or anæsthetic element. Her hands and feet have a benumbed feeling; she picks up small objects with difficulty, and there is a degree of loss of power of the lower limbs.

Her symptoms were much alleviated by her voyage to England; the hands and the feet were better, and the right hand and left foot alone retained some degree of swelling, with occasional pains. Another circumstance interposed to afford her relief: she became pregnant, and was safely delivered of a fine healthy boy in January 1864.

She remained pretty well after her arrival in England until August 1863, when she was attacked with neuralgic pains; the pains began in the right arm and were somewhat severe, then they extended to the back of the right hand, afterwards to the back of the neck and to the feet, and then became diffused over the whole body. This attack of neuralgic pains was accompanied with rigors and general feverishness. It lasted a fortnight; on the two last days she had a severe pain in the right side, which was ascribed to the liver, and then the pain ceased entirely; she felt well, but somewhat debilitated. She had previously been subject to frequent fits of sneezing, which had now abated; she had less thirst; the maculæ were fainter, and the bulk of the limbs was somewhat reduced.

In the early part of December, having been unusually well since the attack in August, she suffered pain in her right hand; after a few days a blister formed suddenly over the painful part, and broke; it refilled several times, and then the skin healed.

On the 29th of January the lady was confined, and she remained without pain or uneasiness of any kind until the 25th of February, when a severe neuralgic pain occurred in the left foot; after a few days a blister suddenly appeared over the painful part, it broke, and after refilling several times disappeared. A month later she experienced neuralgic pains in the right hand and left foot at the same time, the ankles of both legs were painful and swollen, the legs up to the knee tender to the touch, and the soles of the feet œdematous and sensitive. These symptoms were succeeded by a blister on the hand, and another on the left foot, followed, as in previous instances, by a relief from pain. A similar attack of swelling and pain occurred in the left hand nearly three months later, namely, in June, and was attended with similar relief.

At this period the hands were both somewhat swollen and stiff, sometimes cold and sometimes be-

numbed; the fingers were taper in figure, and the skin stained of a dark purplish brown. But the digestive organs continued normal; her spirits were only occasionally depressed, and she regarded her health as good. The time had now arrived for her return to India with her husband, his furlough having expired, and I have had no report of her health since.

CASE 10.—*Elephantiasis anæsthetica; exanthema; neuralgia; febrile attack, continued and intermittent; œdema; albuminaria; emaciation.*

A young lady, aged 19, a native of Hindostan, became the subject of anæsthetic leprosy at the age of 14. The disease made its appearance as an elevated œdematous semitransparent blotch in the middle of each cheek. The blotches gradually increased in size, while other blotches were developed on the forehead and on the prominent parts of the ears. The blotches were in the first instance sensitive, subsequently they lost their sensibility. At the same time with, or soon after, the appearance of the blotches on the face, raised blotches and flat maculæ of a dull red colour occurred upon the body and limbs; the hands and feet became somewhat swollen and œdematous, and of a darker colour than the rest of the skin.

Concurrently with the development of the maculæ and blotches she suffered from occasional attacks of pain in the lower limbs, the loins, and the chest. These pains were in some instances excited by cold winds; but, after a time, it was found that the skin of the legs and feet had lost its normal sensibility. Hot fomentations with mustard, intended to relieve the pains, occasioned blisters without being felt by the patient, and one or two indolent and insensible ulcers were produced, which healed with difficulty, and are apt to re-open from time to time.

The mucous membrane participates in the general physical disorder; the conjunctivæ are streaked with enlarged venules; the membrane of the nares has lost its sensibility to strong odours; she has frequent attacks of sore throat, and her voice is weak and hoarse. Menstruation likewise is deficient and irregular; she is losing her hair; and she is dull, listless, and indisposed to exertion or amusement.

This young lady first came under my notice in May 1865. In the subsequent autumn she was attacked with febrile symptoms, which were at first continuous, and afterwards intermittent. The febrile symptoms lasted for about two months, and were accompanied with albuminaria. She was much reduced by this attack; was debilitated and thin; but her appetite returned, and continues good.

