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MADRAS RECORD OFFICE.

Government of Madras.

Revenue DEPARTMENT.

G.O. No. 1224 — 1888

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Dated 13 - 7 - 1886

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Proceedings of the Madras Government, Revenue Department, 13th July 1864.

No. 214. Read the following Proceedings of the Board of Revenue, dated 17th June 1864, No. 3,685.

Read the following letter from the Collector of Kurnool, dated 17th May 1864, No. 78 :—

1. I have the pleasure to forward a report drawn up by Veterinary Surgeon Thacker on the result of his visit to this District, to investigate the Cattle Murrain, which from the papers circulated on the subject appears to be prevalent in all parts of India.

2. It is not necessary for me to recapitulate what will be found detailed in Mr. Thacker's report. The personal interest which I felt in his inquiry, and the knowledge that my presence might very possibly be necessary to give that authority to his proceedings which would be requisite for success, made me desirous of accompanying Mr. Thacker throughout his inquiries, a wish which I was unable to carry out, owing to the Order of Government placing me in temporary charge of the Bellary District. Before leaving Mr. Thacker I had the satisfaction of knowing that he was settled in the village of Ravypad, where Cattle Murrain was raging, and where he would have the fullest opportunity of testing his proposed treatment, and thoroughly investigating the disease.

3. The result of the full experience gained by Mr. Thacker at this most favorable opportunity is more encouraging than was to be expected : seventy-five per cent. of all the cases treated were cured, and there seems no room to doubt that the disease is amenable to treatment, and that by proper measures its ravages can be very greatly checked.

4. The mode of treatment recommended by Mr. Thacker, and a clear account of the symptoms of the disease, forms an appendix to his report This paper will be translated into Teloogoo, and published as speedily as possible in the District Gazette. I also propose to strike off separate copies of the paper in Teloogoo for sale to the Ryots at one Anna. These instructions can in the same way be published in all the District Gazettes of the Presidency, and thus be made generally avilable. The collected papers on the subject show not only that the disease is universal, but also that no rational treatment has yet been anywhere attempted.

5. While improved medical practice should greatly reduce the per centage of mortality amongst cattle attacked with the disease, it is to remedial measures in reference to the risks of contagion that Mr. Thacker looks chiefly for reducing the losses now occasioned by the epidemic. It is quite certain that nothing short of compulsion by a penal enactment can enforce the adoption of the measures advocated by Mr. Thacker. Knowing that the natives were perfectly aware of the contagious nature of the disease I was astonished, on accompanying Mr. Thacker in his medical visits, to find the utter recklessness of their practice. The fact is that the nature of their houses, and the want of necessary appliances and assistance, renders it impossible for a native to carry out strict isolation of diseased cattle in his own premises. It is unquestionable that at present the sound and diseased cattle mix together promiscuously in the Ryot's house and yard, and those not attacked are driven out at the usual hour for pasture with the village herd, spreading everywhere the seeds of a most dangerous malady. Unless some means be found to put a stop to this it will be impossible to eradicate the disease. It may lie dormant for a time, but will again and again break out and keep down the stock of the country in spite of its increasing wealth.

6. I have conversed frequently on this subject with Mr. Thacker, and after much consideration can think of no means so suitable for the end in view as those suggested in his report. A short Act embodying the provisions he recommends might be past in the local Legislative Council, and a breach of its provisions might be made punishable under Sections 269 and 270 of the Indian Penal Code.

7. I do not by any means advocate the universal application of such an Act, as it might be made an instrument of much tyranny and injustice ; but power should be given to the Government to apply it to any particular locality, and the local authorities who applied for it would be responsbile for its necessity, and for its provisions being enforced with discretion.

8. The following are the few simple provisions which it would be necessary to embody in the Act :—

First.—That where the Act had been declared applicable to any locality the inhabitants of any village might be required, on the order of the Collector, to erect sheds for the accommodation of the sick cattle in some locality outside the village, fenced so securely as to prevent the possibility of healthy cattle getting in, or sick cattle getting out.

Second.—That a respectable agriculturist of the village be appointed to the charge of the sick lines, under the control of the village Munsiff, and be remunerated by a fee on each sick animal under his charge, payable only on recovery.

Third.—That on any animal being attacked with murrain, the owner must at once report the fact to the village Munsiff, and remove it to the sick lines, subject for neglect to punishment under Section 269 of the Indian Penal Code.

Fourth.—The person appointed to the charge of the sick lines should be responsible for proper care of the sick animals, and should provide their gruel and medicines, to be paid by the owner at a fair rate, to be fixed from time to time by the Collector of the District.

Fifth.—That the owner of any building in which a sick animal has been for a period of twenty-four hours, or upwards, be compelled forthwith to white-wash the walls and cow-dung the floor of the same, subject to a fine not exceeding Rupees 50.

9. It may be remarked that no provision is made for the burial of the bodies of animals that have died of the disease, a point in England much insisted upon; the Customs of the country render such unnecessary in India. A dead animal is here immediately removed by the chucklers and eaten, apparently with perfect impunity however death may have been caused.

10. It is impossible to bring forward statistics to show the actual losses of cattle by this disease in this Presidency. I believe it to be a moderate estimate to state that, on an average, at least two thousand head of cattle are swept away yearly in every District by the epidemic, which is as constant in its ravages as cholera amongst human beings. Fortunately the weaker and less valuable animals are in general the victims, but even with this compensation the loss to the agricultural community is enormous, and its effects must be felt in checking the increase of cultivation which would otherwise progress even more rapidly than at present, and thus lowering the public revenue. In the interests of the State it is imperative that efficient measures be taken to grapple with this evil.

