

MADRAS RECORD OFFICE.

Government of Madras.

Revenue DEPARTMENT.

G.O. No. 168

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Dated

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Not to be folded or roughly handled

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*Proceedings of the Madras Government, Revenue Department,
31st January 1865.*

No. 343.

Read the following letters:—

From E. W. RAVENSCROFT, Esq., Officiating Chief Secretary to the Government of Bombay, Revenue Department, to J. D. SIM, Esq., Secretary to the Government of Madras, dated Bombay Castle, 20th December 1864, No. 5,057.

SIR,

Letter from Captain W. A. Neale, Superintendent Government Cattle Grazing Farm, No. 302, dated 18th October 1864.
Do. from the Principal Veterinary Surgeon Hallen, No. 392, dated 29th October 1864.
Do. from the Principal Inspector General, Medical Department, No. 2,263, dated 19th November 1864.
Do. from do. No. 2,315, dated 30th November 1864, with accompaniments.
Resolution of Government, No. 5,056, dated 20th December 1864.

In continuation of Mr. Officiating Under Secretary Jacomb's letter, No. 3,032, dated 12th August last, I am directed by His Excellency the Governor in Council to forward, for the information of the Government of Madras, copies of the papers noted in the margin, containing further information on the subject of Cattle Disease.

No. 344. From E. W. RAVENSCROFT, Esq., Officiating Chief Secretary to the Government of Bombay, Revenue Department, to J. D. SIM, Esq., Secretary to the Government of Madras, dated Bombay Castle, 10th January 1865, No. 143.

SIR,

In continuation of my letter No. 5,057, dated the 20th ultimo, I am directed by the Honorable the Governor in Council to forward, for the information of the Government of Madras, copies of the papers noted in the margin, containing further information on the subject of Cattle Disease.

Letter from the Principal Inspector General, Medical Department, No. 2,419, dated 13th December 1864, with accompaniment from the Civil Surgeon, Canara.
Resolution of Government, No. 142, dated 10th January 1865.

No. 345. From E. W. RAVENSCROFT, Esq., Officiating Chief Secretary to the Government of Bombay, Revenue Department, to J. D. SIM, Esq., Secretary to the Government of Fort Saint George, dated Bombay Castle, 14th January 1865, No. 187.

SIR,

As requested in your letter of the 7th instant, No. 5, I am directed to forward twelve additional copies of the papers therein referred to on the subject of Cattle Disease.

No. 346.

ORDER THEREON, 31st January 1865, No. 168.

Miscellaneous.

Ordered that the papers received with the foregoing letters be distributed as follows:—

- 1 Copy to the Board of Revenue.
- 1 Do. to Veterinary Surgeon J. Thacker.
- 1 Do. to the Collector of Kurnool.
- 1 Do. to the Commissary General.
- 1 Do. to the Inspector General, Medical Department.
- 1 Do. to W. G. McIvor, Esq.
- 1 Do. to Dr. J. Shortt.
- 1 Do. Editor's Table.
- 4 Copies to be retained in store.

(True Extract.)

(Signed) C. G. MASTER,

Under Secretary to Government.

To the Board of Revenue.
" J. Thacker, Esq.
" the Collector of Kurnool.
" the Commissary General.
" the Inspector General, Medical Department.
" W. G. McIvor, Esq.
" Dr. J. Shortt.
" the Editor's Table.
Exd. S. T. Augustin.

EXTRACT from the Proceedings of the Government of Bombay in the Revenue Department dated 20th December 1864.

Read the following papers :—

Letter from Captain W. A. Neale, Superintendent Government Cattle Grazing Farm, to H. E. Jacomb, Esq., Officiating Under Secretary to Government, No. 302, dated 18th October 1864.

In acknowledging the receipt of the Government Resolution No. 3061, of the 12th August last, with accompaniments, I have the honor to mention that I have had no opportunity of making experiments to enable me to test the effect of inoculation in horned cattle for the disease in question.

2. The disease, however, is familiar to me, and in the year 1859 there were some cases amongst the Contractors' pack bullocks at Sholapoor: he lost several, and then applied to me. The symptoms were the same as those reported by Captain Nelson. I commenced by administering a brisk purge, blistering the chest and sides, and after the medicine commenced to operate I gave good nourishing coupies, with a table spoonful of common salt, every two hours. I allowed them no water to drink while under this treatment. In two cases the animals escaped from their pickets, went to the river, and were found dead in the morning. On the third day the animals were tempted with a little lucerne grass, rumination commenced, and they gradually recovered.

3. The disease is highly contagious, and too much care cannot be taken in separating the infected animal from contact with the healthy.

4. Last year at Malligaum I had three cases amongst my own cattle, all of which proved fatal. One, an English cow, that had been in my possession for eleven years, and the mother of six calves, when she was first attacked (being under the impression that she was with calf,) I tried mild remedies, and she died on the tenth day. On opening her I found the lungs one mass of pulpy matter. The other cow, her daughter, lived for five weeks after being first attacked; she then had a relapse, and died. The third, a calf ten months old, I bled immediately on being attacked, and treated the animal according to the instructions laid down by Yunate, but he died on the tenth day.

5. I take this opportunity of mentioning that owing to the increase of *Variola Ovis*, or small-pox, in sheep, and the heavy losses the sheep-breeders sustain from the ravages of this disease, I commenced about three months ago to make experiments, and have vaccinated now many hundreds with perfect success. I have instructed many sheep-breeders and interested men, who promised me to keep it up in their flocks. The matter should be taken in the first place from a sheep having mild small-pox, and slight scratchers made with a charged lancet under the arms, inside of the thighs, or under the tail. As the Dughers have no lancets, I have instructed them to vaccinate with the point of a small flint, or piece of glass. From the experiments I have made I am fully convinced that sheep properly inoculated are perfectly free from contagion.

6. This disease was not known in England until 1847, when, in consequence of the fearful ravages it made, it was found necessary to procure legislative interference.

7. The matter will keep good by putting it between two pieces of glass. I have already distributed some in this manner, and will be happy to supply any quantity to any interested parties.

8. To prove how ready lambs are to take the disease, I may mention that frequently cases occur in which the lambs vaccinated in the morning show

symptoms of having got it thoroughly in the system the same evening, and the second day regularly formed pustules appear.