CASE 11.—*Elephantiasis anæsthetica; occurring after syphilis; possible origin in contagion; maculation; febrile symptoms; hyperæsthesia; anæsthesia; ulceration.*

A young medical officer of the Indian army, aged 23, born in Ferozepore of English parents; always enjoyed good health, with the exception of an attack of intermittent or jungle fever in 1854, which lasted four months, until four years back, when his present illness commenced. His parents, with two brothers and one sister, have excellent health. From his infancy he was somewhat darker in complexion than his brother and sister; but during the last few years, and especially during the last 12 months, has become swarthy, and at present is darker than a native of India, the swarthiness not being limited to the exposed parts of the body—the face and the hands, but pervading the whole skin, and being greatest on the lower limbs, and especially on the legs and feet. His hair is black and straight, but originally somewhat curly; the eyebrows also are black, and he has a small moustache and beard of the same colour, but no whiskers.

In the month of August 1861 he had a soft, sloughing venereal sore upon the corona glandis, for which he was treated very actively with mercury, and severely salivated. At the commencement of his treatment he took two grains of calomel every two hours, and continued a modified mercurial course for four months, by which time the sore had healed. After the healing of the sore he had some congestion of the fauces, which yielded to a gargle, and passed away in a few days.

On the 7th of March 1863, having remained well since 1861, he again had a venereal sore, this time a hard chancre on the exterior of the prepuce; he treated the sore himself by local means, dusting it with calomel, and keeping it moist with black wash; it healed in three weeks.

On the 16th of April, 19 days after the cure of the hard chancre, he had his attention called, by some companions with whom he was bathing, to a spotted state of his skin. The spots were circular in figure; of a reddish brown colour, and dispersed over the trunk of the body, some few being visible on the forehead. The spots gave him no uneasiness, and no further attention was paid to them.

In the month of October following he experienced some shooting pains in his limbs, they were occasional, not severe, and deep seated, seeming to him to be fixed in the bones.

In December, an additional symptom of his disease, namely a puffy swelling of the hands was first noticed; and this, like the spots, not by the patient himself, but accidentally, by a companion. The swelling was unattended with pain.

In January of the following year, 1864, the appearance of his face attracted the attention of his superior officer while on parade, and he was ordered to his quarters by the Deputy Inspector General of Hospitals, under the impression that he was labouring under symptoms of secondary syphilis. He had no feeling of illness and was not aware of any symptoms of disease beyond the spotted appearance of the face already adverted to, and which, at this time, had been in existence for nine months, latterly somewhat more conspicuous than at first. Being now put upon the sick list for supposed secondary syphilis he was ordered three grains of iodide of potassium in decoction of sarsaparilla thrice daily. After a month as no impression was made upon the spots the dose was progressively increased to eight grains three times a day, and with a similar result; he, besides, took a warm bath containing chlorate of potash every night.

Becoming tired of treatment, and experiencing no beneficial result from the medicine he had taken, and at the same time believing himself to be in good health, he obtained permission to remove to another station, and went to Cawnpore in medical charge of a military detachment—a nineteen days' march. On the journey he experienced considerable dryness of throat, debility, palpitations of the heart, loss of appetite, feverishness and sleeplessness at night, shooting and aching pains in his bones, drowsiness by day, and extreme depression of spirits, and, these symptoms increased in severity after his arrival at Cawnpore.

Feeling at this time really ill, he demanded examination by a Medical Board, and appeared before the Board on the 1st of April 1864. The maculation of his skin had rapidly increased after its first appearance, had spread over the whole body, and was accompanied with thickening of the integument. His conjunctivæ were congested, as also were the fauces, but he had no feeling of soreness of throat and no ulceration of the mucous membrane. The deep-seated pains in his limbs had also somewhat increased; he was feverish, restless and sleepless at night, languid by day, particularly in the morning, drowsy and unequal to the exertion required by his duty, he had frequent attacks of palpitation, and loss of appetite. To these symptoms were added, subsequently to this date, nocturnal emissions, sometimes occurring twice in the night.