11. There is a striking fact in Mr. Thacker's report which cannot fail to be remarked. The villagers of Ravypad, while the disease was raging amongst their cattle, as soon as the Revenue authorities had left the neighbourhood, ceased to avail themselves of Mr. Thacker's assistance, and had so little confidence in his treatment that rather than undergo the trouble it entailed on them they preferred to let their cattle die by leaving them to nature. The services of a skilful Veterinary Surgeon were available gratis, and yet he would have remained without opportunities of practice, in the midst of a violent epidemic, if Mr. Arbuthnott had not returned to Cumbum and *ordered* the Ryots to place their sick cattle under his charge.

12. It is true that after evident success attended his treatment all this was changed; an emissary even came from a village in the Cuddapah District, where the disease was prevalent, to ask for Mr. Thacker's assistance when the fact of his cures became known. But the difficulty experienced in introducing the new practice makes me doubtful whether any commensurate results will follow the mere publication of a rational mode of treatment, the proper adoption of which ought to result in reducing the mortality fifty per cent. under this disease. Not only, as Mr. Thacker suggests, must the medicines be for some time provided gratis to the Ryots, and the advantages of the new treatment be impressed upon them by the Revenue authorities, but I think that a Veterinary Surgeon with a liberal staff pay should be appointed permanently to the special duty of teaching the natives how to treat the disease, and of enforcing the necessary remedial measures.

13. Such an officer should move from District to District wherever his services might be most required, and there should be attached to him a staff of pupils from the Madras Medical College, who might be willing to adopt this branch of the healing profession. These would rapidly acquire a thorough knowledge of the pathology of the disease and of its treatment, and by their means the benefits of superior Veterinary knowledge could be extended more widely every year.

14. I can speak from personal experience of the zeal and patience displayed by Mr. Thacker while engaged in his recent inquiries in this District, and I am confident that the duties I have sketched above could not be entrusted to better hands. On this occasion he was not sent with such an object, but simply to investigate the disease, and I have not felt justified in detaining him longer in the District after that end has been attained.

15. I think that the result of Mr. Thacker's mission must be considered satisfactory, and as his visit to this District has caused him a loss of Military pay it only remains for me to recommend that an honorarium of one thousand Rupees be paid to him, as well as the usual travelling allowance from Bangalore to Kurnool and back. The former charge can be met out of the salary for the Assistant Collector, and the latter out of the travelling allowance to officers, unexpended in the Budget of charges for the District for the last official year.

ENCLOSURE No. 1.

REPORT.

1. Observing my services placed at the disposal of Government to investigate the causes of an epidemic disease amongst cattle in the Kurnool District, I started with all practicable haste hoping to find further instructions on reaching the District.

2. On the 21st of January I arrived at Kurnool, the Collector being absent, I proceeded to join Mr. Arbuthnott's camp, and there, for the first time, had the opportunity of reading the correspondence on the subject.

3. Early in February the Collector returned from leave, and on his advice I accompanied him on Jummabundy, in order that his influence might be available in inducing the Ryots to place their sick cattle under treatment and further the objects of my mission.

4. Although there were rumours of the disease being prevalent in all parts of the District as well as in the Talooks where we were located we found, on close investigation such reports referred to ordinary diseases of cattle, and not to the special malady, or murrain, which it was my business to investigate.

5. It was not until the 4th of March that we were summoned by the villagers to Boodacherla and found the true disease, called in Teloogoo "Pedda Mossa Rogum." On pitching our camp in this village we found four buffaloes labouring under the disease, and it was reported that there had been seven previous cases, of which, being left to nature, three only had died.

6. On the morning of our arrival one animal died, and I was enabled to have a post mortem examination.

7. Until this time I was only acquainted with the disease by report, which had led me to consider it allied to, or identical with, the murrain that has for many years been known to Veterinarians, the result of this post-mortem, and many others which I was afterwards enabled to make, confirmed my opinion on this point.

8. In this village only four cases came under my treatment, two of which were successful. At this period I must confess to much anxiety as to the success of my mission, it being doubtful whether a simple mode of treatment could be laid down to cope with so formidable a disease, and the apathy I found amongst the natives rendering its application doubly difficult.

9. At this time the Collector (Mr. Minchin) was ordered to Bellary, and both he and the Head Assistant Collector (Mr. Arbuthnott) had to proceed to Kurnool on duty; before they left Cumbum a violent outbreak of the disease was reported in the neighbouring village of Ravypaud, and I arranged with the Revenue authorities that my camp should be pitched there during their enforced absence.

10. On our arrival in Ravypaud, on the 11th of March, we found that one hundred and twenty-nine cattle had been attacked, of which sixty-nine had died, seventeen recovered, and the remainder were at that time in various stages of the disease. In communication with the Collector arrangements were at once made for my entering vigorously into the field of inquiry which was thus presented. On the 12th of March Messrs. Minchin and Arbuthnott left Cumbum, and from the date of their departure the co-operation of the people with my inquiry entirely ceased. They had no grounds for confidence in my skill, the mode of treatment prescribed gave them more trouble than they liked, and they objected to being moved out of their accustomed habits. With the exception of such cases as had been placed in my hands before Mr. Minchin's departure no fresh cattle were entrusted to me for treatment, although the disease was raging throughout the village: fortunately Mr. Arbuthnott returned to Cumbum as soon as he was able, and by the exertion of his influence, I was enable to take full occasion of the opportunity here afforded me of carrying out the inquiry for which I was sent to the District. Up to the close of April, I had forty-four cases under treatment, of which eleven were fatal and thirty-three recovered, a proportion which, considering the character of the disease, exceeded my expectations, and has proved satisfactorily its amenability to medical treatment.