9. In full grown sheep, however, it takes from three to five days.

Letter from Principal Veterinary Surgeon J. H. B. Hallen, Bombay Presidency, to the Officiating Under Secretary to Government, Bombay, No. 392, dated 29th October 1864.

In accordance with instructions contained in paragraph 4 of Government Resolution No. 3061, Revenue Department, dated 12th August 1864, I have the honor to state that, after a careful perusal of the documents on the subject of the cattle disease, I am induced to believe that Veterinary Surgeon Thacker's views and opinions regarding the nature and treatment of the malady are in every respect correct.

Letter from Dr. F. S. Arnott, for Principal Inspector General Medical Department, to the Secretary to Government Revenue Department, Bombay, No. 2268, dated 19th November 1864.

With reference to your memorandum No. 4371, of the 5th instant, requesting me to expedite the transmission of my reply on the subject of *cattle disease*, or to state when it may be expected, I have the honor to state that on the receipt, on the 16th August, of Government Resolution No. 3061, of the 12th idem, I referred the subject, by my circular No. 1604, of 18th August, to Divisional Deputy Inspectors General of Hospitals, for the opinion and report of Civil Surgeons and Superintendents of Vaccination, and that one or two reports were received shortly afterwards.

2. Again, on the 7th instant, by my circular No. 2164, I requested early attention to the subject, consequent upon the receipt of Government Resolution No. 3922, of 11th October, the accompaniments to which were not received from your Office until that date (7th November), and I now await replies, which have been telegraphed for, to the last reference made.

3. I beg to state that immediately upon their receipt the subject shall be taken up, and that I trust to send in my report before the end of the current month.

Letter from Dr. M. Stovell, Principal Inspector General Medical Department, to the Secretary to Government, Revenue Department, Bombay, No. 2345, dated 30th November 1864.

In continuation of my letter No. 2268, of the 19th instant, I have the honor, with reference to Government Resolution No. 3922, of the 11th October, to report, in obedience to paragraph 3 of Government Resolution No. 3061, of 12th August 1864, requesting me "to state my own opinion of the character of the disease in cattle and the nature of the treatment that should be tried," that I referred the subject to the several Civil Surgeons of this Presidency, and to Superintendents of Vaccination. Copies of portions of their reports I beg to forward.

2. Not having seen any form of disease either in cattle or sheep, I can offer no opinion on the subject. I believe, however, that a more valuable opinion than that of any ordinary medical man will be obtained from Mr. Hallen, and other Veterinarians, consulted by Government, who have made this subject their special study.

3. Dr. Glasse, Deputy Inspector General of Hospitals Southern Maratha Circle, thinks it evident that in the reports from his Division the small-pox murrain (the proper subject under enquiry) has been confounded with other and very different diseases, and that, even where it is identical, all that can be profitably learnt is that the people keep their diseased cattle away as much as possible from the healthy; ascribe the disease in animals to the same cause as they do small-pox in man, viz., the influence of the goddess "Seetla Mata," and, except charms and incantations, place little faith in remedies, but content themselves with dieting the sick.

4. Assistant Surgeon Asher, Civil Surgeon Tanna, doubts the identity of the disease alluded to in the proceedings of the Madras Government, and those referred to by the Officers reporting on the subject in the Bombay Presidency. In the latter case all information is derived from Natives, whose notions of diagnosis and disease are as vague as their treatment is shown to be fanciful. He considers that no conclusion as to the cause, nature, or rational treatment, of the disease can be arrived at from the meagre and doubtful accounts submitted. He remarks that the diseases spoken of seem to prevail for the most part towards the end of the hot season, when cattle in many districts are starved, much emaciated, and weak, supporting life by prowling about, and eating up the veriest of filth.

5. Assistant Surgeon Plumptre, Superintendent of Vaccination Southern Circle, observes that of the various remedies which in the reports of the Magistrates of Districts are said to be used by Natives in the treatment of the disease by far the majority may be classed thus:—

1st.—Those that are harmless and useless.

2nd.—Those likely to increase the mortality of the affected.

3rd.—Those that in addition are cruel in the extreme.

Doctor Plumptre considers that the only way of testing whether vaccination has any prophylactic influence on the disease would be, on the outbreak of it in any district, to vaccinate healthy cattle in some other district remote from the infected one, and bring them to the infected locality amongst the diseased cattle. This experiment involving risk would also involve cost, which Dr. Plumptre does not think the villagers would willingly incur.

6. Assistant Surgeon Dick, Superintendent of Vaccination Northern Circle, reports that, having seen but few cases of cattle disease, he feels scarcely competent to express an opinion on the nature and treatment of cattle murrain. Dr. Dick goes on to state—

"Judging from the description of this disease contained in the Collector's Reports, I am of opinion that it bears to human small-pox the same relation as the sheep-pox which has been frequently epizootic on the continent of Europe, and which was introduced into England from Spain in 1847, and was again prevalent in 1862. This, although belonging to the same nosological class as human small-pox, seems to be essentially a different disease, and, according to the majority of writers, e. g. D'Arboval, Simonds, and Ceely, cannot be communicated to the human subject, nor to horses, oxen, goats, &c., &c., by inoculation.

"The success resulting from the practice of inoculation of sheep in England, as well as in Italy, France, Prussia, and Austria, more than justifies the adoption of a similar practice in case of cattle in this country. The practice found successful, however, was inoculation with matter taken from the vesicles of diseased sheep; vaccination also has been tried, but proved almost, or altogether, worthless as a prophylactic.

"The Government Resolution directs that experiments should be made to test the value of vaccination, and this system has the great advantage that the disease produced is mild and non-infectious, but it is extremely doubtful whether it will be found an effectual preventative in the case of cattle murrain, so that some experiments to test the value of inoculation with matter taken from the vesicles of diseased cattle would be advisable.

"A question which should be kept in mind is, whether the disease produced by inoculation would not be as infectious as that occurring in the ordinary manner, because if the inoculated disease be infectious, and the bulk of the people refuse to have their cattle operated on, the result may be similar to that of small-pox inoculation, viz. a greater mortality than was observed before the practice was introduced."