The "case" of the patient was thus reported by the Medical Board:—"In April 1863 he first noticed "some copper-coloured blotches on his face and ex-

" tremities, these have gradually increased and now " cover his entire body. Last October he was " attacked with rheumatism chiefly affecting the ex- " tremities, from which he has suffered more or less ever " since, and is now quite unfit for duty. I therefore " recommended him for three months leave, and that " he be removed to the General Hospital, Allahabad, " for treatment. Treatment :—Hydrargyri bichlo- " ridi ; potassæ iodidi ; iron tonics."

He remained under treatment in the Allahabad Hospital from April until September, pursuing the prescribed treatment, varied at intervals with mercurial fumigations, nitro-muriatic acid, quinine, and arsenic. He states that he felt more unwell at the end of this period than he did at first, and he again went before a Medical Board. The report of the Board recapitulates the occurrence of primary syphilis followed by secondary syphilis. "On admission in " April last his body was covered with a copper- " coloured eruption, the eruption being attended " with considerable thickening of the skin in the " part engaged; he suffered a good deal from noc- " turnal pains, and at a late period from sore throat. " His general health was also in a bad state, and " during the past hot season he was much debilitated. " Latterly he has suffered from nocturnal emissions " and palpitation of the heart. The eruption is very " much better now, and he is in better health, but he " still remains considerably debilitated and hypo- " chondriacal, a state which the nocturnal emissions " tend to keep up. As I believe that ——— requires " a complete change of climate and a sea voyage for " the recovery of his health, I recommend that he " be permitted to proceed to England on medical " certificate, &c."

In November all medical treatment was given up ; he sailed from India in January and reached England on the 18th of May. Arrived in London, he put himself under the care of an eminent hospital surgeon, who took the same view of his case as his medical advisers in India. He was fumigated with calomel until his gums became sore ; and making no progress, was seen in consultation by another surgeon distinguished for his knowledge of syphilis. He had now been three months in London ; the diagnosis was still syphilis, and it was agreed in consultation that he should go to the seaside for awhile, to regain his strength, and on his return to London that he should be thoroughly mercurialized. Having so recently had a sea voyage without any profit to his health, the patient preferred an inland place and went to Malvern, where for a short time he was submitted to hydropathic treatment.

Such was the state of the case on the 4th of September 1864 when the patient addressed to me a letter from which the following is an extract :—"I " have been suffering from constitutional secondary " syphilis for the last two and a half years ; my body " is entirely covered with large copper-coloured " blotches attended with considerable thickening of " the skin, and my general constitution is extremely " shattered." A few days afterwards he presented himself before me, and I perceived at a glance that he was suffering under elephantiasis.

By a fortunate coincidence Dr. Boeck of Christiania celebrated in conjunction with Dr. Danielssen for his researches into the elephantiasis Græcorum, was at this time a visitor to London ; and I was glad of the opportunity of obtaining a corroboration of my diagnosis by so eminent an authority. Dr. Boeck recognized the nature of the case at once, and determined one symptom of the disease, namely, incipient anæsthesia, which I had myself overlooked.

This case is peculiarly instructive, and especially on account of its association with syphilis ; it is an evidence of the independence of the leprous poison and the syphilitic poison, and it illustrates powerfully the resemblance which exists in the constitutional manifestation of the two diseases. It is interesting also in its source ; the female with whom the patient cohabited in 1861, and from whom he received his first syphilitic infection, being a leper ; and it goes some way to fix the period of latency of the disease, namely, at about two years.

Let us review the leading symptoms, taking them in the order of time ; the first that showed itself was the outbreak of maculæ on the skin, then followed congestion of the mucous membrane of the fauces ; thirdly, neuralgic pains; fourthly, nervous prostration ; and fifthly, anæsthesia. The whole case it must be remembered is in its infancy, and an unusually favourable opportunity is offered us of observing the incipient symptoms of the disease and watching their progressive development. These circumstances must also be borne in mind in judging of the universal acceptation of the case as one of syphilis by the medical men under whose observation it came. My own opinion is that there was no combination of constitutional syphilis with the disease in chief, and that the symptoms above noted were from the first the ordinary symptoms of development of elephantiasis. And their resemblance to the constitutional symptoms of syphilis are, as we perceive, so close, that they must necessarily be taken for syphilis by every medical man who has not had the opportunity of separately observing and studying elephantiasis.