11. Of the eleven fatal cases I must remark that almost all were poor weakly animals, and from my experience, cattle that were in good condition and well cared for when placed early under treatment, recovered in almost every instance.

12. Before the end of April, the disease had died out in Ravypaud, and being unable to find further scope for practice in that quarter I rejoined the Collector in Kurnool. At this time no epidemic of a violent character prevails in the District; the disease in a mild form is to be found in various localities, but as it offers no distinguishing differences of type from that which I have seen, and sufficiently investigated in Ravypaud, Mr. Minchin concurs with me in thinking that the object for which I was sent to the District has been attained.

13. I must here state that there is one type of the disease most prominently dwelt on in all the printed reports which I have had no opportunity of witnessing. In this form of the malady the animal breaks out in pustules immediately after the attack, every other symptom being exactly similar to that form of the epidemic which I have met with. The natives state that the disease has this peculiar symptom during, or shortly after the rainy season, and not during the dry months in which I have been in the District. I am of course unable to state whether any modification of treatment may be necessary for this form of the disease, and it will be for the Government to consider whether further investigations on this point be called for.

14. Mr. Minchin is of opinion that it would not be right to detain me in the District for the length of time which might elapse before such cases could come under my observation. In my medical treatment of the disease my chief aim has been to confine myself to the use of such remedies as are procurable by the poorest Ryot in the most remote village; it would have been

a mockery to prescribe expensive English medicines which could never have been available to the agriculturists of this country. The remedies employed, camphor, nitre, opium, and catechu, are procurable in every bazaar. Datoora is a weed that grows in the fields, and Cherayta is a plant found in all most every jungle. These medicines, in different proportions for the different stages of the disease, are the only ones which I found it necessary to administer. A detailed account of treatment will be found in an appendix, I would only here further remark that a most important point is supporting the animal with nourishing gruel, which the natives appear to have entirely neglected, as it is their practice to leave a sick beast for many days without food of any description, in itself sufficient to cause death.

15. Many suggestions have been offered as to the causes of this disease. It has been attributed to general uncleanliness ; want of care ; deficiency of proper food ; atmospherical influences ; and variations of food at different periods of the year. I am only prepared to state that the disease is evidently epidemic in character, and in my opinion unquestionably contagious. With respect to original causes, I would only say in the words of an acknowledged authority on such subjects : "It is better to confess these are unknown rather than by a laboured and pretended "explanation to endeavour to conceal our ignorance."

16. My experience during this inquiry has made me acquainted to some extent with the domestic economy of the natives as regards their treatment of cattle. I have been for weeks in their villages ; have attended all my patients in the houses of the owners ; and have thus, for the first time, become familiar with the native habits. I have found that valuable cattle have been well cared for, and the majority of cases have occurred in poor animals, which either from old age or the poverty of the owners, have not received such good treatment. A deficiency of food unquestionably creates a tendency to take the disease, and gives the patient less chance of successfully combating it. The growing improvement in the condition of the agricultural class is a matter of notoriety, and, as I have before remarked, there is no neglect apparent in the care bestowed upon cattle that are considered worth the expense.

17. The cattle are housed with their owners, and are as well off as themselves in this respect. The general want of cleanliness in the houses of the people must be a cause of unhealthiness to man and beast ; it seems almost beyond legislative remedy.

18. Considering that the natives of this country have been agriculturists for generations, I have been surprised at the utter ignorance displayed by them in the treatment of cattle under disease.

19. They are particularly quick in detecting the existence of disease, and of any changes which take place in it ; their prompt perception of such changes is most marked, and with a proper mode of treatment laid down for their guidance should assist them to successful practice.

20. In this District when murrain has attacked the cattle, there has hitherto been no attempt at treatment whatever ; the animals being left to struggle under the malady ten or twelve days without any effort even to support life, and I doubt not that in many instances they might have been saved without medical treatment if properly nursed and supported.

21. I consider the chief cause of the rapid extension of the disease after it has appeared in a village to be the extraordinary apathy and carelessness of the people in the matter of contagion. Those whom I have met seemed all to acknowledge that the disease was contagious, but none made the slightest effort towards prevention : isolation of sick cattle was never attempted, and the constant advice I gave on this subject was entirely disregarded. I have myself seen a miserable buffaloe calf, not worth five Rupees, with fœtid mucous discharge from his nose and eyes in close contact with a healthy bullock that was worth at least a hundred Rupees. On remonstrating with the owner, he could only give idle excuses as to the difficulty of enforcing isolation, and such is the apathy of the native character that nothing short of compulsion by legislative enactment can I think remedy the evil.

22. As a professional man sent specially by Government to investigate a subject of such importance, and which has given rise to such extensive references and general consideration, it appears necessary for me to offer an opinion on the various suggestions that have been made for the treatment of the disease.

An injection of sugar of lead into the eyes, nose, and ears, has been recommended : such would be attacking a local symptom instead of the disease, and I need hardly say must be utterly useless.

23. One Officer speaks with astonishing confidence of possessing an infallible specific in common black salt. To call this simple purgative infallible is simply empirical.