7. Assistant Surgeon H. V. Carter, Civil Surgeon Sattara, refers, as regards the treatment of sheep-pox, to the report made to the Privy Council on the outbreak in Wiltshire in 1862, and to the accompanying Summary of Extract from the *Lancet* of July 1864 (page 50). In that report inoculation is recommended as a preventative measure, but it is well known the practice of it is not unattended with harm. Segregation and the slaughter of the infected animals seem to be the better course to follow.

8. I now subjoin portions of the reports of several Civil Surgeons of disease of cattle they have either seen or the accounts of which have been communicated to them on Native authority, with the report of the Civil Surgeon Shikarpoor in original.

CIVIL SURGEON, SATTARA.

Disease of Sheep and Goats.—Evidence of three butchers ("Kussace") supplying the Sattara market, whose business it is to travel for supplies in the surrounding districts. Names of disease—*Moi, Phorya, Manmora*, Small-pox, Sheep or Goat-pox:—The disease is commonest amongst sheep; many animals die of it yearly in the districts (not in the town); perhaps 1000 to their knowledge this year. It prevails in the hot season; the chief symptoms are eruption of largest pustules and falling off of the hair; less than 50 per cent. die, the others recover. The disease is contagious, attacks all ages, and when fatal kills in a few days. No real cause is known, nor any efficient remedy. It is not endemic, but appears yearly, and was bad in 1864. Cannot say if small-pox prevails in the affected localities amongst men at the same time, or whether other animals are attacked. The owners of flocks would probably be willing to practice inoculation.

Disease of Buffaloes and Cows.—Evidence of three "Gowlies" resident in Sattara:—An affection termed the *rog* appears amongst cattle resembling cholera, attended with purging, but not vomiting, and proving fatal in almost all cases in a few hours. It is not contagious, and prevails chiefly in the hot season. Twelve cases were known to these men the last hot weather; many occur in the districts; all ages are attacked. No clear cause is known, nor any sufficient remedy, but the cantery is applied, and arrack administered internally. Amongst the cattle here no disease resembling small-pox occurs, abscesses of the liver being the other chief fatal disease. The *rog* occurs yearly, and was bad this year.

CIVIL SURGEON, RUTNAGHERRY.

I have obtained information concerning three diseases, viz., *Paie, Koond, and Paie Laig*.

Paie appears to be a disease of the liver, attacking oxen and cows and buffaloes of both sexes. The animal refuses food, and its limbs are convulsed, and saliva pours from its mouth. A swelling appears over the liver. The disease seems to be very contagious. The remedies in use appear to be unnecessarily cruel, a red hot iron nail being driven into the swelling, and the animal kept without water for three days. A thin sanious discharge comes from the wound, and wind is said to escape from the wound, this probably being the flatus from the intestines. This disease has been prevalent lately in the village of Hathkumbe, about eight miles distant from this town.

Koond.—This disease also attacks oxen, cows, and buffaloes. The animal becomes restless, the belly is swelled and tympanitic, and the secretions are checked, but death does not take place quickly. This does not appear to be a contagious disease, and is probably caused by bad or unsuitable food: the gram Hurreek is said to be a frequent cause.

The animal is fired indiscriminately. The husks of Natchnee, mixed with human hair, blackwood, and egg-shell, are burnt, and the smoke is blown up the animal's nostrils. The rationale, if any, of the latter part of the treatment would seem to be to excite sneezing, and thus, by causing violent descent of the diaphragm, cause it to assist in the expulsion of the gas from the intestines. This disease is not now very prevalent in this part of the country.

Paie Laig is a disease attacking the feet and legs; the same animals are subject to it; it is attended with fever, the zellock joints swell, and abscesses form about the feet, and worms are found in them. The feet of the animal are bathed in salt and water, and they also put its feet in mud mixed with salt. Tar, oils of blackwood and teakwood, are applied externally. Tobacco and chnnam mixed is used in the same manner. The disease prevails chiefly in the months of November and December, and is considered to be contagious.

APOTHECARY AT VINGORLA.

The following diseases, it is stated, prevail epidemically among cattle, and are infectious and contagious.

Moosloe Boolkoe.—The disease occurs at the commencement of the rains, but also sometimes in the cold weather; cause unknown. *Symptoms*: A total dislike for food, great thirst, the ears droop, the eyes water, diarrhoea, the stools afterwards become foetid and offensive, and shiny sores break out on the chest and abdomen, and are infested with small worms. The animal becomes emaciated and debilitated, and dies within eight or ten days. When treated early one half of the cases recover.—*Treatment*: Take of mace seed bruised quarter seer, Jeera bruised two tolas, white onions bruised quarter seer, the juice of the leaves of the Meereeyah tree two seers, the milk of three green cocoanuts, the whole to be well mixed, one-third part of the mixture to be given each day for three successive days.—*Diet*: Rice gruel for a week; no water to be given. On the eighth day warm water to be given, and the ordinary food resumed.

Lagg is of two kinds, of the mouth and of the feet. Both occur about the latter end of the rainy season, and are contagious.

Lagg of the mouth.—*Symptoms*: It commences with a copious flow of saliva, afterwards the mouth swells, ulcers form in it, and there is a discharge of offensive matter from them; worms are seen in the sores; the animal is unable to eat; drinks with difficulty; dies generally within fifteen days. When treated early two-thirds of the cases recover.—*Treatment*: Umbah huldee 1 tola, assafoetida 1 tola, plantains 5, water $\frac{1}{4}$ pint, mix, to be given in one dose. Umbah huldee mixed with water to form a paste, to be applied to the sores in the mouth.

Lagg of the feet.—*Symptoms*: The feet swell and ulcerate; the hoofs and soft parts rot, and are infested with worms.—*Treatment*: The root of a plant named the wild Bendee to be pounded and applied to the feet for three days to destroy the worms; afterwards an ointment composed of tar and Kursing oil.

SUB-ASSISTANT SURGEON SAWUNT WAREE.

The diseases that are known to occur epidemically in cattle in the Sawunt Warree State are three in number, namely, a disease called *Lagg, Moosla, Boolkee* or *Cholera*, and *Devi* or *Small-Pox*.

Lagg.—This disease is noticed to present two forms, viz. *Lagg of the mouth* and *Lagg of the feet*.