We must here remark that our patient had received a medical education and training in the hospitals of India, into which many native patients were received; but he assures me that he has never seen a case of elephantiasis; and that no suspicion had ever come into his mind until I pronounced my diagnosis, that the case was other than syphilis. This will explain the opinions of the numerous medical officers by whom he was examined in India, and it serves to prove that elephantiasis is not so widely distributed in India as we have been accustomed to believe. In the islands of the Indian Ocean, in Ceylon, in the Mauritius, in Madagascar, &c., we know the disease to be common; but it is not by any means so frequent in the interior of Hindostan.

Recurring to the symptoms of elephantiasis as manifested by the present case, it will be convenient to take them in the following order ; namely, the skin, the mucous membrane, the nervous system.

The remarkable swarthiness of the *skin* was very striking ; a photograph of a sister of the patient showed that the family tint of complexion was not deeper than is to be seen daily amongst ourselves ; and yet the colour of this young man was deeper than that of a native Indian. He had always been darker than his brothers and sisters, but the extreme swarthiness of his skin had only been developed during the last year or two. The swarthiness of colour was most remarkable on his lower limbs, beginning in the thigh and increasing in depth downwards to the foot. Moreover, the left foot was darker than the right; and the end of the great toes was somewhat bleached; showing a tendency to *leuce*, which, as well as *melas*, is a characteristic of elephantiasis Græcorum. The hands also were deeper in colour than the arms, and there was a certain leaden and metallic hue of the skin of the hands and also of the face.

The *maculæ* were dispersed chiefly on the forehead and on the trunk of the body, producing a mottling of the skin. They were circular in figure, of a size varying from a quarter of an inch to several inches in diameter, and of a reddish and yellowish brown colour, not strictly copper-coloured, of which the predominant tint is red, but having a duskier and more melasmic hue ; they were in fact the representatives of the *melas* of vitiligo, of lepra, of the elephantiasis of the Greeks. Some of the smaller and more recent maculæ had a ruddy glow, marking their origin in erythematous congestion, while others of longer standing were more decidedly melasmic. A later period would probably be indicated by a total loss of colour, a true *leuce*, and its accompanying anæsthesia.

The next character evinced by the maculæ is a certain degree of thickening of the integument from infiltration. Several of the maculæ on the forehead were thickened to the extent of producing a slight

degree of prominence, but there were no tubercles. There was also some degree of thickening of the integument of the dorsum of the hand, and, wherever the maculæ were pinched up between the fingers, a thickening of the integument could be detected. In association with the thickening of the integument is a dilated state of the pores of the skin, which gives it a coarse appearance; and when the infiltration is carried a little further, and the maculæ become œdematous the elevated surface has a degree of semi-transparency that gives it a resemblance to the outer covering of brawn. Sometimes the dilated follicles exude a greasy secretion; at other times they are dry. The general surface of the skin of our patient was dry, more particularly the head and the lower extremities. When at my request he took a Turkish bath, he found that, although the trunk of the body perspired profusely, there was no moisture on the wrists and hands, and none upon the legs below the knees, the thighs perspired slightly. The non-perspiring regions of the body were those which were also the most remarkable for swarthiness. On the legs the pores were dry and prominent, filled with cuticular exuviæ, and there existed a slight desquamation of the epidermis in flakes.