24. Captain Nelson has suggested vaccination as a remedy. There is nothing in the nature of the disease to lead one to suppose that the introduction of the cow-pox virus would serve as a prophylactic. As remarked by Assistant Surgeon Bidie, murrain is a totally distinct disease from small-pox, and attacking different structures. Perhaps by vaccination was intended the

introduction of matter from an animal infected with murrain to a healthy animal, or as more properly called inoculation. Inoculation is frequently referred to in the reports as the most likely remedial agent, and one which many seem most anxious should be tried.

25. Cases of inoculation in early times are reported in all histories of murrain, but the authenticity of these cases, or at all events the efficacy of the practice, is doubted by all the authorities of the present day. There can be little doubt that inoculation would produce the disease ; but there is nothing to lead us to suppose that the disease thus taken would be in a mild form, or that having been once attacked by the disease would guard an animal from all future danger.

26. It appears to me that the practice of inoculation would be inducing what it is our chief object to prevent, a propagation of this most dangerous malady.

27. Such being the received professional opinion of the day, from which I see no reason to differ, I could not conscientiously carry out any experiments in this way without being prepared to give compensation to the owners of cattle for possible or rather probable loss.

28. As the Collector stated his inability to provide any means for such an expenditure, I was unable to attempt the experiment.

29. Should the Government differ in opinion and consider inoculation deserving of a thorough trial, I can see no means for its being done except on their own cattle.

30. I offer now such general remedial measures as appear to me to be advisable ; their practicability I leave to be determined by the proper authorities.

31. The medical treatment of cattle under an attack of the disease will be found detailed in an appendix to this report. On this part of the subject I will only add, that simple as are the remedies I have prescribed, I fear that the Ryots will take no care for their correct preparation, nor till they have had practical proof of their value would they go to the expense of purchasing them, absurdly trifling as that expense would be.

32. I beg to recommend that the remedies prescribed in my treatment be made up by Government, and kept in store by the Tahsildars for distribution. As I before stated they are procurable in every considerable village, and after the Ryots have experience of the benefits attending their use there is no doubt they will procure them for themselves.

33. I now proceed to describe such preventive measures as are necessary to check the spread of this malignant epidemic. For this purpose perfect separation of the sick from the healthy animals of the village should be enforced. On an animal being attacked, the owner should be compelled at once to remove it to a separate locality appointed for the purpose outside the village. A tope conveniently situated might be set apart for this object, or if none be available it would be necessary to erect sheds to protect the sick animals from exposure to the sun or rain. This locality should be carefully fenced so as to prevent the possibility of healthy animals by any accident coming in contact with the diseased. The objections that would be raised to such a measure by the Ryots would arise chiefly from the difficulty they would experience in providing attendance for their sick cattle at a distance from their own houses. To meet this, one of the servants of the village should be appointed to this special duty who might be remunerated by fees levied from the owners of cattle under his care.

34. As a further precaution, in the case of any house or stable from which a diseased animal has been removed, the walls should be white-washed, and floors cow-dunged.

35. I believe that I have now stated all the measures which I consider desirable to be enforced, and have laid down a mode of treatment which if pursued judiciously should be followed by reasonable success. I am convinced however that the natives will require much guidance in the matter : if left to themselves it is probable that very little will be done, and after some time the state of affairs will relapse into the present condition of reckless neglect on the appearance of this epidemic.

36. The loss to the community and the Government by the present state of things is so great, a loss which in my opinion is in a great measure preventable, that I think it would be to the true interests of Government to appoint a qualified Officer to the special duty of interesting the Ryots how to treat the malady, and observing that the necessary measures are carried out.

37. An intelligent Officer moving from District to District where his services might be most required—by gaining the confidence of the people, combating their weaknesses, and insisting on the performance of the necessary measures to cope with the disease—might in a great measure bring it under control, and would unquestionably save thousands of Rupees' worth of valuable property every year.

(Signed) J. THACKER,
Veterinary Surgeon.

APPENDIX TO REPORT.

MURRAIN.

Called in Teloogoo "Pedda Moosa Rogum" is an epidemic, contagious typhoid fever, commencing in a general congestion, with mucous discharge from the eyes and nose, followed by inflammation of the "Abomasum" or last compartment of the stomach and intestines, accompanied at certain seasons of the year with falling off of the hair, formation of pustules on the skin, and always ending in violent purging mixed with mucus and blood.

Symptoms.

First Stage. The attack generally comes on gradually, evidenced by occasional shivering fits, the appetite slight, the animal appears dull, with dropping ears, and a rough staring coat; the bowels costive, rumination ceased or slightly performed, eyes weeping, pulse quickened.

Second Stage. The appetite entirely gone, nose dry and hot, and which commences to discharge thick mucus, which also now takes place from the eyes; purging commenced; lining membrane of the eyelids of a dark red colour, pulse quick and small.

Third Stage. Generally lying down from weakness, purging violent, very offensive, mixed with slimy mucus and blood, is passed frequently in small quantities, and attended with straining. The eyes become sunk, the countenance anxious, general restlessness, partial insensibility and death. In this stage the pulse is generally imperceptible or extremely quick and small.

Post-mortem examination shows the Abomasum or last compartment of the stomach, and portions of the bowels inflamed; attended sometimes with slight effusion or dropsy; this is the general appearance, and the exceptional cases and changes are not necessary to mention.

Treatment.

From the great tendency to run into a low typhoid type, and accompanied as it almost always is in the latter stages with violent debilitating purgation, and at some seasons of the year with a number of open discharging pustules, it is absolutely necessary that great care and moderation be observed in the administration of any medicinal agent, which might, and assuredly would if largely given, produce the very results which it is desirable to avoid.