Lagg of the mouth.—The mouth is swollen, sore, and ulcerated, and there is a foetid discharge from it. Sometimes worms are seen festering the ulcers, and there is a difficulty for the animal to take in food and water; occurs mostly in autumn.—*Cause* is said to be atmospheric and bodily heat.—*Treatment*: Pepper and Ambey Hullud (a kind of turmeric) to be rubbed over the tongue.

Lagg of the feet.—This is seen generally in summer and autumn: when occurring in autumn it is said to be more serious—the feet swell, the hoofs rot and drop off, and the parts are worm-eaten.—*Cause* attributed to atmospheric causes.—*Treatment*: The slough (dead skin) of a serpent is given internally with plantains; an oil obtained from Khursing wood, lime, tobacco, tar, dambur or pitch, Palkonda, are used externally to the ulcers of the feet.

Moosla, Boolkee or *Cholera.*—This is noticed in two varieties.

First variety: This disease commences with watering of the eyes, dislike for food and water, and diarrhoea—the stools, at first feculent, soon become large, foetid, and watery. The animal loses flesh and becomes emaciated, and the surface of the body is covered over with a kind of worm. The disease may prevail at any time, but is generally met with in summer and autumn.—*Cause* generally supposed to be atmospheric. Bad food and water also said occasionally to give rise to it.—*Treatment*: The juice of the Char bark, and leaves of the Ramatey Burke Nogulkoodey root bark, Hadee leaves of the bulb of the Roda Aowuns, is given in warm water. The tender spike of unexpanded leaves which proceeds forth from the womb of the Betelnut tree, or *Soorwa* as it is called, cloves, mace, nutmeg, are always given in brandy; and the animal is branded in the dorsal regions and the forehead.

Second variety: Cramps in legs are noticed in this variety, in addition to the symptoms of the first variety, and the eyes are red and sunken. It is said a worm like a caterpillar forms in the stomach three days after the attack, and this is said to penetrate into the lungs. This variety generally proves fatal.—*Treatment*: The juice of Kowla (a creeper) of the bark of Kapey Ambal or of Choorka (a creeper), or of the bulb of Bulchnag, is given in a seer or so of whey.

Devi, or Small-pox.—This is said to break out generally in December.—*Symptoms*: The eyes swell, and run water, the skin turns black, febrile disturbance, preceded by rigors, thirst, diarrhoea, which soon becomes a bloody flux; pustules are sometimes noticed over the body the size of a Poor; termination, mostly fatal, between the third and tenth days.—*Treatment*: The juice of Pardick bark, Boorway root bark, Portuguese Chafa bark, and of Bella bark, or of the Khoj Kooglee leaves, about a seer in quantity, is given. Hymns are sung by the people in praise of the goddess Shitta Devi, and the people wait the pleasure of the goddess to cure or kill the animals.

These epidemic diseases spread by infection and contagion, but it is not known that they are communicated to human beings.

CIVIL SURGEON, AHMEDABAD.

A disease, however, which I infer to be identical with that described in the proceedings of the Madras Government, is of ordinary occurrence in the autumnal months, and last year it spread as an epidemic in various parts of the Zilla, causing a large mortality among horned cattle, which was further increased, particularly in this neighbourhood, by the prevalence of Pleura Pneumonia during the cold weather.

SUPERINTENDENT OF VACCINATION REWA KANTA and PUNCH MAHAL.

The cattle disease as known here is extremely fatal, and occurs sometimes three or four times in the year. The treatment consists in Toowerkee Dall boiled in water, Neem leaves, and boiled bark of Jambool tree, but little or no success results from the treatment.

CIVIL SURGEON IN KATTYWAR.

The three principal diseases of cattle in Kattywar are—

1st, *Malvee*.—*Symptoms*: Animal cannot swallow; neck and chest becomes much swollen; great discharge of thick mucus from nostrils; dung very hard; bowels constipated; only remedy in use firing the head, chest, &c.

2nd, *Khorwa*.—*Symptoms*: Ulceration, followed by mortification, between the hoofs and their articulations; diseased part becomes full of worms. *Treatment* (Dawah): Resin plaster over diseased part after washing, and, when possible, the animal is made to walk in a sandy or dusty road as a means of getting rid of the worms (query, maggots). They also give fish with the food, and wash the part with fish water, that is water in which fish have been washed.

3rd, *Seelee or Small-pox*.—*Symptoms*: Running from the eyes and nose; spots (pustules) appear on face, then on other parts of the body; great thirst; and the motions are frequent, watery, sometimes bloody slimy. This disease generally increases in severity till seven days after commencement; then most of the animals die on or before the tenth day; a very few slowly recover.—*Treatment*: Ambil (Jowaree conjee) mixed with butter-milk.

Of the two first mentioned diseases about half die. The inhabitants place little or no confidence in the above remedies, except the fish treatment; but have more faith in charms.

After having made inquiries from the Wukeels of all the principal Chiefs, I cannot hear that an epidemic of any of the three mentioned diseases has ever occurred.

Extract from the *Lancet* of 9th July 1864, page 50, regarding Vaccination in Sheep.

At the time of the outbreak of sheep-pox in Wiltshire in 1862, the question, often discussed, was again raised of the protective influence of vaccination amongst flocks. In opposition to the opinion commonly entertained by Veterinary Surgeons of the inutility of vaccination, an opinion founded upon careful experiment, instances were brought forward in the public press, on the authority of persons whose statements could not altogether be set aside, in which, during the outbreak of sheep-pox in 1848, complete immunity from the disease had apparently been obtained in several flocks by means of vaccination. The subject had much too important a bearing upon the welfare of the community to be left doubtful, and the Privy Council determined to submit the question at issue to direct examination. For this purpose Mr. Marson, of the Small-pox Hospital, and Professor Simonds, of the Royal Veterinary College, were requested to undertake a series of experiments on the influence of vaccination in preventing sheep-pox. Their report of the results of the investigation entrusted to them has been laid before Parliament, and it confirms in the fullest manner the opinion previously entertained, by the most competent observers, of the valuelessness of vaccination as a means of preventing or mitigating sheep-pox.