The state of the skin in general is one of abnormal innervation and defective nutrition; abnormal innervation is shown in the tendency to erythematous congestion which is generally accompanied with a heightened sensibility of the skin; and the lowered sensibility which follows in the melasmic and especially in the leucosmic stage. Our patient complained of heat and tingling in the soles of the feet; while the legs above the ankle were shown by the needle, as used by Dr. Boeck, to be in a state bordering on anæsthesia. Defective nutrition of the skin was evinced by the suspension of perspiration on the legs and hands, by the dryness of the legs, by an unhealthy ulcer on the metatarso-phalangeal joint and also upon the heel of the left foot, and particularly by a loosening and casting of the nails of the feet. The root of the nail of both the great toes could be lifted from its bed, and the body of the nail was in course of separation from its matrix. The ulcers had arisen from pressure and friction of the boot during his march from Ferozepore to Cawnpore in March 1864, and, in consequence of deficient vitality, exhibited no disposition to heal.

The prominent blotches on the forehead gave a sombre character to his countenance; not as yet approaching the leonine expression of tubercular elephantiasis, but a heaviness that heightened the gloomy, listless, and melancholy expression of his face. There was no thickening of the lobes of the ear; and although he had lost a considerable quantity of the hair of his head it was still thick and abundant; and there was no loss of the eyebrows.

The mucous membrane very early participates in the surface congestion of the body; the conjunctiva in our patient soon became injected as did the mucous lining of the nares, the fauces, and the larynx. In advanced stages of the disease, the mucous membrane is apt to ulcerate; but at the early period of the present case the affection of the mucous membrane had not advanced beyond congestion. His appetite and digestion had remained good throughout, with the exception of the acute period of the attack which he experienced during the march to Cawnpore.

He remarks that he has a feeling of soreness in his nose; and the nostrils are always more or less stuffed. He has uneasy sensations in his palate which he compares to some object projecting into the cavity of the mouth; he has a similar sensation sometimes in the fauces with a sense of soreness extending to the ears and some degree of hoarseness of voice. He complains of having lost the vocal power of his larynx; before this illness he was a good singer with a powerful voice; now, he cannot utter a note. He also speaks of a feeling of dryness in the throat and of a fœted state of the breath; sometimes the odour of the breath has a sickly sweetness like almonds, and at other times is to his own appreciation excessively offensive. Dr. Morell Mackenzie examined the patient's throat with his laryngiscope and reported him to be "suffering from "slight chronic congestion and follicular disease "of the mucous membrane of the larynx, but with "nothing of a specific character about the affection."

The nervous sensibility of our patient, as is usual in elephantiasis, partakes of the double character of hyperæsthesia and anæsthesia, the former belonging to the period of invasion of a febrile attack or exacerbation; the latter to the decline of such an attack. While the mental powers of the patient are depressed and lethargic. Thus, while the soles of the feet were were hot and sensitive, the legs, as was first remarked by Dr. Boeck, were anæsthetic. At a later period the sensibility of the fingers and feet is reduced, and they are remarkable for their coldness. Our patient declared that he could pick up a small object like a needle or pin with his fingers; but on the following day he informed me that he had lost the power of his wrists and could not unfasten the straps of his portmanteau without great difficulty; he also complained of an inability to button the collar of his shirt.

The deep-seated pains which he referred to his bones were very little changed during the first two years of his illness. Since that period they have increased and other abnormal nervous sensations have been added. The original pains occupied the limbs, particularly the legs, the cartilages of the ribs, and the region of the sternum; but latterly he has complained of "a peculiar throbbing nervousness" of the whole body; a trembling nervousness sensation; and frequent attacks of palpitations. These nervous feelings destroy his sleep; and his flesh is so tender that the slightest pinch is productive of pain. A slight blow on the arm, vibrates painfully through his system like an electric shock. He has also suffered from pains in the loins and great general debility.

