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GOVERNMENT OF MADRAS

Revenue DEPARTMENT

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Proceedings of the Madras Government, Revenue Department,
15th June 1876.

No. 169. Read the following Proceedings of the Board of Revenue, dated 9th May 1876, No. 1,210 :—

Read the following letter from Veterinary Surgeon G. WESTERN, Governor's Body Guard, to C. A. GALTON, Esq., Acting Secretary to the Board of Revenue, dated Madras, 1st March 1876, No. 142.

WITH reference to Proceedings of the Board, Miscellaneous No. 774, of 26th January 1876, I have the honor to state that, in accordance with the order of Government therein referred to, I reported myself to the Officer Commanding His Grace the Governor's Body Guard for Military duty with that Corps on 23rd December 1874, I have the honor to forward herewith, for the information of the Board, a report on cattle disease in the Presidency during my tenure of the office of Inspector. I regret that this has been so long delayed, press of other duty having prevented my completing it earlier. Reports still reach me from various districts, and these I have hitherto answered when necessary. I request I may be informed how they are to be disposed of in future.

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ENCLOSURE No. 1.

Report on Cattle Disease in the Madras Presidency from 16*th March* 1875 *to* 31*st January* 1876 *by Veterinary Surgeon* G. WESTERN.

GAZETTED Inspector of Cattle Disease on 16th March 1875, I proceeded to Madras with as little delay as possible, and reported my arrival to the Secretary to the Revenue Board on the 23rd March 1875.

2. I was informed that the fact of my appointment would be intimated to all Collectors, who would be requested to communicate with me direct when requiring my services on account of cattle disease in their districts.

3. At the same time, I was put in possession of all available papers on the subject. From these and other sources I learned that since the departure of Mr. Thacker in 1873, no officer had been in charge of the department, and that all reports on the subject had been discontinued, I therefore at once requested that a report in the form originally adopted by the Bengal Cattle Plague Commission, and also used by Mr. Thacker, should be sent me as early as possible after the outbreak of disease in any district.

4. I also learnt that Collectors were empowered to procure medicine, for distribution to the ryots, from the Rev. Dr. Scudder of the Ranepett Dispensary, and on inquiry I ascertained that medicine of one kind only, made from a prescription of Mr. Thacker's, was used in all cases alike and, as may be supposed, with very varied success, and that in some instances it had even been said to have proved injurious.

5. I accordingly suggested that I should have handed over to me the remaining supply of this medicine, and that future applications from Collectors should be made to me direct.

6. Having for years been aware of the very great success attending Mr. Thacker's treatment of Rinderpest with this medicine, and having myself had opportunities of proving its efficacy, and as, in addition to this recommendation, it has also the advantage of being composed of inexpensive drugs easily procured in most native bazaars, I determined as far as possible to continue its use, modified of course as circumstances required, hoping also to find it had already the confidence of the native cattle-owners.

7. To prevent further mistakes, I have attached to each tin-printed labels with fuller instructions for use than had hitherto been given.

8. Numerous opportunities have occurred for its trial, and I have distributed large quantities, but its success in the hands of the natives has not, I regret to state, by any means justified my

expectations, and, in spite of my precautions, I still find it is frequently used for the treatment of disease in cases for which it is altogether inapplicable.

9. The reasons of this failure I have learned to be, that its use is too often, through distrust on the part of the natives, restricted to cases in which the disease has progressed so far that treatment of any sort would be hopeless. A dose or two is tried on some moribund animal, and because an immediate favorable result does not ensue, they become more than ever prejudiced against its use, and report that the "English medicine is useless;" or the directions for its use are not adhered to—it is given in insufficient doses and not sufficiently persevered with, or it is given in the first stage of the disease instead of only after purging has commenced. Proper care is not taken of the patients, but by neglect of cleanliness maggots are allowed to breed about the mouth, nostrils, and posteriors, and the animals die in consequence of nervous exhaustion, induced by the extreme irritation of the system thus caused.

10. In my own hands, in the few cases I have been able to treat, the result has been universally successful, and I am convinced that a better medicine could not be prescribed, but it will easily be understood that it is impossible to prescribe any single medicine for the treatment of a disease like Rinderpest, which has so many different forms, each necessitating a different course of treatment.

11. That in question is intended for the particular type of the malady most common in this Presidency, in which the most prominent symptoms are diarrhœa and dysentery, and it is equally applicable where these occur from ordinary causes, as in Rinderpest, when they are but symptoms of a peculiar fever.

12. A Manual of Cattle Disease compiled by Mr. Thacker has also been translated into Tamil, Telugu, Canarese, and Malayalam, and printed and distributed by the order of Government. This is an admirable little pamphlet, most reliable in its descriptions of disease, and thoroughly scientific as regards the methods of treatment recommended.

13. In the vernacular copies, extracts from a publication of the Bengal Government "On the more deadly forms of cattle disease in India" in particular, a chapter "On the contagious diseases and the modes of preventing them" have been incorporated. This is a most valuable addition, and, in my opinion, the rules laid down cannot be too widely promulgated; were they acted up to by village authorities and cattle-owners, disease would be almost unknown in the country.

14. These vernacular manuals appear to be in the hands of all Tahsildars and in most villages, but I have found that they are in very few cases referred to or acted upon; and in most instances are professedly not understood. I have on every possible occasion pointed out the value of the information to be there obtained, and am convinced that it is only because through prejudice unsought, and through apathy, that the treatment is untried and that its value is not more thoroughly appreciated.

15. The past few months have been unhealthy in the extreme for man and beast. Excessive heat, with failure of rain and other meteorological conditions less understood, have brought about outbreaks of disease in various parts of the Presidency.

16. No provision is made by native cattle-owners by storing forage for seasons of drought, and the consequent alternations of almost starvation with superabundance of rank forage their animals are subjected to is an ever recurring cause of disease.

17. Contagion has however, I think, been the main cause of the spread of cattle disease during the past season, and, under existing circumstances, cannot fail to continue to extend its ravages.

18. Very vigorous measures are necessary to cope with such highly contagious maladies as Rinderpest and Epizootic Aphtha, better known as foot and mouth disease, and the natives are too apathetic and too prejudiced by superstition, if left to their own devices, to adopt them.

19. The Collector of the district perhaps publishes warnings or instructions in the local gazette, but has no means of knowing if they are attended to, and I have met with instances where reports were made that such and such precautions had been adopted in obedience to such

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instructions, when on subsequently visiting the locality I have found that nothing of the sort had been attempted.

20. Reports have in the majority of instances reached me long after an outbreak of disease had done its worst and was dying out or had passed out to adjacent villages. The impossibility of obtaining early information of disease, or of fixing its precise locality, has been one of the greatest difficulties I have had to contend with. This and the fact that I have never been able to have the advantage of a Collector's presence with me, and that natives would not produce their sick animals to be treated by me, has compelled me in great measure to confine myself to inquiry into the nature of the disease in each locality I have visited, and to advise the Collector of the best method of treatment, medical or preventive.

21. Had I continued in office I had hoped to have overcome both these difficulties, which have caused me much disappointment and regret; for I believe that much more may be done by actually demonstrating to the natives how good a result follows the adoption of judicious preventive measures, combined with careful treatment, than by distributing medicine which is mostly improperly used and usually to the exclusion of anything like precautions to prevent contagion, and therefore I think too often doing a great deal of harm.

22. As a result of my investigation, I find that, although very many different names are given to disease in different districts, in reality three maladies only prevail to any extent at present, *viz.*, Rinderpest, Anthrax, and Foot and Mouth disease, and that the two former only are the causes of the mortality among cattle in the Madras Presidency.

23. Some idea of this mortality may be derived from the number of deaths that have been reported to me from 1st April 1874 to 31st January 1875 of animals attacked with these diseases, *viz.*, of 32,947 animals suffering from Rinderpest, no less than 19,285 are reported to have died; and of 1,976 attacked with Anthrax, 1,467 died. The reports sent me are in many respects imperfect, and the figures are, I fear, not very reliable; but I have as far as possible reduced them to a tabular form, which is appended to this report. Formidable though they appear, I fear the amounts recorded cannot be considered to represent the full extent to which disease has prevailed.

24. The Rinderpest or Cattle Plague of Europe, I have met with under the local names "Saraku," Vekkai," "Dommai Musara," "Vaisury," and "Doda Roga," &c. It has prevailed in North and South Arcot, Bellary, Mysore, South Canara, Chingleput, Godavery, Kistna, Kurnool, Malabar, Nellore, Salem, and Trichinopoly Districts, and I believe still exists in every one of these localities; a smouldering fire ready to break out again with redoubled virulence so soon as circumstances favor its extension.