It should always be borne in mind that our main object is to support the strength, and assist the curative powers of nature, through an attack that generally lasts from seven to ten and even fourteen days, during which time the patient partakes of little or no food.

The bowels being costive early in the disease a mild laxative may be given, and to avoid the slightest chance of too much action it is safer to give small repeated doses; which end I think I have best obtained by administering two or three ounces of finely powdered sulphur in two quarts of gruel morning and evening, until some slight effect is observable.

As this is an inflammatory disease the sedative and narcotic class of medicines are most appropriate. Of those easily procured in the bazaars, and with which I have been most successful, the following may be given morning and evening:—

Camphor...	...*2 drachms.
Nitre ...	... 2 do.
Datoora ...	... 1 do.
Cherayta...	... 2 do.
Arrack ...	... 4 ounces.

Dissolve the camphor in the arrack, carefully powder and mix the other ingredients, then add two quarts of gruel and carefully pour down the throat with a drenching horn.

When the diarrhœa commences it is not desirable to attempt suddenly to arrest it, as it is an effort of nature to relieve the system; but if allowed to go on to any large amount the debility produced would impede recovery, so that after it has existed about twenty-four hours, the following, finely powdered, may be added to the preceding prescription:—

Opium...	... 1 drachm.
Catechu	... 3 do.

The pustules which at certain seasons appear should be carefully washed twice a day, and the simple mixture consisting of camphor dissolved in oil should be applied twice a day to prevent a deposit of flies' eggs and the generation of maggots; further applications will generally be found unnecessary, and they will become healthy as the internal disease subsides.

As soon as there are symptoms of improvement the medicines should be diminished or discontinued, as the recovery is generally very rapid and requires nothing beyond supporting the strength with gruel, to which may be added the dose of arrack in extreme weakness. As soon as the animal shows the slightest inclination for food he should be frequently supplied with small quantities of green grass, raggy, sugar-cane, or cholum.

The following is the proper method of making gruel:—One pound of Jonna or any other wholesome grain should be ground to a fine meal, and this meal be gradually mixed in two quarts of boiling water; to be given when cold.

In administering a drench, should the operation cause the animal to cough, the head should be immediately released, and no attempt made to continue giving the remedy for a few minutes; persistence in pouring down the draught at such a time would probably result in the suffocation of the animal.

Owners of cattle cannot be too strongly impressed with the necessity of separating any animal showing symptoms of this disease from their healthy cattle. The disease unquestionably spreads through the village herd by contagion, and by strict isolation of diseased cattle the spread of it may be greatly prevented. Murrain is so formidable a malady that under the most careful treatment there must be many fatal cases, and the Ryots should never forget that prevention is better than cure.

It is most desirable that in any building where diseased cattle have been the walls should be white-washed and the floors cow-dunged to make it safe for the use of healthy animals.

(Signed) J. THACKER, *Veterinary Surgeon.*

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1. Ordered to be submitted to Government with the Board's recommendation that Mr. Minchin's proposals in the last paragraph of his letter for Mr. Thacker's remuneration be sanctioned.

2. The result of the inquiry and treatment of the disease must be deemed very satisfactory, as warranting the belief that this serious evil can be controlled with comparative ease; but the Board concur in the opinion that legislative action is necessary to compel the owners of diseased cattle to take reasonable precautions against injuring their neighbour's.

3. They leave the point for the consideration of Government.

No. 215. Proceedings of the Board of Revenue, dated 16th June 1864, No. 3,668.

Read the following letter from the Collector of Coimbatore, dated Ootacamund, 8th June 1864, No. 122:—

1. A few days ago I received with Board's Miscellaneous Circular No. L, dated 20th May 1864, Extracts from Reports from Bengal, &c., regarding the nature of the diseases which had been prevalent among cattle in the Bengal Presidency. Unfortunately for this part of the country, murrain has been and is now most severe amongst cattle. Understanding that Mr. McIvor, Superintendent of the Government Chinchona Plantations, had lost a number of valuable animals, and that he had taken trouble to ascertain the nature of the disease of which they died, I sent the above papers to him for perusal with a request that he would, in view to its communication to Government, favor me with the result of his inquiries on the disease.

2. This he has now done, and I beg to transmit his original letter on the subject. His letter will, I believe, be found to contain the fullest and clearest account of the disease hitherto given. I have never heard of a disease which has proved more fatal to cattle than that which is now raging on these Hills. It is most infectious and insidious, and the chances are that if measures are not at once adopted to separate the infected animal from the herd the whole of them will be lost within five days.

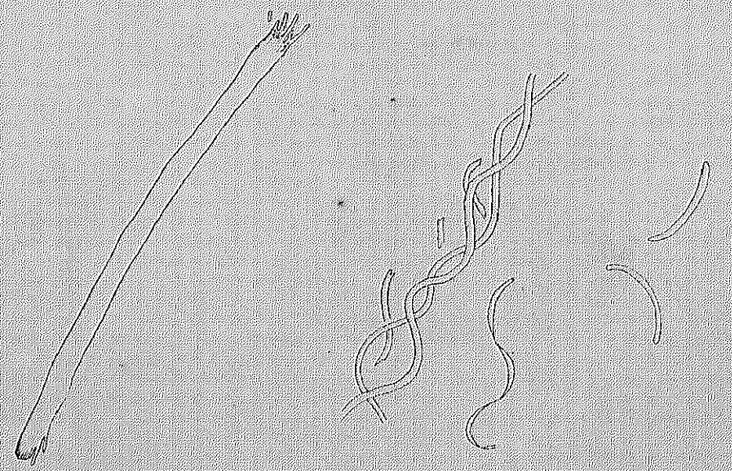
ENCLOSURE No. 1.