Case 12.—*Elephantiasis anæsthetica; mistaken for secondary syphilis; severe treatment with mercury and iodide of potassium; aggravation of the disease; apparent cure.*

A physician, aged 70, one of the chiefs of the Bengal medical establishment, resident in India for 40 years, having enjoyed remarkably good health with the exception of some mild attacks of hepatic disorder, was attacked with symptoms of anæsthetic leprosy in 1849, in the 67th year of his age. He states that in the summer of 1850, while in Malta, he became aware of an occasional weakness in walking and a benumbed sensation on the outer side of the right foot. Later in the year an erythematous blotch showed itself at the seat of the numbness, and, when moving the foot, was attended with a prickling sensation and a feeling of tightness as of a wire fastened around the part. In 1851 similar phenomena occurred in the left foot, and several erythematous spots appeared on the right leg. The spots were of a dusky red colour, rough and dry on the surface, tender to the touch, and accompanied by a feeling of tightness. A few months later the feet were very tender, the prickling sensation was more general, and the tightness on progression extended higher up the leg. While these changes were in progress he began to experience a sensation of numbness on the side of the metacarpo-phalangeal joint of the middle finger, and observed a patch of redness on the next joint. In the month of January of the following year there was an evident numbness of the little and ring finger of the right hand.

Up to this time he had not been troubled with any constitutional disorder, but about the middle of January 1852 he was seized with sickness of stomach, and a fortnight later with a smart attack of fever, accompanied with excessive sweating, the latter symptom sometimes coming on without being preceded by the usual hot stage. He was treated with quinine and the fever quickly gave way. At the end of

eight days he was well, but on the third day of the fever and during the hot stage, two large livid œdematous looking blotches, which he described as "blebs," suddenly made their appearance on the outer border of the left wrist. After the subsidence of this febrile attack the sensibility of the fingers gradually returned. In June he had a second attack of fever which lasted 11 days, being preceded by sickness; on the ninth day of the fever the numbness returned, but disappeared on the 11th day. In July there was a third febrile attack of the same kind accompanied with a burning sensation, pain, and soreness of the outer border of the feet, increased numbness of the ring and middle finger of the left hand, redness of the knuckles, pain on exposure to the slightest cold, and the development of a hard and inflamed swelling just above the inner condyle of each upper arm in the situation of the supracondyloidean lymphatic gland. During the month of August the disease continued steadily progressing; raised spots were thrown out on the face, erythematous spots and blotches appeared on the abdomen and limbs, being preceded by itching and smarting. In September there was a still further increase of the disease, the whole forehead was studded over with elevated spots, there were erythematous spots within the mouth, and hard tumours developed in the subcutaneous cellular tissue of the forearms and back of the wrists. The three following months of the year witnessed a progressive advance of the disease in every way, with increased insensibility and lividity of the fingers and feet.

In January 1853 numerous large blotches made their appearance on the back of the thighs, and several of those already in existence threw out a broad erythematous areola around their circumference, which gave them an annulated figure, dark and almost livid in the centre, and bounded by a crimson band. In April, after a hot bath of the temperature of 104°, the face was flushed and spotted over with erythematous blotches of a vivid red colour; the redness of the spots on other parts of the skin increased, and they became prominent from œdematous infiltration, while those which were already prominent were enlarged. The symptoms now assumed a progressive character. In the beginning of May there was inflammation of the left hand and œdema of the right ankle, with a sensation of extreme cold, although the part was hot to the touch. The face remained congested and swollen; the features were enlarged, and the natural wrinkles of the skin deepened; the alæ of the nose were remarkably distended, and hard knots could be perceived, as well as felt, under the skin at the outer angle of the eye, upon the temple, and upon the ears. Inflammation now appeared in the right hand, and the fingers became swollen and painful, like those of the left. The deranged sensations of cold and pain continued in the legs and feet; spots showed themselves on the palms of the hands, and the œdema, which had increased in the patches, was now apparent in the lower eyelids.

The preceding narrative of the case is drawn from a journal kept by the patient himself, and at the conclusion of this period, namely, in May 1853, he first came under my observation, his state being much aggravated and the disease accelerated, as he believed, by the treatment which he had pursued, and which consisted of arsenic in large doses for seven weeks, then iodide of potassium, at first alone, and subsequently with arsenic, for another term of seven weeks, then iodide of potassium, arsenic, and bichloride of mercury, all combined, for three weeks, until the gums became tender; next, the bichloride of mercury with sarsaparilla for seven weeks; and, lastly, two grains of blue-pill night and morning, to keep up tenderness of gums, in addition to the bichloride of mercury and sarsaparilla. It was after this severe course of treatment, extending, in time, from August 13th 1852 to April 20th 1853, that he first consulted me.