25. The disease has already been fully described by my predecessor in many reports, and most accurately in the manual before referred to. I have had many opportunities of verifying this description, but have met with no unusual features in its appearance.

26. I have availed myself of every possible opportunity of making *post-mortem* examinations, and, though finding in every instance characteristic signs of this particular malady, have seen no variations that merit record.

27. Its outbreak in a village is almost invariably traced by the natives themselves to contagion through cattle mixing on their grazing grounds with those of adjacent villages, or with those belonging to travellers among which the disease already exists, and, in my opinion, this is in reality almost invariably, if not solely, the method of propagation.

28. There can be no doubt that there is an incubative stage of the disease, *i.e.*, a latent period between the time of contact with a diseased animal and the manifestation of the malady by observable symptoms of ill-health, and that during this time it may by contagion be communicated through a thus apparently healthy animal mixing with others of a herd. The system of segregation advised in the manual under the heading "Rinderpest" and also in the chapter on the "Contagious diseases and their prevention" is calculated to meet this danger, and, if properly carried out, is most efficacious in the repression of contagious disease in localities where it has already shown itself.

29. I have found however that natives will not carry it out in its integrity, mostly contenting themselves with the obviously inadequate measure of separating the sick from the healthy, and that often only by keeping one shed of the village, probably in close proximity with those used for the healthy, to be occupied by them. Any excuse, such as rain, wind, too much sun or cold is taken advantage of as a reason why the healthy should not be turned out, whereas the risk the animals would really be exposed to on such account is infinitesimally small in comparison with that they run through chance of contagion.

30. The system of housing the cattle in the villages is most favorable to the spread of any infectious malady, more particularly when, as is too frequently the practice, the sick and healthy are kept together in their usual stalls.

31. Notwithstanding their knowledge of the contagious nature of this disease, natives in the most reckless manner drive the sick so long as they can walk to pasture with the rest of the herd, and too often the poor suffering brutes are left to die where they fall, as frequently as not as much through sheer starvation as from the effects of the disease.

32. In many cases I have been told it is useless to trouble about them, or to give any medicine, because if their time has come they must die, or if not, they will recover of themselves. In other villages they have stated that they are afraid to anger the deity, who is supposed to have inflicted the disease, lest a greater calamity be brought upon themselves.

33. In some few instances, native remedies of an appropriate nature have been used with success, but, in the majority of cases, the remedies employed have been useless. In one report it is said that oil was poured on the head and in the ears of the animals, and that this prevented their being attacked with the disease.

34. The best course of medical treatment for Rinderpest has been proved to be, firstly, the administration of a mild aperient in the early stage when constipation of the bowels is mostly present. This I have found to be the case in most instances of the disease as seen by me, and the effect of the aperient has been frequently found by me to cut short the disease. Excessive purgation must be avoided, and it is therefore better to give small doses and to repeat them at intervals till the desired effect is produced. Castor or linseed oil, sulphur and salt, are the drugs most suitable and most easily procured.

35. Mr. Thacker appears to have adopted this mode of treatment in this stage of the disease, but has omitted to notice it in the manual. Future editions should be corrected as this is important.

36. In the second stage of the disease, the treatment should be to keep the purging in check but not to stop it entirely. This is easily effected by the judicious use of astringent drugs combined with advantage with a narcotic to relieve the pain; catechu, chalk, galls, opium or datura being the most useful agents for the purpose.

37. The strength of the animal needs support in consequence of the rapidly debilitating effect of the disease, and the inability of the animals, through soreness of the mouth, to feed themselves. They should therefore be drenched two or three times a day with congee, which may be made from any grain the animals are accustomed to, but of rice or wheat flour in preference. A stimulant such as arrack added will be found decidedly beneficial, and the congee will be the best medium for the administration of the necessary medicines.

38. Febrifuges such as nitre, camphor, and chiretta with salammoniac are useful in all tages of the disease.

39. Good nursing and the most scrupulous attention to cleanliness are important to prevent the breeding of maggots about the eyes, mouths, and posteriors of the sick.

40. The cost of treatment in comparison to the value of the animals has frequently been urged to me as a reason for its neglect, and at first sight with some apparent reason, but I believe that when judiciously adopted in the majority of instances it will be found that the increased number of recoveries will much more than compensate for the outlay.

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41. To be of benefit treatment must be begun early and perserveringly continued throughout the various stages of the disease in spite of the most discouraging symptoms. The disease as a rule certainly in this country assumes a milder type than is usually met with in Europe, but a large proportion of fatal cases must be expected whatever system of treatment be adopted.

42. I am decidedly of opinion that the medical treatment of animals suffering from contagious diseases, without the simultaneous adoption of precautionary measures to prevent their spread, is wrong in principle and calculated to do harm by increasing the risk of contagion, through prolonging the lives of the diseased and by the necessary handling of them and probably of the healthy also by their attendants.

43. The system of segregation has already been stated by me to be the most efficacious of repressive measures. This and other necessary precautions are fully detailed in the Manual of Cattle Disease, and consequently do not need further notice from me.

44. I have found that the very necessary precaution of disinfecting and burying the excreta of the sick is not sufficiently attended to, and also that the carcasses of animals dying of disease are invariably given to the chucklers, who by taking the flesh to the vicinity of the cattle in the village may thereby communicate the disease.

45. The hides are also always preserved, and have doubtless frequently been the cause of outbreaks from village to village. It has been found necessary in foreign Europe to entirely prohibit the hide trade during epizootics of this sort for the same reason. The safest plan is of course to destroy and bury the hides with the carcasses, but where it is considered advisable to save them, it may be safely done if they are at once tanned, or, where this is impracticable, dried by exposure to sun and air for at least three weeks in a place where neither men nor animals can come in contact with them.

46. Natives are so little to be depended on in matters of this sort, that I have hitherto thought it necessary to recommend the destruction of the skins of all animals dying from contagious disease.

47. Eating the flesh is known in Europe to have caused disease in man, but I have heard of no cases where it has proved hurtful in India. Probably the thorough cooking it undergoes in the process of curry-making renders it innocuous.

48. It has been asserted that the outbreak of Rinderpest is contemporaneous in any country with that of cholera; I have no means of judging whether Rinderpest has been *unusually* prevalent during the past year, but its simultaneous existence with the late prevalence of cholera is worthy of note.

49. In 1866 "Act No. II of 1866" entitled "An Act for the prevention of the spread of cattle disease in the Madras Presidency" was passed by the Governor of Fort St. George in Council. This it has never apparently been thought expedient to put in force as yet, but it will, I think, be found that without some such special legislation, nothing really effective can ever be done in the way of preventing the spread of Rinderpest.

50. During the past season, I first heard of the existence of this disease in a letter from the Collector of South Canara, dated 9th April 1875, from whose description I was able to recognize the disease, and replied accordingly, advising a trial of the course of treatment laid down in the Manual, but, in particular, directing attention to the necessity of preventive measures, such as segregation, &c. It was not considered advisable that I should then visit the locality on account of the difficulty of getting about during the early part of the monsoon, successive reports have been sent me from various parts of this district. The treatment recommended does not find favor with the natives, and the system of segregation has never, I think, been thoroughly carried out, and the disease, which for a time appeared to have abated, has spread from village to village, and still exists in the district. The contagion is almost invariably recognized by the natives as having come from animals brought down the ghauts, but preventive measures are confined to separating the sick, and although medicine has been sent, and is reported to have been tried, it has had little or no effect on the rate of mortality

51. Early in May I by chance heard of the existence of cattle disease in the Chingleput District, and on inquiry, being informed by the Assistant Collector that he had had personal experience of its existence in the Trivellore Taluq, I determined to visit that locality. After some days' inquiry there, I found it still prevailed in the village of Nagalapuram.

52. My inquiries on arrival there soon convinced me that Rinderpest was indeed the cause of the mortality, but it was some time before I succeeded in getting the natives to produce a sick animal for my inspection. The owner consenting reluctantly to my treating it, though at first sight it was a very unfavorable case, being already far advanced in the dysenteric stage of the malady, it fortunately soon showed signs of amendment, and as a consequence, one or two others were brought me to treat, until eventually I got together nine, among which were a very emaciated buffalo and a small calf whose mother had died of the disease some days before; these two were hopeless cases, and died, the buffalo the same, the calf the next day. The remainder I had the satisfaction of leaving convalescent when summoned to Cuddapah five days after on account of a more serious outbreak in that district.

53. Nothing I could do or say, however, would induce the villagers to try the removal of the healthy from the village, nor indeed to separate the sick, except those treated by me, and which were picketted near my tent in a tope which I had chosen with a view to get them thus isolated, (and even these were taken back to the village before I left the ground), but in the most reckless manner the herds were pastured in the fields around these, and often spite of my orders animals were permitted to stray into my camp and come in contact with the sick.