From their experiments the reporters conclude—

1. That the vaccination of sheep cannot be relied upon as a preventive or mitigant of sheep-pox, as the vaccine disease in these animals is but very imperfectly developed even in the most successful cases.
2. That even if the vaccination of sheep were protective, a serious drawback to its adoption would be that not more than thirty-five per cent. will probably be influenced by it on a first vaccination, and this under the most advantageous circumstances in the selection and command of lymph.
3. That the vaccination of sheep on the principle of retrovaccination has no value beyond an ordinary vaccination, nor does the plan materially increase the supply of lymph at command.
4. That the inoculation of sheep with the virus of human small-pox is equally inefficacious as vaccination.
5. The evination of cows cannot be resorted to as a means to furnish lymph, these animals being insusceptible, as it would seem, to the action of the small-pox virus.

The reporters examine in detail the more important statements made during the prevalence of sheep-pox in 1862 of immunity from the disease secured by the vaccination of certain flocks, and conclusively show that the statements are altogether unworthy of credence. They further offer some observations on inoculations as a preventive of sheep-pox. Taking it for granted that the system will not fall into disuse in the event of the reappearance of sheep-pox in England, they give rules for its performance, and they conclude—

A—That the segregation of infected animals, although often of much value in arresting the progress of sheep-pox if immediately had recourse to, and perseveringly carried out day by day, is nevertheless almost impracticable when large flocks have to be dealt with.

B—That the slaughtering and burying of the infected animals is justifiable only in the very earliest invasion of the flock, and in those cases in which the disease assumes a confluent character.

C—That the only remaining conservative measure is inoculation, which, if rightly carried out, offers considerable advantages for the following reasons: 1st, that it gives security against a natural attack of sheep-pox; 2nd, that it limits the period of the existence of the disease in the flock; 3rd, that it mitigates the severity of the malady; 4th, that it saves the lives of many animals which otherwise would be sacrificed, and produces comparatively but little loss of condition; 5th, that it controls the extension of the disease, as one confluent natural case does more to diffuse the poison than probably fifty ordinary inoculated cases would do; 6th, that the mortality from the inoculated disease when compared with the natural is on the average as three per cent. in the one case is to fifty per cent. in the other. To this portion of the report considerable exception may be taken. In Mr. Gamgee's report to the Privy Council last year on "cattle diseases in relation to the supply of meat and milk" it is asserted, on grounds which cannot lightly be ignored, that in those districts of the Continent where sheep-pox is most persistent, the disease is to a great extent kept up by the practice of inoculation. It is further asserted that the flocks inoculated in Wiltshire in 1862 were a chief cause of the spread of the epizootic in that country. Now to the ordinary observer it would appear that the very circumstance which, in the opinion of the reporters, renders segregation of the animals of little or no value in arresting the progress of sheep-pox, namely, the largeness of the flock, is the circumstance which, of all others, would be most fatal to isolation of infected flocks, a prime necessity in the performance of inoculation. The reporters appeal to the experience of the outbreak in Wiltshire to show the value of inoculation. Provided that no other course were open to the former, the appeal would be unanswerable. But Mr. Gamgee also appeals to the experience of the Wiltshire outbreak to show the harmfulness of inoculation when contrasted with segregation and slaughtering of infected animals, and the evidence he adduces certainly seems to outweigh the evidence in favor of inoculation. It is to be regretted that the subject having been touched upon was not more fully entered into by the reporters. We would gladly have learned the grounds upon which two observers of so great competence, and whose opinions command our highest respect, rest their objections to the arguments which have been so forcibly urged against inoculation. For the rest, this report satisfactorily settles a vexed question, which would be apt to rise again to the exclusion of other and more important consideration, in the event of reappearance of sheep-pox in this kingdom.

Report by the Civil Surgeon, Shikarpoor, on the Diseases prevalent among Cattle and Grazing Stock in Upper Sind, dated 16th October 1864.

In submitting the following report of diseases prevalent among cattle and grazing stock in Upper Sind, I beg to remark that I have had no opportunity of observing the progress of any of the diseases enumerated, and that nearly the whole of my information has been received from Native herdsmen who profess to cure sick cattle. Their treatment and that in vogue among the people is given, but of medical treatment, or remedies properly so called, they appear to have no knowledge.

The most fatal disease is called "Mohara:" when prevalent it is represented as destroying whole herds, and causing enormous losses, but I am unable to procure correct data to illustrate this point. The large flocks and herds which always suffer most from epizootic disease are scattered over miles of country wherever pasturage is to be found, so that the disease rarely falls under the observation of persons likely to investigate it. However, the people generally, and the herdsmen particularly, appear to have tolerably correct notions on some points. They describe the signs, progress, and cause, of death minutely; and, believing that many of the diseases enumerated are infectious, they recognize the importance of separating the sick from the healthy animals. In regard to the "practice" little need be said; in most cases it is negative, and the animal is left to nature; and if in some instances it is inert and harmless, in others it is rude, cruel, and worse than useless.

The diseases are arranged in the order of their frequency:—

MAI.

Hind, Mata; *Sind*, Mai; *English*, small-pock.

Definition—A malignant pustular disease, setting in with severe febrile disturbance.

Physical signs—The animal leaves off feeding and lies down, runs at the nose and eyes, and in the course of a few days its whole body becomes covered with large pimples, which gradually become vesicular with a depressed centre, and ultimately pustular, resembling "small-pock."

Cause—Not known, but believed to be a specific infection. The disease originates in quadrupeds, and is epizootic in cold, sickly seasons. No experiments have been made with a view to induce the disease in healthy animals by inoculation, or establish its identity with small-pock. This is strange, inasmuch as the Mussulmans of Sind are well acquainted with the protective power of inoculation, and have practised it among themselves for ages. If it is indeed small-pock, it is, to say the least, much more virulent than that usually met with among cattle in Europe.

Progress—The pustules burst, discharge their contents, and are covered with a scab; and the animal, if not carried off by colliquative diarrhoea, and if the attack has not been very severe, ultimately recovers, but when the disease is very prevalent, and the season is cold and sickly, nearly all attacked perish.

Mortality—The mortality is not accurately known, but believed to be about two-thirds of all attacked.

Treatment—The animal is fed with conjee prepared with wheat flour, anise seed, and molasses, or with butter-milk. As the object is to support the animal's strength and keep it alive until the disease has run its course, this treatment appears rational.

MOHARA.

Hind, Mooh Puka; *Sind*, Mohara; *English*, sore-mouth.

Definition—Acute inflammation of the mouth, tongue, throat, and salivary glands, setting in with febrile symptoms.