From W. G. McIvor, Esq., Superintendent Government Chinchona Plantations; to P. GRANT, Esq., Collector of Coimbatore, dated Ootacamund, 4th June 1864, No. 81.

1. I have the honor to acknowledge your letter, No. 270 of the 30th ultimo, with enclosures, relative to the cattle disease. These papers appear to describe two distinct diseases, one usually known as the cattle murrain, and characterized by eruptions in and running at the mouth, and

eruptions on the body and feet. This disease has occasionally visited the hills; but where ordinary care is given seldom proves fatal. The disease described by Mr. Ladd appears to be identical with the one which lately attacked my cattle, and is the most fatal that it has ever been my misfortune to meet with. No amount of medicine or otherwise careful treatment of the animal seems to have other effect than that of prolonging their sufferings. Some of my cattle were very valuable, and I made great exertions to save them. Everything in the way of medicines, as Digitalis, Laudanum, Calomel, Catechu, &c., usually effective in inflammatory diseases of the bowels, was tried without effect. As the inflammatory symptoms still ran high, an endeavour was made to reduce this by copious enemas and cold compresses applied around the body, and frequently changed as they became hot: these took excellent effect and brought on a profuse perspiration, materially retarding the progress of the inflammation; the strength of the animal being supported during this treatment by nourishing drinks. However, out of eight cases treated in this way, only one recovered; their lives merely being prolonged from five to nine days. This result so completely disheartened me that I made no further attempt to treat the cattle that were taken ill; and these all died on or within the third day. The most effectual way of preventing the spread of the disease is to remove the unattacked cattle so soon as the symptoms of disease is observed. The symptoms in my cattle were as follows: at first the excrement showed signs of imperfect digestion, fragments of grass, grain, &c., passing only partly digested (being unacquainted with the disease, I did not attempt any treatment at this stage, but it is probable that it would be more effectual at this time than when the disease makes greater progress). The next symptoms in milch cows is the drying up of the milk which takes place about two days before the cattle lose their appetite; after this purging sets in, with a running of water from the mouth always in all cases, and generally from the eyes also, with a mucus discharge from the nose; the breathing now becomes very laborious with an offensive odour, and the pulse much accelerated, with every indication of a highly inflammatory state of the system; the tongue and mouth are free from swellings or pustules, the salivary glands are rather cold, but no other derangement in the mouth can be detected. The excrement, which was previously thin and watery, now becomes mixed with clotted blood and mucus; at this stage the animal apidly loses strength and shows signs of great suffering especially in breathing, stretching its head along the ground, and occasionally raising it apparently to relieve the difficulty of respiration; if the ear is now placed to the side of the animal the air is heard to enter the lungs with a wheezing, which is succeeded by a dull noise. The discharge of blood and mucus has now become more frequent accompanied by severe straining, the mouth and tongue has become cold and slimy, the difficulty in breathing increased with occasional severe coughing, symptoms of great suffering still being apparent by the restlessness of the animal frequently getting up and lying down; at this stage the eye begins to lose its brightness *indicating the approach of death which generally takes place in two to three* hours.

Never having seen this disease before I was anxious to ascertain its nature, and therefore examined three of the bodies after death, and in every material point the three bodies were found to be alike affected. The lungs were found in an unnaturally distended and spongy condition and void of blood; the air tubes in a highly inflamed state, and nearly entirely closed by a deposit of serum; the liver was found much in the same condition as the lungs with reference to distension and inflammation, the spleen exhibiting the same appearance, with this exception that while some portions were found void of blood, others were overcharged and exhibiting dark spots; in these mortification had apparently commenced prior to death; the kidneys were choked with blood, the ducts of this gland being highly inflamed; the bladder was found full of water and blood; while the urethra, from the highly inflammatory state of the inner coating, was so thickened as almost to block up the passage. The ruminating stomach was found in apparently a healthy condition, but in the coating of the second stomach mortification had taken place, as it was so much decomposed that it could not be touched without falling to pieces; this continued for some distance from the stomach when the mortification ceased, and the intestines showed the high inflammatory condition previously noticed, the mucus membrane being inflamed and thickened to nearly a quarter of an inch; towards the anus this inflammatory condition gradually ceased until the parts resumed a healthy appearance. A microscopical examination of the blood taken from the heart, veins, and kidneys showed it to be unnaturally thin and watery abounding in worms, some of them so large that when found by the microscope could be distinguished by the naked eye; these vermicular animalculæ were of various forms and generally jointed; the half inch magnifier showed them very distinct and abundant; a sketch is appended of a few of the principal forms as shown by the microscope; if these animalculæ are the cause of the disease, and not the effect of it, the external as well as internal application of turpentine might be beneficial, but I am strongly impressed that when the disease has made progress it so completely affects the whole system that I believe cure to be impossible; every symptom indicates the disease to be one of the blood. I believe this disease to be Pleura-Pneumonia which broke out for the first time in Britain in 1847; but as I left England the following year I had no opportunity of seeing the disease there.



Vermicular Animalculæ found in the blood of Cattle which died from Pleuro-Pneumonia or a similar disease.

1. The Board are much obliged to Mr. McIvor for his full report, which will be communicated to Mr. Thacker for his remarks.

2. The Collector will furnish Mr. McIvor with a copy of Mr. Thacker's Kurnool reports, when the papers now in the Press reach him.

No. 216. ORDER THEREON, 13th July 1864, No. 1,224.