54. I received a subsequent request from this village for more medicine, and shortly after information that no more animals had died, and that the disease had ceased, but from other villages in the vicinity, I have since had reports of similar disease evidently spread there by contact with diseased cattle, and from one it is reported that all the animals attacked died in spite of the medicine sent by me having been administered, but the symptoms described are evidence that the animals were neglected, and died from exhaustion and irritation caused by starvation and the breeding of maggots.

55. In the Cuddapah District, near Raichoty in two hamlets, I saw several cases of this disease, but evidently of a milder type. I was informed that medicine had already been received from the Collector, but had been used in vain. I saw two carcasses lying outside one of these hamlets unburied, and, on pointing out the risk of leaving them thus exposed, was told that through some village superstition they were afraid to bury them for fear of the anger of their deities. An examination of these carcasses confirmed my diagnosis of the nature of the disease. A supply of medicine was left here, and was used "with some good effect" I learn.

56. At Muddenpilly the disease had greatly abated on my arrival there on the 28th May, but I succeeded in seeing one or two cases. These animals I could not induce the owners to remove from the village, but they allowed me to give them medicine, and with apparent good result.

57. As the Acting Collector was present at this place, I purposed remaining there, hoping his influence would get me patients, and that he might succeed in getting some sort of segregation adopted, but on the 30th May I received orders to proceed at once to Bellary, Rinderpest having attacked the Commissariat cattle there. I was therefore compelled to content myself with leaving a supply of medicine with instructions as to the best measures to be adopted.

58. "Somewhat favorable" results have been since reported from this district as to the effect of the medicine, and it is also invariably stated that "segregation has been attended to," but the loss of cattle has been great, and the disease still exists in the Pulivendla Taluq.

59. I was in communication with the Collector and about to start to meet him in this part, when removed to other duty in December.

60. The outbreak among the Commissariat cattle at Bellary has already been separately reported on by me. The disease was undoubtedly brought into the cantonment by some of the cattle engaged in taking invalids to the Ramandroog coming in contact with diseased animals at

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Courtenay and other villages on the road, where the disease had been raging, but of which no report had been made. The history of this outbreak, which but for the energetic measures adopted by the officer in charge of the animals might have proved a serious one, shows the necessity that officers in charge of Government cattle should, as far as possible, be kept informed by the civil authorities of the existence of cattle disease in villages in the vicinity of military cantonments.

61. While engaged on this duty in Bellary, I also made inquiries as to the existence of disease in the district, but, although it was reported that some time previously murrain had prevailed, from information then available, it appeared to have nearly died out, and it was considered unnecessary for me to remain there on that account after the 18th June, and I accordingly returned to Madras.

62. During June application was made to me by the Collector of South Canara for medicine. This was supplied and attention once more directed to the preventive measures necessary for Rinderpest in the Udipy Taluq.

63. I also received a report from the Collector of Trichinopoly of diarrhœa which had prevailed in the Museri Taluq in the month of April, but which had however apparently ceased. This I considered another outbreak of Rinderpest, and wrote and advised accordingly.

64. It was reported also to have been in the Coimbatore District, but had ceased before the information reached me.

65. In the Salem District it appeared by the farm reports sent me to be still in existence, and although in every report it was stated that segregation had been attended to, and Dr. Thacker's medicine had been given, no good result appeared to have followed, and I resolved to see for myself how matters here stood. I accordingly left Madras for Oossoor on 4th July and visited all the villages, *viz.*, Morasur, Killamungalum, Odenapilly, Tuppaganapilly, Bettiganipilly, and Koorawarapilly, in which I could hear of any sickness.

66. No attempt had any where been made even to remove the sick from the herd. My offers to treat them or to give medicine were invariably declined, and a high wind which then prevailed was given as a reason why segregation could not be tried; several opportunities were found for making *post mortems*, but the disease appeared to be dying out, so, in consultation with the Assistant Collector, it was determined that he should endeavour to induce the ryots to give a further trial to the medicine and also advise some precautionary measures, and that I should revisit the locality later in the season if necessary, and I returned to Madras on the 16th July.

67. When again at leisure early in December I was informed that disease had there entirely ceased.

68. Reports now reached me of some mortality in the Bellary District, but too late for a visit, and the proper measures appeared from the reports to have been adopted.

69. From Tanjore also I received reports of Rinderpest, Anthrax, and Foot and Mouth Disease, and, in reply to my letter advising the necessary precautions, I was informed that a visit was not required.

70. Diarrhœa was also reported to have prevailed in the Kurnool District in the Ramulkota Taluq, and, though it had apparently ceased, the disease being evidently the Rinderpest, I wrote to advise precautions and the necessary treatment in anticipation of its re-appearance in the neighbourhood. It did extend to several villages, and segregation is said to have been tried, as also the medical treatment advised, and, though some mortality occurred, the disease has, I believe, now disappeared.

71. From North Arcot and Vizagapatam reports of small outbreaks which had died out also came, and were acknowledged with similar warnings, as likewise one from the Godavery District. It has not spread to any extent in either of these localities.

72. I was in communication with the Collectors of Bellary and Cuddapah with regard to the advisability of a tour in those parts early in August, when I received orders to proceed to Wynaad to investigate a disease among the cattle on coffee estates near Vythery. While engaged on this duty I found that disease prevailed to a great extent among the cattle belonging to the

villagers in the neighbourhood of these estates, and my report thereon has already been submitted for the information of the Board.

73. The very unmanageable character of the cattle of this taluq, their small value in comparison with that of the medicine necessary for their treatment, and the extreme unwillingness of the natives to be guided by my advice, rendered a prolonged stay there unadvisable, and I once more returned to Madras on 30th August.

74. During the month of September I received reports from the Nellore and South Arcot Districts, but in both instances the disease had ceased before the information reached me. Disease was still reported from the Bellary District, but everywhere it was said segregation was put in practice and medicine sent. In consequence of its apparent increase towards the end of the month I thought it best to make a journey in that direction, and left Madras on the 12th October.

75. Visiting the Bellary, Hurpanhally, Havinhadagally, and Kudligi Taluqs, I once more found the disease fast dying out. Nowhere could I find more than one or two sick animals. Leaving medicine and explaining in every case the necessity of preventive measures, I visited each village in which I could hear of disease. In two instances I found attempts at segregation, but the good likely to result nullified through the obstinacy of one or two individuals, who refused to turn out their cattle.

76. Reports of disease from other parts of the district, but where it also appeared to be on the decrease also reached me, but fully persuaded of the inutility of going there without the Collector or one of his Assistants, who were just then otherwise pressingly occupied, I again returned to Madras on the 5th November.

77. During this month Rinderpest made its appearance in South Arcot, and medicine was supplied, but on inquiry I found a visit was useless, the disease having ceased by the time the report reached me.

78. From Trichinopoly and Godavery, further reports of diarrhœa were replied to with warnings that the disease was the Rinderpest, and that measures to prevent its spread were necessary. I was unable to go to so great a distance from Madras, on account of my services having been placed at the disposal of His Excellency the Commander-in-Chief for duty at the Presidency during the visit of His Royal Highness the Prince of Wales, and no other call for my services having been received in the meantime, I assumed charge of the horses of the Detachment of the 16th Lancers and 18th Hussars, on 1st December and on the 23rd December, in accordance with orders of Government of India, reported myself to the Officer Commanding His Grace the Governor's Body Guard for military duty with that corps.

79. Anthrax: under the headings Hæmaturia, Splenic Apoplexy, Inflammatory Fever, and Malignant Sore-throat, are described in the Manual of Cattle Diseases, so many different maladies, in their nature essentially the same, but exhibiting themselves externally under so many various forms depending on local causes.

80. They belong to a type of disease or blood-poisoning called anthrax consisting in a special alteration of the elements of the blood, a vitiation rendering it unfit for the performance of its particular functions, *viz.*, the nutrition of the tissues, and the maintenance of the life of the animal.

81. This change is said to be invariably characterized by the presence in the blood of numerous minute organisms called Bacteria, but whether these are the cause or only a consequence of the specific alteration is at present a disputed question among pathologists. It would, however, appear that their presence in the blood may be considered a proof that it is capable by innoculation of producing similar disease in other animals, or even in man. It is on this account dangerous for human beings to handle or to eat the flesh of animals dying from this class of disease, and I have already brought to the notice of the Board an instance where several men, two of whom died, were in the South Arcot District attacked with disease in consequence of their having flayed or otherwise handled the carcasses of sheep which had died from a malady, the local name of which is "Terriyan," but which is easily recognized as belonging to the anthracoid class of diseases.