Physical signs—In this disease also the first sign of sickness is the animal refusing its food; the jaws swell, the tongue protrudes a little from the half opened mouth, and the saliva escapes and falls upon the ground, the animal having lost the faculty of swallowing.

Cause—Not known; its attacks are not limited to any season. Sheep, goats, and horned cattle, are most obnoxious, but other animals are also liable, and it has been frequently seen in dogs.

It resembles the disease called "Strangles" in the secondary affection of the salivary glands, but differs from it in its fatality, and inflammation of the mouth and mucous glands near the root of the tongue.

Progress—The progress is very rapid, and always terminates fatally. The inflammation extends to the base of the tongue, respiration is impeded, and the animal perishes from apnoea or suffocation.

Mortality—All attacked perish; but I can find no statistics to enable me to arrive at an approximation of the percentage attacked.

Treatment—Unless the cruel and useless operation of firing may be called "treatment," there is none practiced.

PHIPHERI.

Hind, Zalooljunb; *Sind*, Phipheri; *English*, Pneumonia.

Definition—Inflammation of the lungs. When the disease is limited to one lung it is called "Phipheri;" when both are implicated it is called "Ghoghe." The herdsmen are able to diagnose either, but consider them different diseases.

Physical signs—Sudden and intense febrile disturbance, short cough, and hurried respiration. The nose and surface of the body feel hot and dry to the touch, and the animal leaves off feeding, and will not move unless pushed along. If left to itself it remains standing until it falls through weakness.

Cause—Inflammation of the lungs, caused by cold or certain conditions of the atmosphere. The disease is most prevalent in the winter and spring months, when the difference between the temperature of the day and night is greatest, and it appears suddenly in several animals at the same time.

Progress—The appearances found after death tend to confirm the inference that, as in the human subject, the lung passes through the several stages of congestion, consolidation, and purulent infiltration.

The most usual morbid appearance is consolidation and discoloration of the lung. Purulent infiltration has been found but rarely, probably because it was not sought for.

The disease proceeds rapidly towards a fatal termination, the animal usually dying within the first three days; the result being doubtless hastened by neglect and exposure.

Treatment—None practiced—Muntras and prayers are performed, and the animal left to nature.

The two following diseases are met with mostly among horned cattle:—

KAREVAO.

Hind, Seemuk; *Sind*, Karevao; *English*, Black Wind.

Definition—Asphyxia, caused by poisonous winds or exhalations.

Physical signs—The animal suddenly falls down and expires, without any previous warning.

Cause—The popular belief is that it is caused by poisonous winds, all the animals in one particular direction being attacked at the same time.

Progress—Generally and rapidly to a fatal result; but a considerable number recover, and as the attacks are not of very frequent occurrence the mortality under this head is comparatively light.

Treatment—Bleeding the animal from the ears.

APRI.

Hind, Badee; *Sind*, Apri; *English*, Swelled Belly.

Definition—This disease is simply "surfeit" from over eating. As it is avoidable, and of comparatively rare occurrence, it demands no special remarks. The Native remedies are drenching the animal with oil, and "firing."

The two following diseases are met with mostly among goats and sheep:—

ZARDOZI.

Hind, Kuluji-ka-durd; *Sind*, Zardozi; *English*, Embroidery.

Definition—Chronic disease of the liver.

Physical signs—Not well marked; the animal loses flesh, and becomes sickly, and in many cases the true character of the disease is not discovered until after death.

Causes—Chronic disease of the liver; probably Cystic or Hydatid.

Progress—Obscure from the reasons above stated.

Treatment—None practiced.

BIRKI.

Hind, Mirgee; *Sind*, Birki; *English*, Epilepsy.

Physical signs—The animal runs round in a circle, cries out, and falls down in convulsions.

Cause—Unknown, possibly insolation.

Progress—Usually to a fatal termination.

Mortality—Considerable, but not accurately known.

Treatment—None practiced.

URNVAO.

Said to be a disease resembling cholera; the animal is suddenly attacked with diarrhoea, and dies within twenty-four hours. It is not limited to any season, and is of comparative rare occurrence.

The Native treatment is to cover the animal with blankets and numdahs, and keep it for about four hours in a room heated artificially with burning grass and rubbish: if it survives this treatment, it is allowed to cool and kept separate from the other cattle until recovery.

If reviewed in relation to the losses entailed by the ravages of the several diseases described, only three appear, from their great frequency and mortality, to demand special attention, viz. small-pock, sore-mouth, and inflammation of the lungs, and fortunately they are diseases which hold out some hope of success to prophylactic measures and remedial treatment.

Taking them in the order enumerated (which is also the order of their frequency), I should suggest the propriety of taking steps to prove the identity or otherwise of the disease called "Mai" with "small-pock." In stations where vaccination is kept up throughout the year this test can be put in practice at once, and if found to give any protection against the disease, or modify the virulence of its attacks, the people will adopt the practice most willingly, but I don't believe they will of their own accord take it up experimentally.

Where the disease is at present raging, and no better means at hand, I should try the effect of inducing the disease artificially in the healthy animals by inoculation.

In reference to the disease called "Mchara" or "sore-mouth," I have not much to remark, having seen the disease only once, and then in the last stage, and modified to some extent by previous interference. There was a good deal of swelling about the neck and throat, with a peculiar croupy respiration, which led me to infer the presence of fibrinous exudation; the breath was very offensive, and the animal appeared to have lost the power of moving its tongue. I was not aware of the importance of the disease at the time, and made no *post mortem* examination; but, if I may venture an opinion on what I then observed and have since heard described, I should say it is the analogue of the disease called "Diphtheria." A disease of this character would be most difficult to treat in an animal. Any remedies prescribed should be of the most simple description to ensure their correct application in the hands of Natives. In the absence of approved remedies, I think the sulphate of soda, or even a strong solution of common salt, deserves a trial.

Pneumonia is a well known disease among cattle in Europe, and many remedies have from time to time been in vogue for its treatment. Powders containing tartarized antimony, calomel, and digitatis, have been employed successfully in the early stage of the disease, and I apprehend a similar combination might be tried in India with some prospect of success.

RESOLUTION.—Copies of these reports should be transmitted to the Madras Government, in continuation of the abstract sent with letter No. 3062, dated 12th of August last, from this Government.