Miscellaneous.

I. The papers above recorded are

I. A report of the results of Mr. Thacker's Mission to Kurnool to investigate the nature, &c., of the murrain which has lately prevailed among cattle in that District.

II. A report of a very fatal disease among cattle at Ootacamund.

2. Mr. Thacker has performed his duty very well, and his report on the disease with the remedial treatment he proposes will be translated into the vernaculars, published in the District Gazettes, and circulated among the people. The Collectors and their Assistants and Subordinates will also use their influence to induce the people to follow the treatment and preventive measures recommended by Mr. Thacker. The Board of Revenue will give effect to this order.

3. The questions submitted for the Orders of Government in the correspondence above recorded are the following:—

I. Remuneration to Mr. Thacker:—The Collector and Board propose an honorarium of 1,000 Rupees besides the usual travelling allowance. As Mr. Thacker lost part of his Military allowances while engaged on this special duty, and moreover has performed the work entrusted to him with great ability, tact and success, the Government have much pleasure in sanctioning the payment of this sum to him in addition to travelling allowance.

II. The enactment of a law to enable Government to adopt measures to prevent the spread of infectious diseases among cattle:—The heavy losses inflicted on the country by murrain, the apathy of the agricultural community, and the recklessness of the owners of diseased cattle show that a measure of this kind is necessary; but the Government think that Legislative action should not extend beyond the compulsory removal and isolation of diseased cattle and the burial or burning of the bodies of those that die. The burial of the bodies should, the Government think, be insisted on, unless Mr. Thacker considers there is no fear of infection

after death. The law should also be framed so as to reach bandymen whose cattle may propagate such diseases in their journeys, and should also enable villages to be placed in quarantine. The Board will submit a sketch of a law to meet these objects after consulting some of the Collectors and Mr. Thacker.

III. The employment of a Veterinary Surgeon with a staff of Medical pupils to go from District to District, and teach the people how to treat cattle diseases, &c.,&c.:—This measure is not called for at present. The Government, however, think that much good may be effected by employing a skilful Veterinary Surgeon in investigating the nature of the epidemic diseases to which cattle are subject, and making the results known to the people. It will be ascertained in the Military Department whether Mr. Thacker's services are available for this duty and whether he is willing to undertake it.

IV. The supply of medicines *gratis*:—It will be necessary at first to supply medicines; but the Government do not see that a gratuitous supply of them is at all called for. Mr. Thacker states that the drugs which he found useful are cheap and procurable in every bazaar.

V. The trial of inoculation:—The Government are disposed to have inoculation tried; but it must be done carefully and under Mr. Thacker's inspection, the owners of the cattle being assured that the value of those which may die under the experiment will be paid to them.

4. As to the disease which has lately prevailed among cattle on the Hills the Government resolve to forward Mr. McIvor's report to Mr. Thacker with a request that he will state whether he is already acquainted with the disease.

5. Mr. Thacker it is observed has not seen any case in Kurnool with the pustular eruption mentioned by Captain Nelson. It is desirable that he should revisit Kurnool at the proper time to do this.

(True Extract.)

(Signed) J. D. SIM,
Secretary to Government.

To the Board of Revenue.
„ the Military Department.
„ the Commissary General,
„ the Principal Inspector General, Medical Department.
„ the Accountant General.
„ the Civil Paymaster.
„ the Legislative Department.
„ Mr. McIvor.
„ Mr. Thacker.

Exd. R. H. Lee.

Revenue Despatch Record

Kurnool

The accompanying papers
1. The result of Mr. Thacker's mission
to Kurnool to investigate
the nature & of the
murrain which has
lately prevailed among
cattle in that District.
2. A report of a very
fatal disease among
cattle at Pottanacherla.
Mr. Thacker has
performed his duty well
and the report on the
disease & the re-
medies he has tendered
are

proposes will of course be translated into the vernaculars, published in the district Gazettes and circulated among the people- The Collector and their Assistants and subordinates will also use their influence to induce the people to follow the treatment & preventive measures recommended by Mr. Thacker- The following are the points needing orders-

I. Remuneration to Mr. Thacker- He solicits and Board propose 1000 Rupees as an honorarium- I decline the re-

usual travelling allowance- As Mr. Thacker lost part of his military allowances this allowance is reasonable.-

Ye 490

II. A legislative enactment to enable Government to adopt such measures to prevent the spread of the disease-. In a country where we have no law to prevent the spread of contagious diseases among human beings, such a law to protect cattle seems somewhat premature- but the heavy losses inflicted on the country- the apathy or opposition of the agricultural community and the

reckless of the own-
-ers of diseased cattle
show that strong mea-
-sures are necessary-
I think however that
the law should not e-
go beyond the com-
-pulsory removal and
isolation of diseased
cattle, and the burial
or burning of the bodies
of those that die- the
measures for curing
them may be left to
the owners- The burial
of the bodies should,
I think, be inserted un-
-der Mr Thacker's con-
-sidered there is no fear
of infection after the
death.- The Bd should
keep each body accessible

I agree JJP

WT TD

cattle
may catch the disease on
a journey- and should evade
villages to be placed in
quarantine.

III. The employment of
a Veterinary Surgeon with
a staff of medical pupils
to go from District to Distt,
teach the people how to
treat the disease &c. The
only drawback to this, is
that we should need at
least half a dozen to do any
good in this large Presidency
in the way of curing cattle
and it is very doubtful e-
-whether the class of native
cattle doctors would be ap
preciated by the people
or would make a living by
their practice- Best

WT TD

I don't think the Bd
have any power to
compel the owners
of diseased cattle
to destroy them
We can only
recommend &c
&c

JJP and
WT TD

Neither can we at all deem
that we have got at the
cause of the disease or the
proper remedies for it.