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82. The chief causes which bring about these diseases are said to be increased barometrical pressure, fogs, and excessive humidity followed by excessive heat. It is frequent in countries exposed to inundations, or where water stagnates in the soil or on its surface, more particularly where animals are exposed to the miasmatic emanations and effluvia generated in such localities during the heat of the day, or are fed on the rank herbage which usually grows there so plentifully.

83. In almost all parts of this Presidency, these causes may be found in full operation, and with the habitual use for cattle of half-dried tanks, the water of which is loaded with decomposing organic matters, animal as well as vegetable, for drinking purposes, may fairly be considered a fruitful source of disease.

84. The constant presence in villages, in the close vicinity of the cattle sheds, of vast accumulations of filth and rotting manure, the stench from which is only too palpable to the olfactory nerves of any less accustomed to live there than the natives themselves must also be another cause of blood-poisoning.

85. The filthy practice, repeatedly seen by me, of permitting the cattle (I may fairly say of encouraging them) to feed on human excrement, cannot fail to be prejudicial in the same manner. It certainly has much to do with the extraordinary prevalence of entozoa in these animals, and no one who has not had similar opportunities to those I have lately had for making *post-mortem* examinations of cattle could believe the fearful extent to which these creatures (in particular the hydatid forms of tape-worms) infest the domestic animals in this country. This is an important matter in connection with the meat-supply, and the prevalence of entozoa in man, and requires much further investigation.

86. Many outbreaks of a disease called "Adippan" or swelled throat have been reported to me, and these I easily recognized from the symptoms described as a form of anthrax. Unfortunately the disease runs its course so rapidly, that it has almost invariably, simultaneously with the first intimation given of its appearance, also been reported that the disease has ceased, and I have consequently had no chance of seeing animals thus attacked. When in Wynaad however I had an opportunity on one of the coffee estates of making a *post mortem* on the carcass of a bullock which, with a view to eating the flesh, had been brought there from an adjacent village by the coolies, and then found full confirmation of my opinion of the nature of the disease in the appearances met with. These were precisely similar to those I had frequently seen in *post mortems*, and horses dying of Loodiana fever, which has within the last few years been a cause of considerable mortality among horses in the military service; I saw a great deal of this disease at Secunderabad in connection with an epizootic of typhoid fever, depending, I am inclined to believe, on similar causes. The horse lines occupied for years past by the various mounted corps being altogether undrained, the soil must have become saturated with organic matter, from urine, &c., in which under certain favorable circumstances a peculiar decomposition is set up, the emanations from which are capable of originating disease, add to this the frequent too close proximity of manure heaps and possible contamination of the water-supply, and we need, I think, look no further for the cause of these outbreaks.

87. Doubts have been expressed whether this disease is contagious in the horse; I have myself seen such abundant and undoubted evidence that it can be so communicated, that I can no longer question the fact. It is so reputed on the Continent in all animals, but a doubt has been raised in England where the disease is now seldom met with in this form, and this it is, I imagine, what has caused Veterinary Surgeons in India to doubt also. It is usually considered contagious by native cattle-owners, and, although they are indubitably far behind in the treatment of disease, their powers of observation are great, and they are, as a rule, extraordinarily clever at diagnosis, and their ideas on this point are, I think, worthy of some consideration.

88. I have already alluded to what I consider another cause of predisposition to this class of disease, *viz.*, partial starvation followed by superabundance of rank food. It will usually be found that the fattest and most robust of the herd are the first to be attacked with anthrax, and these also most easily fall victims to it.

89. In a malady of this sort, next to nothing can be hoped for from medicinal treatment. Unless given very early after the attack, medicines cannot be swallowed, and so rapidly does the disease run its course, that there is seldom time for any effect to be produced by them.

90. On the other hand, the removal of the herd from the particular local influences which bring about the peculiar change of the blood which is the cause of the disease, with entire change of diet, seldom fails to put an end to the outbreak. The adoption of segregation and fumigation is also desirable as a prophylactic measure.

91. The judicious use of salt with the animal's food has been found very valuable in Europe, and would, I am sure, prove equally so in this country as a preventive of this class of malady.

92. Immediate investigation on the spot of the probable causes of an outbreak and promptitude in carrying out the necessary preventive measures are absolutely required to cope with diseases of the anthracoid class, and here also the need of early information is apparent.

93. A competent professional man armed with the necessary power, or backed by the presence of a civil authority who could enforce obedience to his recommendations, could do much to lessen the mortality and check the ravages of such enzootics, but without such power I regret to say my experience leads me to believe he could do nothing.

94. When in the Trivellore Taluq in May making inquiry as to the existence of Rinderpest in the neighbourhood, I heard that many sheep had recently died at the village of Ecar, and had the opportunity of seeing some four or five in different stages of the malady, and also of making a *post mortem* on the body of one which died while I was present.

95. Water was very scarce at the time, and what there was I found foul and stinking. The sheep were fed in the dried-up beds of the tanks for want of better pasture, and the symptoms and *post-mortem* appearances plainly indicated blood-poisoning of the anthrax type. I advised the separation of the sick and a change of pasture (if possible) for those not already suffering, but doubt if any attention was paid to my advice, though I have since heard that the disease has entirely disappeared.

96. In another village I found the cattle suffering from large boils due to similar causes, and these I was told frequently ended by causing the death of the animal. I should have wished to have seen more of this form of the disease, which, though not hitherto described as seen in this country, is a common mode of its manifestation in Europe, in particular, when affecting man, but a more serious outbreak of disease elsewhere called me away, and when again at leisure this also had disappeared.

97. I have endeavoured to tabulate the reports received by me of outbreaks of anthrax in a similar manner to those of Rinderpest, but the Returns are imperfect, because it so frequently happens that the two diseases are collectively, instead of separately, reported.

98. Epizootic Aphtha or "Foot and Mouth Disease" has apparently been less prevalent than usual during the past season, or perhaps more probably has not been considered of sufficient importance to be reported to me.

99. I have heard of it from Tanjore, Godavery, Malabar, and Kurnool. From South Canara, Vizagapatam, and Godavery some mortality is reported from this cause, but Rinderpest has also been prevalent there, and it would, I think, be found that this was the real origin of the fatal cases. In Wynaad I saw this disease, and learned that it commonly prevails there. I have also in other parts seen it among herds belonging to villages where I was assured that no cattle disease existed.

100. It is highly contagious, and, in my opinion, it is invariably by contagion that it appears in a herd, and the same measures that are advised for the repression of Rinderpest and Anthrax will be found applicable in epizootics of this particular kind.

101. It is only in very exceptional cases that the life of an animal is endangered by its being attacked with this disease, and the sick in reality require little or no treatment beyond nursing and ordinary attention to cleanliness, but, as a rule, they are shamefully neglected by their native owners, and maggots are allowed to breed in the sore, or the animals which are unable

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15*th June* 1876.

to graze from the soreness of their mouths are still driven out with the herd and left to feed themselves or starve; draught bullocks are kept at work regardless of their being lame, or in other cases irritating drugs are used, and as may be expected many fall victims to this mal-treatment.

102. In Proceedings of Government of 2nd November 1875, Cattle No. 7, a report on this disease by Colonel H. N. Davies, Madras Staff Corps, is published. With reference to this, I beg respectfully to remark that although the remedy prescribed for local application is as good as can be used for the treatment of the sores, that this officer is altogether mistaken in his ideas of the nature and causes of the disease.

103. Veterinary Surgeons are agreed that it is a peculiar contagious fever, characterised like small-pox or measles by a particular form of eruption, in this instance usually confined to the feet, mouth, and udder. It does not invariably first show itself on the feet, and although "microscopic infusoria" may very possibly be found about the corona and clefts of the hoofs, they certainly cannot be the cause of the disease. He is also mistaken in imagining that in England and on the Continent "death is the only prescription." Animals imported for the meat markets are by law condemned to slaughter at the port of landing if found infected with this or other contagious malady, or to have been in contact with animals so affected, but I am unaware that slaughter had ever been adopted in India to root out the disease, nor do I think it either necessary or desirable that it should be. Of the highly contagious nature of epizootic aphtha there can be no doubt, but it is often associated or confounded with foot-rot, a local disorder of a totally different character. Where medicinal treatment is considered desirable, the simple course advised by Mr. Thacker in the Cattle Disease Manual will be found all that is necessary.

Concluding remarks.—Since my transfer to military duty I have continued to receive reports from various quarters to which I have replied when necessary, and I have included in the returns appended all which reached me prior to the 1st February.

During January I also complied with a requisition from the Collector of Trichinopoly for medicine for diarrhœa and dysentery. I also advised the immediate adoption of segregation, the disease being evidently the Rinderpest once more.