Ordered that copies of the above be forwarded to—

The REVENUE COMMISSIONER N. D.,
The REVENUE COMMISSIONER S. D.,
The PRINCIPAL INSPECTOR GENERAL MEDICAL DEPARTMENT,
Captain W. A. NEALE, special duty, Poona,
PRINCIPAL VETERINARY SURGEON J. S. HALLEN.

7
No. 143 of 1865

Revenue Department

Bombay Castle 10th January 1865.

To,
J. D. Sim Esquire
Secretary to the Government of
Madras

Sir,
In continuation of my
letter No. 5057 dated the 20th Ultimo, I am
directed by the Honorable the Governor in
Council to forward for the information of
the Government of Madras copies of the
Letter from the Principal papers noted in the
Inspector General Medical Department Margin containing
No. 2419 dated 13th Dec^r 1864 with account further information
from the Civil Surgeon on the subject of
Canara.
Resolution of Govt. No. 142
dated 10th January 1865. Cattle Disease.

I have the honor to be
Sir

Your Most Obedt. Servant

E. Dawson
Offg. Chief Secy to Govt.

Copy
S. P.
92

173344

8

No. 142.

EXTRACT from the Proceedings of the Government of Bombay in the Revenue Department dated 10th January 1865.

Read the following papers:—

Letter from Dr. M. Stovell, Principal Inspector General Medical Department, to the Secretary to Government, No. 2419, dated 13th December 1864.

In continuation of my letter No. 2345, dated 30th ultimo, I have the honor to forward the accompanying Extract from a Report by the Civil Surgeon Canara upon "Cattle Disease," received on the 8th instant.

Extract from the Report of the Civil Surgeon Canara.

The first symptom observable is that the tail is kept tight closed in between the hind legs, the ears fall, the eye becomes listless, and the animal refuses both food and water; trembles and shivers perceptibly. The ears are cold. Shortly the other symptoms continuing the skin of the body becomes very hot and dry to the touch, which produces no irritation whatever in that usually sensitive surface the Panniculus Carnosus, never being brought into action. The day after, or at most two days after, these symptoms commence the tongue and the salivary glands become swollen, and mucus exudation, mixed apparently with saliva, pours from the mouth. The throat is seen visibly swollen from the exterior, and the animal can no longer swallow. The feverish symptoms still continue, and after from 36 to 48 hours, from the onset of the disease, purging sets in, with motions at first of a blackish color, with a watery consistence and a very bad stench, afterwards consisting almost entirely of mucus and blood. The breath about the same time, or before, acquires a very bad smell, and on the third or fourth day the dysenteric purging still continuing the foot cracks between the hoofs to such an extent some time as literally to split up, and emits a very bad smell. No urine during this time is passed. On the fourth day a small pustular eruption appears over the body and great thirst sets in, and the animal wishes, but is not allowed by the custom of the Natives, to drink. About the eighth day the animal either dies or gets better. In the latter case the swelling of the tongue, of the salivary glands, and of the fanges, gets less; the stools become of a more natural character; saliva and the mucus exudation is poured forth less freely, and the stench emitted gradually disappears. The animal looks round for food. It lifts its ears; its tail, instead of being tightly pressed in between its legs, hangs easily, and is moved about, and the animal gradually recovers its appetite and health, with the loss, however, after a few days, of most of its hair, in the falling of which numerous minute scars, covered generally with small scabs, are seen. If the sick animal dies the hair and epidermis, if touched even lightly, fall off, or may even be blown off by the wind. The disease is equally prevalent among cows and buffaloes.

2. In the month of September, and in the month of May, just before the monsoon, it is prevalent (more at the former than at the latter period), although isolated cases occur (just, as several of the Natives whom I questioned on the subject said, like small-pox) throughout the year. Although it is more prevalent towards the close of the monsoon (in September) than just before setting (in May), it does not then assume so fatal a character. Of the animals attacked in May nearly twice the number in proportion die of those attacked in September.

3. In the Balaghat the disease is not only more prevalent, but also more fatal, than on the coast parts, about two-thirds of those attacked dying below the Ghats, and over three-fourths above. The disease is stated by the Natives to be very infectious, although, from apathy, segregation of those attacked is seldom practised.

4. I have remarked, and otherwise ascertained, that the more filthily and the more crowded the animals are stabled the more prevalent and fatal is the disease. I would have said that the cleaner the cow-houses are kept, the greater the space allowed to each animal, and the more perfect the ventilation, the less prevalent and less fatal is the disease, were it not that such terms as "clean" and "ventilation" can in no way be used with reference to a native's cow-house in North Canara. The animals crowded as closely as they can be packed, with beneath their feet, and forming their bed, the accumulated dung and manure

to be forwarded for the information of the Government of Bombay, and the subject of cattle disease.

Received 18th June 1865.

From the office of the Chief Secretary to the Government of Bombay.

Revenue 1865. 24th June 1865.

S. C. S. 1865. 24th June 1865.

5. 1865.

of months, the mud floor saturated with the urine of years, perhaps of generations, with often no space by which the fresh air can find inlet or the foul outlet, often this mess in the crowded, low, unventilated, mud walled rooms, in which the inhabitants themselves live (as in Hullial), a cow-house in North Canara presents such a glomeration of filth and evil smells that one's wonder is raised that any animal can exist in it for a single day, while it seems impossible that it should leave it in health. Little wonder that the breed is stunted, and characterised by listless expressions and unhealthy leprous looking skins, that the scanty watery milk is foul smelling, and that so many of the wretched animals are released from a miserable existence by fatal and prevalent epidemics. When we add to this that the wretched animals when released from their nightly durance flock eagerly to the place *d'aisance* frequented by their masters, there to feed greedily off the human ordure, I need add nothing more to the causes which combine to render the murrain and other forms of loathsome disease among the cattle prevalent.

5. As an instance of what the opposite mode of treatment may effect, I could not ascertain, after careful enquiry, that a single case of this so called murrain has ever been known among the cattle of the European inhabitants, each of whom keeps, as a rule, from two to five cows and buffaloes. I suspected it in one case in a buffalo belonging to myself, but, if it was this disease which was extremely prevalent around at the time, it occurred in an extraordinarily mild and modified form; the dysenteric symptoms and the general factor being almost absent, the suppression of urine very temporary, and the eruption slightly marked.