The history of the patient, while under my care, was one of a progressive advance of the disease, both in eruption and anæsthesia, until the month of August, when a state of extreme dulness, heaviness, and lethargy came on, accompanied with febrile symptoms, and continued for several weeks. From this attack he gradually recovered, and two months later had regained strength, appetite, and the power of applying his mind to reading. The œdematous spots and blotches on various parts of the body were becoming much smaller; many of the brown-coloured spots were fading; and there was a slight increase of power over the muscles of his hands and lower limbs. He could walk across the room with the aid of a servant, and had some feeling in his feet; but his hands were still very sensitive to the influence of cold, and he was obliged to continue the use of warm gloves to protect them.

The nephew of this gentleman, himself a physician, reporting the state of the patient's health, in March 1855, observes:—"By using the warm salt-water "bath, and residing some months on the sea-coast, "he so far regained the strength of his limbs that he "was able to walk a mile alone, and no appearance "of spots was visible, with the exception of a few "spots on the abdomen." The patient had no return of the symptoms of leprosy, but died a few years afterwards of ordinary bronchitis.

Case 13.—*Elephantiasis anæsthetica; insidious invasion and progress; absence of pains; anæsthesia; good general health.*

A fine healthy looking man, a merchant of the Mauritius, where he had resided twenty-nine years, became aware, at the age of forty-seven, of the presence of elephantiasis. There is reason to believe that the disease had already existed in a latent form, probably for some years, for his first notice of being affected was the discovery that his arm was insensible to the accidental aspersion of boiling water from the mouth of a tea kettle. His wife is a remarkably fine woman, a native of Mauritius, and with his children, five in number, enjoys perfect health.

His medical man reports that when he first saw the case there was a crop of small, round, tubercular elevations of a darkish red colour sprinkled over the arms and neck, and that subsequently the blotches increased in size and number and made their appearance on the trunk and face. His general health "both then and since remained unaffected," but as the disease resisted treatment and resembled in its manner of origin the leprosy of that country, it was thought desirable to send him to England, "where the disease with which he was menaced is unknown."

At his appearance before me the patient declared that he felt as strong as ever in his life, that he had no pains, and was not sensible of any inconvenience of any kind beyond the appearance of the prominent blotches, and a knowledge of the presence in his system of a serious disease. His face presented a not unhealthy-looking reddish brown tint, his hands and feet were deeply bronzed, and there was an obvious insensibility of the skin of the hands and arms.

Case 14.—*Elephantiasis tuberculosa and anæsthetica combined; loss of voice; disease of bones; distortion of joints; death after ten years.*

The elder brother of the young gentleman, whose state is described in Case 2, was attacked with elephantiasis at the age of thirteen and died at twenty-three, the duration of the disease being ten years. The exanthem was first noticed on the face in the form of spots, the features were pale and bloated, the eyebrows fell off, he had no whiskers or beard, and he subsequently lost the hair from the pubes, the nails also broke away from their matrices and were not reproduced.

The mucous membrane of the nares was severely affected, mordid secretions accumulated on its surface, the nasal bones and cartilages gave way and the nose became flattened. His voice was weak and hoarse, he had difficulty in making himself heard, and was

troubled with an occasional cough. His appetite also was defective.

He had ulcers on various parts of the skin and had lost a phalanx from the little finger of one of his hands, the rest of the fingers were bent in different directions and the hands distorted. He was unable to use his hands and was incapable of walking.

His spirits were excessively dejected, he was subject to fits of despondency, and suffered severely from neuralgic pains.

LONDON:
Printed by George E. Eyre and William Spottiswoode,
Printers to the Queen's most Excellent Majesty.
For Her Majesty's Stationery Office.
[15116. E. & S.—2000—4/67.]