I cannot refrain from expressing my regret that during my tenure of the office of Inspector of Cattle Disease, I was able to effect so little in checking the spread of contagious diseases in the Presidency, while convinced that if I had been able to enforce obedience to my recommendations so much might have been done, and I would once more respectfully repeat my opinion that (notwithstanding what was formerly done by Mr. Thacker) natives will now be found too prejudiced and too apathetic to act on the advice of a professional man, unless he be himself armed with power or accompanied by some official who can ensure obedience to his instructions. A small staff of trained assistants is also necessary, one of whom could be left at each village or district in which disease to any extent might be found to exist. These might be selected from future students of the Sydapet Agricultural College who, after their preliminary education there, would with a few months' practical training, be able to do much more good than can be hoped for from the present system of distributing medicine and leaving it optional with the natives to adopt preventive measures. Under the provisions of the Act already referred to, they would be able to carry on the measures inaugurated by the Inspector after he had ascertained the causes and necessary preventives thus leaving him at liberty to proceed elsewhere when necessary, whereas without such assistants his work would be undone by the natives returning to their own do-nothing system immediately on his departure. Immediate reports, direct to the Inspector from the village on the appearance of the diseases, should also be made compulsory, the telegraph being employed wherever available.

(Signed) G. WESTERN, Veterinary Surgeon,
His Grace the Governor's Body Guard.

ENCLOSURE No. 2.

Return of Outbreaks of Rinderpest in Madras Presidency reported from 1st June 1875 to 1st February 1876.

District.	Taluq.	June.		July.		August.		September.		October.		November.		December.		January.		Totals for eight months.	
		Attacked.	Died.	Attacked.	Died.	Attacked.	Died.	Attacked.	Died.	Attacked.	Died.	Attacked.	Died.	Attacked.	Died	Attacked.	Died.	Attacked.	Died.
North Arcot.	Vellore	275	135	.....	.....	.....	.....	.....	.....	.....	.....	4	4	1	1	.....	.....	280	140
	Palmanair	.....	.....	50	18	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	50	18
	Arcot	.....	.....	.....	.....	38	14	29	21	.....	.....	.....	.....	.....	.....	.....	.....	67	35
Bellary	Bellary	1,175	703	.....	.....	24	3	60	31	6	6	3	3	500	244	.....	.....	1,768	990
	Huvinhadgally	1,374	665	61	35	261	162	284	166	80	20	.....	.....	.....	.....	.....	.....	2,010	1,048
	Hindupur	10	3	.....	.....	.....	.....	.....	.....	96	39	135	99	.....	.....	.....	.....	241	141
	Hurpanhully	41	22	.....	.....	.....	.....	21	7	16	4	.....	.....	.....	.....	.....	.....	78	35
	Anantapur	171	102	78	37	93	48	70	45	.....	.....	.....	.....	.....	.....	5	3	417	235
	Dharmaweram	536	393	19	17	62	39	349	278	97	83	152	91	.....	.....	582	351	1,797	1,252
	Ghooty	42	23	.....	.....	34	14	366	197	32	12	29	21	.....	.....	159	104	662	371
	Tadpatry	782	409	.....	.....	.....	.....	146	92	56	32	18	8	.....	.....	72	33	1,013	574
	Hospets	43	24	.....	.....	.....	.....	259	153	69	53	31	14	.....	.....	.....	.....	402	244
	Alloor	200	110	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	200	110
	Madaksera	.....	.....	19	8	14	14	27	21	17	8	.....	.....	.....	.....	.....	.....	77	51
	Kudligi	.....	.....	46	32	.....	.....	601	293	.....	.....	.....	.....	432	320	.....	.....	1,079	645
	Pennaconduh	.....	.....	.....	.....	12	10	.....	.....	36	19	92	61	.....	.....	.....	.....	140	90
	Raidrug	.....	.....	.....	.....	.....	.....	158	70	218	115	363	200	184	121	.....	.....	923	506
	Adoni	.....	.....	.....	.....	.....	.....	.....	.....	41	19	99	62	.....	.....	.....	.....	140	81
Coimbatore	Mettapolliem	64	42	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	64	42
Kurnool	Patticonda	360	90	15	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	375	94
	Markapur	212	116	24	14	10	8	.....	.....	54	32	140	113	301	207	.....	.....	741	490
	Ramulkota	52	16	54	18	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	20	8	126	42
	Nandial	.....	.....	.....	.....	.....	.....	.....	.....	3	3	3	3	.....	.....	4	4	10	10
South Canara.	Uppimangadi	73	38	35	29	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	108	67
	Kundapore	.....	.....	226	181	.....	.....	.....	.....	.....	.....	.....	.....	118	60	Uncertain.		344	241
	Udipi	42	34	56	26	.....	.....	16	7	.....	.....	84	33	416	205	300	134	913	439
	Kassargode	.....	.....	.....	.....	.....	.....	.....	.....	100	40	.....	.....	.....	.....	.....	.....	100	40
	Mangalore	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	382	227	Uncertain.		382	227
Trichinopoly	Museri	389	290	.....	.....	233	139	101	65	.....	.....	184	122	211	151	99	15	1,217	782
Cuddapah	Sidhout	214	100	398	208	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	612	308
	Jammalmadagu	233	98	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	233	98
	Rayachoty	20	10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	20	10
	Pulivendla	161	84	132	87	494	251	59	31	226	146	416	240	32	12	42	32	1,562	883
	Proddatur	37	19	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	37	19
	Mudnapally	100	60	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	100	460
	Kadiri	.....	.....	720	411	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	720	11
Salem	Ahtur	31	37	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	31	37
	Oossur	412	130	333	83	.....	.....	394	229	275	187	.....	.....	.....	.....	.....	.....	1,414	629
South Arcot.	Villapuram	67	50	124	87	.....	.....	.....	.....	.....	.....	.....	.....	141	71	29	22	361	230
	Kullacurchy	.....	.....	.....	.....	125	46	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	125	46
	Chedumbram	.....	.....	.....	.....	111	89	30	23	.....	.....	64	58	924	773	.....	.....	1,129	943
	Tirunamallai	.....	.....	.....	.....	170	99	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	170	99
	Trickalore	.....	.....	.....	.....	180	80	.....	.....	.....	.....	140	74	15	13	500	323	835	490
	Virdachellam	.....	.....	.....	.....	518	208	6	6	20	20	.....	.....	.....	.....	11	9	555	243
	Cuddalore	.....	.....	.....	.....	412	268	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	412	268
	Tindevanum	.....	.....	.....	.....	681	218	.....	.....	516	387	558	325	.....	.....	.....	.....	1,755	930
Tanjore	Mayaveram	.....	.....	.....	.....	.....	.....	25	10	.....	.....	.....	.....	.....	.....	.....	.....	413	273
	Shealli	.....	.....	10	4	54	30	16	15	38	23	28	17	34	18	112	135	352	242
	Tanjore	.....	.....	7	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	7	4
	Negapatam	.....	.....	.....	.....	.....	.....	46	29	.....	.....	77	60	11	8	25	13	159	110
	Nannilam	.....	.....	.....	.....	8	3	10	7	.....	.....	98	39	.....	.....	292	168	408	217
Godavery	Ramachendrapuram	.....	.....	232	170	.....	.....	87	87	.....	.....	.....	.....	.....	.....	.....	.....	319	257
	Amlapur	.....	.....	184	109	.....	.....	125	10	254	121	21	21	.....	.....	6	6	590	267
	Rajahmundry	.....	.....	19	14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	19	14
	Peddapur	.....	.....	117	62	.....	.....	48	35	40	30	8	8	22	22	.....	.....	235	157
	Tuni Division	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	155	52	4	3	23	10	182	65
	Bhadrachellam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	11	11	10	10	21	21
Chingleput	Trivellore	.....	.....	.....	.....	429	243	.....	.....	37	37	.....	.....	.....	.....	19	14	485	294
Vizagapatam.	Subrasidi	.....	.....	450	302	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	450	302
	Golconda	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1,210	1,000	.....	.....	1,210	1,000
Tinnevelly	Tenkarai	.....	.....	.....	.....	70	50	.....	.....	582	194	.....	.....	.....	.....	.....	.....	652	244
Madura	Dindigul	.....	.....	.....	.....	81	30	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	81	30
Nellore	Podilla	.....	.....	.....	.....	259	196	.....	.....	.....	.....	.....	.....	199	147	.....	.....	458	343
Malabar	Wynaad	.....	.....	.....	.....	.....	.....	602	468	41	7	.....	.....	.....	.....	138	123	1,040	508
Kistna	Narsaranpett	.....	.....	.....	.....	.....	.....	30	15	.....	.....	.....	.....	.....	.....	.....	.....	30	15
	Nuzvid	.....	.....	.....	.....	.....	.....	3	2	.....	.....	17	15	.....	.....	.....	.....	20	17
	Palaad	.....	.....	.....	.....	.....	.....	230	73	.....	.....	.....	.....	.....	.....	.....	.....	230	73
	Totals for each month	7,115	3,803	3,764	2,190	4,406	2,295	4,198	2,486	2,894	1,437	2,914	1,745	5,148	3,614	2,518	1,517	32,947	19,285

ENCLOSURE No. 3.