6. The mode of treating the disease employed by the Natives of this district is on the third or fourth day, if the animal will swallow, to give the dried leaves of the *Cagelly* plank shrub, which possesses tonic and astringent properties, which I have been unable as yet, as this is not the flowering season, to identify botanically. About half a tola of the dried leaves is powdered, mixed with boiled rice, and given to the animal as a bolus twice daily. Afterwards, about the sixth day, a decoction of the *Cooksa* leaves (which possesses diuretic properties), in the proportion of about four tolas of the leaves to two pints of water, is made and given twice or thrice daily, in doses of a third of a pint.

7. As far as I can ascertain, these remedies have little or no effect.

8. The appearance observed on *post mortem* examination are congestion of the principal viscera, especially of the liver, which is often filled with small abscesses. The gall bladder is usually full of green foetid bile; the whole mucous surface of the digestive system is highly inflamed, excoriated, and ulcerated. The kidneys are sometimes disorganised. The urinary bladder is inflamed, as is the urithral passage; the former sometimes contains a little very highly colored and foetid urine, but is often empty. The blood is dark-colored, the blood globules, in the cases examined by the microscope, mostly broken down. The small pustules contain a putrid pus.

9. The foetid stench from the whole body is overpowering, and the structures cut very much like dough.

10. The whole course of the disease much resembles murrain, as it appears in Europe; in fact, I believe the disease, slightly modified by climate, to be identical.

11. Having had occasion to study the disease in Scotland, and having met with considerable success in its treatment, I will here detail the mode of treatment which I found most successful. On the first appearance of the disease the animal was immediately segregated in a hamnel (a small shed with open yard in front), of which several which were isolated were set aside for the purpose. A saline purge, consisting of ten or fifteen ounces of Epsom Salts, with four or five grains of Tartar Emetic, in a quart of barley water, was given immediately, and the animal was clystered with eight ounces of castor oil and five of turpentine in a quart of barley water. The purges were repeated in half quantity with fifteen grain doses of calomel, and a large ammonia blister was applied underneath, and on the right side of the chest and hypochondrium. Fomentations to the throat were very useful. The latter was changed very frequently, and the utmost cleanliness was observed. The sick hamnels were frequently fumigated, and the stall fed animals were turned out to pasture, which was frequently changed. As soon as the animal was able to eat, warm mashes were given, and to the convalescents cordial drenches. The animals were allowed to drink freely whenever they would. The animals which died were buried to some depth at a distance, and the hamnel they had occupied were well fumigated, and not used again for some time. The byres and cattle-sheds were also well and frequently fumigated, and the litter was often renewed.

12. I believe this plan of treatment, both from its success and from a consideration of the pathology of the disease, to be, with such modifications as may suit individual cases, as good a one as could well be adopted.

13. I do not think bleeding likely to be of much or any service, except perhaps to a slight extent at the commencement to relieve local congestions; but I believe it to be very injurious if practised at a later period, or to a greater extent.

14. Regarding the prevention of the disease, I am inclined to place more reliance on continued cleanliness and good feeding, with, when the epidemic commences, entire segregation of the afflicted animals, and frequent fumigation of the cattle-sheds and great cleanliness, than an inoculation, which, I fear, would only tend to spread the epidemic to where it would otherwise be unknown. At the same time I believe that inoculation might possibly be practised from animals in which the disease may have occurred in a modified and mild form.

RESOLUTION.—These papers should be printed as a supplement to the correspondence which led to Government Resolution No. 5056, dated 20th December 1864, and transmitted to the Government of Madras.

Ordered that copies of the above be forwarded to—

The REVENUE COMMISSIONER N. D.,
The REVENUE COMMISSIONER S. D.,
The PRINCIPAL INSPECTOR GENERAL MEDICAL DEPARTMENT,
Captain W. A. NEALE, special duty, Poona,
PRINCIPAL VETERINARY SURGEON J. S. HALLEN.

Offg. Chief Secretary to Government.

Rev N^o 168.

10
Res Dep^t

Memo

Rule 40 requires the submission of a separate Budget estimate of all Public Works expenditure to be incurred from Local Funds - to the Government of India, apparently, in the Public Works Department. By para 31 of their order dated 4th March 1864, N^o 392 this Government decided not to send any of the Local Fund Budgets to that Department but to send all to the Financial Department leaving it to deal with each as may be most convenient.

If the Government do not intend to take any notice of this rule, it will be sufficient to send a
copy

copy of the Rules to the
Board of Revenue for their
information.

Orders are repeated.

M I think the
10/1/83. Standing Orders
referred should be
simply communi-
cated to the Board
now - the papers
being shown to Mr
Gin on his return
for such supple-
mentary Proceedings
as he may judge
proper. Y^{rs}

N^o 168.

Proceedings of the Madras Government.

Under date the 31 January 1865

Read the following letter
from the Off^r. Chief Secy.
to the Gov^t of Bombay-

Forwarding certain cor-
respondence on the subject of
of cattle disease. (Here enter 20 Dec 64 & 50)

No. _____ D. _____ (Here enter 14 Jan 65 & 15)

No. _____ D. _____ (Here enter 10 " " " 143)

Ordered that the
papers received with
the foregoing letter be
distributed as follows:-

- 1/1 to the Board of Revenue
- 1/1 to Veterinary Surgeon J. Thacker
- 1/1 to the Collector of Revenue
- 1/1 to the Commissary General
- 1/1 to the Inspector General Medical Dept
- 1/1 to Mr. G. McLennan Esq.
- 1/1 to Mr. J. Shortt
- 1/1 to Editor's Table
- 4 Copies to be retained in office

- 14. To the Board of Revenue Dec 23rd 64
- 1/1 J. Thacker Esq
- 1/1 The Collector of Revenue Dec 23rd 64
- 3/1 The Commissary General
- 3/1 The Inspector General Medical Dept
- 1/1 Mr. G. McLennan Esq
- 1/1 Mr. J. Shortt
- 1/1 The Editor's Table

egw

Revenue 1865 Report
for Goodwin Sample

Nov 68

for of the dead end
Government of
31 Jan 1865

Doc No. $\frac{44-45}{3-9-64}$
5-1-65

Distributing the
papers from the Court
of Bondage on the
subject of cattle disease

Nov 31, 1865