TD

much good might be done I think, by employing Mr Stacker, an investigating the nature of the epidemic diseases to which cattle are subject and making the results known to the people nothing in this way has been done since Dr Gilchrist time and the progress of veterinary science since then has been great. Mr Stacker seems from his report to be a thoroughly practical man and well suited for such a duty - where every thing depends on personal qualifications.

IV. The supply of medicines gratis. It will be necessary, at first, to supply medicines

Mr Stacker in his report says that in procuring 2 cows with pustular eruption

for inoculation

Inoculation might be tried but must be done carefully and under Mr Stacker's

W.M.

medicines, but I do not see that gratuitous supply is at all called for.

V. The trial of inoculation. This does not seem desirable. As to the Coimbatore cases, the best course would seem to be to send Mr Stacker there, if his services can be spared - and he is not already acquainted with the disease.

It will be remarked that Mr Stacker has not seen any case in Kurnool with the pustular eruption mentioned by Capt. Nelson. Would it not be desirable that he should revisit Kurnool at the proper time to do this.

J. D.

Read and Approved

Pp 1224

Proceedings of the Madras Government
under date the 13th July 1864.

Read the following
in Proceedings of the Board
of Revenue

Submitting to the
Board's recommendation an
enclosed letter from the Collector
of Kurnool forwarding Re-
port of Veterinary Surgeon
Thacker on Cattle Mortality
and recommending the pay-
ment to them of an honora-
rium of 1000 Rd as well as the
usual travelling allowance
from Bangalore to Kurnool
and back.

Also submitting letter
from the Collector of Cuddapah
dated 9th instant on the
same subject, Chandrasekara
Sastry's Petition, Report of Assistant
Surgeon Pearson to the Collector

(Here enter 17th June
1864, No 3,686/-

(Here enter 16th June
1864, No 3666/-

The Proceedings
recorded are
Read and approved

results of Mr. Thacker's mission to Kurnool to investigate the nature & cause of the murrain which has lately prevailed among cattle in that District.

II. A report of a very fatal disease among cattle at Cotacamund.

3. Mr. Thacker has performed his duty very well, and his report on the disease with the remedial treatment he proposes will be translated into the vernacular, published in the District Gazette and circulated among the people. The Collectors & their assistants and subordinates will also use their influence to induce the people to follow the treatment and precautions recommended by Mr. Thacker. The Board presume will give rise

to the order.

The questions submitted for the orders of Govt in the correspondence above recorded are the following

1. Remuneration to Mr. Thacker. The Collector and Board propose an honorarium of 1000 Rupees besides the usual travelling allowance. As Mr. Thacker lost part of his Military allowances while engaged on this special duty, and no cases had performed the work entrusted to him with such ability, tact and success as Govt have much pleasure in stating, & the importance of this duty to the Collector to travelling allowances.

2. The recapitulation of how to treat the Govt

adopt measures to pre-
the spread of infectio-
disease among cattle.-
The heavy losses inflicted
on the country by murrain
the apathy of the agricultu-
-ral community, and the
recklessness of the owners
of diseased cattle show
that a measure of this kind
is necessary - but they
think that legislation
-tion should not ex-
-tend beyond the compul-
-sory removal and isola-
-tion of diseased cattle
and the burial or burn-
-ing of the bodies of th e
that die - The burial
the bodies should, the
fact think, be insisted
on - instead M. Shaeks
considers there is no fe ar
of infection after dea th -
The law should also be
framed so as to reach
landowners, who de-
cattle

is may propagate
diseases in their journeys - a
should also enable villages
to be placed in quarantine.
e Board will submit
a sketch of a law to meet
these objects after consulting
one of the Collectors and e-
J. Shacker.

The employment of
a veterinary surgeon with
staff of medical pupils
ys from District to district,
d teach the people how
treat cattle diseases &c &c
C. - This measure is not
ded for at present - the
Government, however, think
will work good & may be
fended by employing a c
bright Veterinary surgeon

a doft?

6. Investigating the cure of the epedemic diseases to which cattle are subject, and making the results known to the peo. It will be ascertained in the Military Department whether Mr. Thacker's services are available for the duty and whether he is willing to undertake it.

IV. The supply of medicines gratis. - It will be necessary, at first, to supply medicines, but the Government do not see that a gratuitous supply of them is at all called for. Mr. Thacker states that the drugs which he found use ful are cheap and procurable in every bazar.

The

re inoculation record, must be done carefully under Mr. Thacker's inspection, the owners of the cattle being assured that the value of those which may die under the experiment will be paid to them.

As to the disease which has prevailed among cattle on the Hills in the Government resolve to record Mr. Inverarity's report on Mr. Thacker with a request that he will state whether he is already acquainted with the disease.

Mr. Thacker it is proposed, has not seen any cases in Kurnool with the

...en desirable Treaties

...visit Nurnool at the

...use to do this.

Gº No 1227/07
13-7-64.

Copy in a letter to England
of 19 August 1864 No. 26
Mis

...Board of Rev. & Genl. 18 Jan.

...Military Depart. √

2 Commissary General √

3 Principal Insp. Genl. Med. Dep.

4 Accountant General √

5 Genl Paymaster √

6 Legislative Depart. √

1 Hon. Mr. Elliot √

2 Hon. J. Thomson √

...d 1st - 16

...Ldo