Return of Outbreaks of Anthracoid Diseases in Madras Presidency received from 1st April 1875 to 1st February 1876.

District.	Taluq.	June.		July.		August.		September.		October.		November.		December.		January.		Totals for the eight months.	
		Attacked.	Died.	Attacked.	Died.	Attacked.	Died.	Attacked.	Died.	Attacked.	Died.	Attacked.	Died.	Attacked.	Died.	Attacked.	Died.	Attacked.	Died.
Bellary ...	Alloor	200	110	...	...	...	...	...	...	...	...	...	...	...	...	...	...	200	110
	Ghooty	...	...	...	...	14	13	68	56	17	15	...	...	...	...	...	...	99	84
	Hurpanhally...	...	...	...	...	...	...	24	19	...	...	...	...	...	...	...	...	24	19
	Anantapur ...	...	...	...	...	...	...	...	...	...	...	156	81	...	...	...	...	156	81
South Canara.	Uppinangadi...	62	31	...	...	23	16	...	...	26	10	7	8	...	...	...	...	118	65
	Mangalore ...	19	8	...	...	...	...	...	...	...	...	...	...	...	...	...	...	19	8
	Udipi	...	...	...	...	21	6	16	...	...	...	...	...	...	...	...	...	87	13
Tanjore ...	Mayaveram ...	...	...	18	15	17	8	...	...	...	...	28	28	52	40	...	...	115	98
	Negapatam ...	...	...	...	...	71	51	34	...	...	...	39	44	...	...	...	...	175	120
	Nannilam ...	...	...	...	...	34	23	49	...	...	...	1	1	...	...	...	...	84	48
	Sheiali	...	...	...	...	...	...	...	...	...	...	67	60	...	...	...	...	67	60
South Arcot.	Chedambram...	...	...	...	...	Uncertain.		...	...	...	...	Uncertain.		...	...	...	...	38	30
	Tindevanum ...	...	...	...	...			...	...	...	...	38	30	...	...	...	...	189	134
	Trickalore ...	...	...	...	...			...	...	...	...	189	134	15	15	15	14	30	29
	Wynaad... ...	...	...	...	...			...	...	...	...	...	...	15	16	...	...	122	115
Malabar ...	Ellarnad ...	...	...	...	...			...	...	...	...	80	80	16	16	...	...	68	66
	Ernaad	...	...	...	...			...	...	...	...	...	...	...	...	20	8	210	166
Chingleput ...	Madarantieum..	...	...	...	...			...	...	25	15	150	135	...	...	...	...	147	144
Nellore	Podilla	...	...	...	...			...	...	...	...	...	...	...	...	2	2	2	2
Kistna	Gudivada ...	...	...	...	...			...	...	...	...	...	...	76	75	...	...	76	75
	Totals for each month...	281	149	18	15	180	124	447	357	68	40	775	601	169	156	38	25	1,976	1,467

Proceedings of the Madras Government, Revenue Department,
15*th June* 1876.

WITH the foregoing letter the Inspector of Cattle Disease, Veterinary Surgeon G. Western, submits his report for ten months ending with the 31st January 1876.

2. From time to time the Board have had occasion to congratulate Mr. Thacker upon the success which has attended his treatment, but this report, although it bears ample testimony to the value of the remedies hitherto employed, shows only too clearly that, in spite of all that has been done, no permanent improvement has taken place in the treatment of their sick cattle by ryots left to themselves. Mr. Western describes the difficulties which he has met with in every case where he has prescribed, and complains that, being unable to enforce his orders, his efforts are often vain. He recommends the application, in case of outbreak of disease, of Act II of 1866 (Madras).

3. The returns contained in the statements which accompany this report show that the mortality among cattle attacked is very great. Of 1,976 cattle seized with anthracoid diseases, no less than 1,467 died, and of 32,947 attacked by Rinderpest, the deaths numbered 19,285. The Board are convinced that a very large proportion of the cattle which succumbed might with proper treatment have been cured. They are equally satisfied that it is useless to hope for any improvement on the part of the ryots unless they have some one to guide them. The Board have recently addressed Government upon this subject in their Proceedings, dated 21st March 1876, No. 798.

4. Regarding Mr. Western's proposal to introduce the Cattle Disease Act in infected districts, it is observed that when this course was suggested in 1869, strong opinions were expressed by certain Collectors against the application of the enactment (see G.O., dated 24th June 1869, No. 1,790), and that in this view Mr. Thacker concurred. The Board, however, are disposed to believe that the circumstances of some districts demand some more powerful sanction than the general advice and guidance of the Revenue Officers, and that the application of the provisions of the Act may be desirable in certain localities at certain times. It is not, of course, possible to lay down any general rule: the attention of Collectors being again particularly drawn to the subject, the Board would leave it to them to apply for sanction to introduce the Act whenever they may deem it necessary to do so.

5. The Board desire that Mr. Western will accept their thanks for his interesting report, which will be submitted, together with these Proceedings, for the information of Government with the suggestion that it be laid upon the Editors' Table.

(True Copies and Extract.)

(Signed) E. GIBSON,
Acting Sub-Secretary.

No. 170. ORDER THEREON, 15th June 1876, No. 805.

Miscellaneous.

ORDERED that the report be placed on the Editors' Table. The Government observe that further report has

been called for on Board's Proceedings, dated 21st March 1876, No. 798 (*vide* G.O., 25th April 1876, No. 541). Its early submission is awaited.

2. The Board's proposal in paragraph 4 is approved.

(True Extract.)

(Signed) D. F. CARMICHAEL,
Secretary to Government.

To the Board of Revenue.
„ the Editors' Table.

Ed. A. Grubert

805
9

Govt. of 1876 Madras

REVENUE.

To

The BOARD OF REVENUE.

&c., &c., &c.

Dated June, 15th.

Recd.

Encl.

G.O., 15th *June* 1876, *No.* 805.

JUNE.

Nos. 169-170.

Cattle-disease in the Madras Presidency during the two months ending 31st January 1876.—Order thereon. Ordered that the report of Veterinary Surgeon G. Western, Body Guard, on the subject be printed and published;—to be placed on the Editorial table; awaiting orders on the early submission of the report called for in G.O., 15th April 1876; and approving Board's proposal to appoint in regard to the introduction of the Cattle Disease Act into infected districts.

805/10

No. 1,210.

PROCEEDINGS OF THE BOARD OF REVENUE, dated 9th May 1876.

Read the following letter from Veterinary Surgeon G. WESTERN, Governor's Body Guard, to C. A. GALTON, Esq., Acting Secretary to the Board of Revenue, dated Madras, 1st March 1876, No. 142:—

WITH reference to Proceedings of the Board, Miscellaneous No. 774, of 26th January 1876, I have the honor to state that, in accordance with the order of Government therein referred to, I reported myself to the Officer Commanding His Grace the Governor's Body Guard for Military duty with that Corps on 23rd December 1874, I have the honor to forward herewith, for the information of the Board, a report on cattle disease in the Presidency during my tenure of the office of Inspector. I regret that this has been so long delayed, press of other duty having prevented my completing it earlier. Reports still reach me from various districts, and these I have hitherto answered when necessary. I request I may be informed how they are to be disposed of in future.

ENCLOSURE No. 1.

Report on Cattle Disease in the Madras Presidency from 16th March 1875 to 31st January 1876 by Veterinary Surgeon G. WESTERN.

GAZETTED Inspector of Cattle Disease on 16th March 1875, I proceeded to Madras with as little delay as possible, and reported my arrival to the Secretary to the Revenue Board on the 23rd March 1875.

2. I was informed that the fact of my appointment would be intimated to all Collectors, who would be requested to communicate with me direct when requiring my services on account of cattle disease in their districts.

3. At the same time, I was put in possession of all available papers on the subject. From these and other sources I learned that since the departure of Mr. Thacker in 1873, no officer had been in charge of the department, and that all reports on the subject had been discontinued, I therefore at once requested that a report in the form originally adopted by the Bengal Cattle Plague Commission, and also used by Mr. Thacker, should be sent me as early as possible after the outbreak of disease in any district.

4. I also learnt that Collectors were empowered to procure medicine, for distribution to the ryots, from the Rev. Dr. Scudder of the Raneepett Dispensary, and on inquiry I ascertained that medicine of one kind only, made from a prescription of Mr. Thacker's, was used in all cases alike and, as may be supposed, with very varied success, and that in some instances it had even been said to have proved injurious.

5. I accordingly suggested that I should have handed over to me the remaining supply of this medicine, and that future applications from Collectors should be made to me direct.

6. Having for years been aware of the very great success attending Mr. Thacker's treatment of Rinderpest with this medicine, and having myself had opportunities of proving its efficacy, and as, in addition to this recommendation, it has also the advantage of being composed of inexpensive drugs easily procured in most native bazaars, I determined as far as possible to continue its use, modified of course as circumstances required, hoping also to find it had already the confidence of the native cattle-owners.

7. To prevent further mistakes, I have attached to each tin-printed labels with fuller instructions for use than had hitherto been given.

8. Numerous opportunities have occurred for its trial, and I have distributed large quantities, but its success in the hands of the natives has not, I regret to state, by any means justified my expectations, and, in spite of my precautious, I still find it is frequently used for the treatment of disease in cases for which it is altogether inapplicable.

9. The reasons of this failure I have learned to be, that its use is too often, through distrust on the part of the natives, restricted to cases in which the disease has progressed so far that treatment of any sort would be hopeless. A dose or two is tried on some moribund animal, and because an immediate favorable result does not ensue, they become more than ever prejudiced against its use, and report that the "English medicine is useless;" or the directions for its use are not adhered to—it is given in insufficient doses and not sufficiently persevered with, or it is given in the first stage of the disease instead of only after purging has commenced. Proper care is not taken of the patients, but by neglect of cleanliness, maggots are allowed to breed about the mouth, nostrils, and posteriors, and the animals die in consequence of nervous exhaustion, induced by the extreme irritation of the system thus caused.

10. In my own hands, in the few cases I have been able to treat, the result has been universally successful, and I am convinced that a better medicine could not be prescribed, but it will easily be understood that it is impossible to prescribe any single medicine for the treatment of a disease like Rinderpest, which has so many different forms, each necessitating a different course of treatment.

11. That in question is intended for the particular type of the malady most common in this Presidency, in which the most prominent symptoms are diarrhœa and dysentery, and it is equally applicable where these occur from ordinary causes, as in Rinderpest, when they are but symptoms of a peculiar fever.

12. A Manual of Cattle Disease compiled by Mr. Thacker has also been translated into Tamil, Telugu, Canarese, and Malayalam, and printed and distributed by the order of Government. This is an admirable little pamphet, most reliable in its descriptions of disease, and thoroughly scientific as regards the methods of treatment recommended.

13. In the vernacular copies, extracts from a publication of the Bengal Government "On the more deadly forms of cattle disease in India" in particular, a chapter "On the contagious diseases and the modes of preventing them" have been incorporated. This is a most valuable addition, and, in my opinion, the rules laid down cannot be too widely promulgated; were they acted up to by village authorities and cattle-owners, disease would be almost unknown in the country.

14. These vernacular manuals appear to be in the hands of all Tahsildars and in most villages, but I have found that they are in very few cases referred to or acted upon; and in most instances are professedly not understood. I have on every possible occasion pointed out the value of the information to be there obtained, and am convinced that it is only because through prejudice unsought, and through apathy, that the treatment is untried and that its value is not more thoroughly appreciated.

15. The past few months have been unhealthy in the extreme for man and beast. Excessive heat, with failure of rain and other meteorological conditions less understood, have brought about outbreaks of disease in various parts of the Presidency.

16. No provision is made by native cattle-owners by storing forage for seasons of drought, and the consequent alternations of almost starvation with superabundance of rank forage their animals are subjected to is an ever recurring cause of disease.

17. Contagion has however, I think, been the main cause of the spread of cattle disease during the past season, and, under existing circumstances, cannot fail to continue to extend its ravages.

18. Very vigorous measures are necessary to cope with such highly contagious maladies as Rinderpest and Epizootic Aphtha, better known as foot and mouth disease, and the natives are too apathetic and too prejudiced by superstition, if left to their own devices, to adopt them.

19. The Collector of the district perhaps publishes warnings or instructions in the local gazette, but has no means of knowing if they are attended to, and I have met with instances where reports were made that such and such precautions had been adopted in obedience to such instructions, when on subsequently visiting the locality I have found that nothing of the sort had been attempted.

20. Reports have in the majority of instances reached me long after an outbreak of disease had done its worst and was dying out or had passed out to adjacent villages. The impossibility of obtaining early information of disease, or of fixing its precise locality, has been one of the greatest difficulties I have had to contend with. This and the fact that I have never been able to have the advantage of a Collector's presence with me, and that natives would not produce their sick animals to be treated by me, has compelled me in great measure to confine myself to inquiry into the nature of the disease in each locality I have visited, and to advise the Collector of the best method of treatment, medical or preventive.

21. Had I continued in office I had hoped to have overcome both these difficulties, which have caused me much disappointment and regret; for I believe that much more may be done by actually demonstrating to the natives how good a result follows the adoption of judicious preventive measures, combined with careful treatment, than by distributing medicine which is mostly improperly used and usually to the exclusion of anything like precautions to prevent contagion, and therefore I think too often doing a great deal of harm.

22. As a result of my investigation, I find that, although very many different names are given to disease in different districts, in reality three maladies only prevail to any extent at present, *viz.*, Rinderpest, Anthrax, and Foot and Mouth disease, and that the two former only are the causes of the mortality among cattle in the Madras Presidency.

23. Some idea of this mortality may be derived from the number of deaths that have been reported to me from 1st April 1874 to 31st January 1875 of animals attacked with these diseases, *viz.*, of 32,947 animals suffering from Rinderpest, no less than 19,285 are reported to have died; and of 1,976 attacked with Anthrax, 1,467 died. The reports sent me are in many respects imperfect, and the figures are, I fear, not very reliable; but I have as far as possible reduced them to a tabular form, which is appended to this report. Formidable though they appear, I fear the amounts recorded cannot be considered to represent the full extent to which disease has prevailed.

24. The Rinderpest or Cattle Plague of Europe, I have met with under the local names "Saraku," Vekkai;" "Dommai Musara," "Vaisury," and "Doda Roga," &c. It has prevailed in North and South Arcot, Bellary, Mysore, South Canara, Chingleput, Godavery, Kistna, Kurnool, Malabar, Nellore, Salem, and Trichinopoly Districts, and I believe still exists in every one of these localities; a smouldering fire ready to break out again with redoubled virulence so soon as circumstances favor its extension.

25. The disease has already been fully described by my predecessor in many reports, and most accurately in the manual before referred to. I have had many opportunities of verifying this description, but have met with no unusual features in its appearance.

26. I have availed myself of every possible opportunity of making *post-mortem* examinations, and, though finding in every instance characteristic signs of this particular malady, have seen no variations that merit record.

27. Its outbreak in a village is almost invariably traced by the natives themselves to contagion through cattle mixing on their grazing grounds with those of adjacent villages, or with those belonging to travellers among which the disease already exists, and, in my opinion, this is in reality almost invariably, if not solely, the method of propagation.

28. There can be no doubt that there is an incubative stage of the disease, *i.e.*, a latent period between the time of contact with a diseased animal and the manifestation of the malady by observable symptoms of ill-health, and that during this time it may by contagion be communicated through a thus apparently healthy animal mixing with others of a herd. The system of segregation advised in the manual under the heading "Rinderpest" and also in the chapter on the "Contagious diseases and their prevention" is calculated to meet this danger, and if properly carried out, is most efficacious in the repression of contagious disease in localities where it has already shown itself.

29. I have found however that natives will not carry it out in its integrity, mostly contenting themselves with the obviously inadequate measure of separating the sick from the healthy, and that often only by keeping one shed of the village, probably in close proximity with those

used for the healthy, to be occupied by them. Any excuse, such as rain, wind, too much sun or cold is taken advantage of as a reason why the healthy should not be turned out, whereas the risk the animals would really be exposed to on such account is infinitesimally small in comparison with that they run through chance of contagion.

30. The system of housing the cattle in the villages is most favorable to the spread of any insfectious malady, more particularly when, as is too frequently the practice, the sick and healthy are kept together in their usual stalls.

31. Notwithstanding their knowledge of the contagious nature of this disease, natives in the most reckless manner drive the sick so long as they can walk to pasture with the rest of the herd, and too often the poor suffering brutes are left to die where they fall, as frequently as not as much through sheer starvation as from the effects of the disease.

32. In many cases I have been told it is useless to trouble about them, or to give any medicine, because if their time has come they must die, or if not, they will recover of themselves. In other villages they have stated that they are afraid to anger the deity, who is supposed to have inflicted the disease, lest a greater calamity be brought upon themselves.

33. In some few instances, native remedies of an appropriate nature have been used with success, but, in the majority of cases, the remedies employed have been useless. In one report it is said that oil was poured on the head and in the ears of the animals, and that this prevented their being attacked with the disease.

34. The best course of medical treatment for Rinderpest has been proved to be, firstly, the administration of a mild aperient in the early stage when constipation of the bowels is mostly present. This I have found to be the case in most instances of the disease as seen by me, and the effect of the aperient has been frequently found by me to cut short the disease. Excessive purgation must be avoided, and it is therefore better to give small doses and to repeat them at intervals till the desired effect is produced. Castor or linseed oil, sulphur and salt, are the drugs most suitable and most easily procured.

35. Mr. Thacker appears to have adopted this mode of treatment in this stage of the disease, but has omitted to notice it in the manual. Future editions should be corrected as this is important.

36. In the second stage of the disease, the treatment should be to keep the purging in check but not to stop it entirely. This is easily effected by the judicious use of astringent drugs combined with advantage with a narcotic to relieve the pain; catechu, chalk, galls, opium or datura being the most useful agents for the purpose.

37. The strength of the animal needs support in consequence of the rapidly debilitating effect of the disease, and the inability of the animals, through soreness of the mouth, to feed themselves. They should therefore be drenched two or three times a day with congee, which may be made from any grain the animals are accustomed to, but of rice or wheat flour in preference. A stimulant such as arrack added will be found decidedly beneficial, and the congee will be the best medium for the administration of the necessary medicines.

38. Febrifuges such as nitre, camphor, and chiretta with salammoniac are useful in all stages of the disease.

39. Good nursing and the most scrupulous attention to cleanliness are important to prevent the breeding of maggots about the eyes, mouths, and posteriors of the sick.

40. The cost of treatment in comparison to the value of the animals has frequently been urged to me as a reason for its neglect, and at first sight with some apparent reason, but I believe that when judiciously adopted in the majority of instances it will be found that the increased number of recoveries will much more than compensate for the outlay.

41. To be of benefit treatment must be begun early and perserveringly continued throughout the various stages of the disease in spite of the most discouraging symptoms. The disease as a rule certainly in this country assumes a milder type than is usually met with in Europe, but a large proportion of fatal cases must be expected whatever system of treatment be adopted.

42. I am decidedly of opinion that the medical treatment of animals suffering from contagious diseases, without the simultaneous adoption of precautionary measures to prevent their spread, is wrong in principle and calculated to do harm by increasing the risk of contagion, through prolonging the lives of the diseased and by the necessary handling of them and probably of the healthy also by their attendants.

43. The system of segregation has already been stated by me to be the most efficacious of repressive measures. This and other necessary precautions are fully detailed in the Manual of Cattle Disease, and consequently do not need further notice from me.

44. I have found that the very necessary precaution of disinfecting and burying the excreta of the sick is not sufficiently attended to, and also that the carcasses of animals dying of disease are invariably given to the chucklers, who by taking the flesh to the vicinity of the cattle in the village may thereby communicate the disease.

45. The hides are also always preserved, and have doubtless frequently been the cause of outbreaks from village to village. It has been found necessary in foreign Europe to entirely prohibit the hide trade during epizootics of this sort for the same reason. The safest plan is of course to destroy and bury the hides with the carcasses, but where it is considered advisable to save them, it may be safely done if they are at once tanned, or, where this is impracticable, dried by exposure to sun and air for at least three weeks in a place where neither men nor animals can come in contact with them.

46. Natives are so little to be depended on in matters of this sort, that I have hitherto thought it necessary to recommend the destruction of the skins of all animals dying from contagious disease.

47. Eating the flesh is known in Europe to have caused disease in man, but I have heard of no cases where it has proved hurtful in India. Probably the thorough cooking it undergoes in the process of curry-making renders it innocuous.

48. It has been asserted that the outbreak of Rinderpest is contemporaneous in any country with that of cholera; I have no means of judging whether Rinderpest has been *unusually* prevalent during the past year, but its simultaneous existence with the late prevalence of cholera is worthy of note.

49. In 1866 "Act No. II of 1866" entitled "An Act for the prevention of the spread of cattle disease in the Madras Presidency" was passed by the Governor of Fort St. George in Council. This it has never apparently been thought expedient to put in force as yet, but it will, I think, be found that without some such special legislation, nothing really effective can ever be done in the way of preventing the spread of Rinderpest.

50. During the past season, I first heard of the existence of this disease in a letter from the Collector of South Canara, dated 9th April 1875, from whose description I was able to recognize the disease, and replied accordingly, advising a trial of the course of treatment laid down in the Manual, but, in particular, directing attention to the necessity of preventive measures, such as segregation, &c. It was not considered advisable that I should then visit the locality on account of the difficulty of getting about during the early part of the monsoon, successive reports have been sent me from various parts of this district. The treatment recommended does not find favor with the natives, and the system of segregation has never, I think, been thoroughly carried out, and the disease, which for a time appeared to have abated, has spread from village, to village and still exists in the district. The contagion is almost invariably recognized by the natives as having come from animals brought down the ghauts, but preventive measures are confined to separating the sick, and although medicine has been sent, and is reported to have been tried, it has had little or no effect on the rate of mortality.

51. Early in May I by chance heard of the existence of cattle disease in the Chingleput District, and on inquiry, being informed by the Assistant Collector that he had had personal experience of its existence in the Trivellore Taluq, I determined to visit that locality. After some days' inquiry there, I found it still prevailed in the village of Nagalapuram.

52. My inquiries on arrival there soon convinced me that Rinderpest was indeed the cause of the mortality, but it was some time before I succeeded in getting the natives to produce a sick animal for my inspection. The owner consenting reluctantly to my treating it, though at first sight it was a very unfavorable case, being already far advanced in the dysenteric stage of the

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malady, it fortunately soon showed signs of amendment, and as a consequence, one or two others were brought me to treat, until eventually I got together nine, among which were a very emaciated buffalo and a small calf whose mother had died of the disease some days before; these two were hopeless cases, and died, the buffalo the same, the calf the next day. The remainder I had the satisfaction of leaving convalescent when summoned to Cuddapah five days after on account of a more serious outbreak in that district.

53. Nothing I could do or say, however, would induce the villagers to try the removal of the healthy from the village, nor indeed to separate the sick, except those treated by me, and which were picketted near my tent in a tope which I had chosen with a view to get them thus isolated, (and even these were taken back to the village before I left the ground), but in the most reckless manner the herds were pastured in the fields around these, and often spite of my orders, animals were permitted to stray into my camp and come in contact with the sick.

54. I received a subsequent request from this village for more medicine, and shortly after information that no more animals had died, and that the disease had ceased, but from other villages in the vicinity, I have since had reports of similar disease evidently spread there by contact with diseased cattle, and from one it is reported that all the animals attacked died in spite of the medicine sent by me having been administered, but the symptoms described are evidence that the animals were neglected, and died from exhaustion and irritation caused by starvation and the breeding of maggots.

55. In the Cuddapah District, near Raichoty in two hamlets, I saw several cases of this disease, but evidently of a milder type. I was informed that medicine had already been received from the Collector, but had been used in vain. I saw two carcasses lying outside one of these hamlets unburied, and, on pointing out the risk of leaving them thus exposed, was told that through some village superstition they were afraid to bury them for fear of the anger of their deities. An examination of these carcasses confirmed my diagnosis of the nature of the disease. A supply of medicine was left here, and was used "with some good effect" I learn.

56. At Muddenpilly the disease had greatly abated on my arrival there on the 28th May, but I succeeded in seeing one or two cases. These animals I could not induce the owners to remove from the village, but they allowed me to give them medicine, and with apparent good result.

57. As the Acting Collector was present at this place, I purposed remaining there, hoping his influence would get me patients, and that he might succeed in getting some sort of segregation adopted, but on the 30th May I received orders to proceed at once to Bellary, Rinderpest having attacked the Commissariat cattle there. I was therefore compelled to content myself with leaving a supply of medicine with instructions as to the best measures to be adopted.

58. "Somewhat favorable" results have been since reported from this district as to the effect of the medicine, and it is also invariably stated that "segregation has been attended to," but the loss of cattle has been great, and the disease still exists in the Pulivendla Taluq.

59. I was in communication with the Collector and about to start to meet him in this part, when removed to other duty in December.

60. The outbreak among the Commissariat cattle at Bellary has already been separately reported on by me. The disease was undoubtedly brought into the cantonment by some of the cattle engaged in taking invalids to the Ramandroog coming in contact with diseased animals at Courtenay and other villages on the road, where the disease had been raging, but of which no report had been made. The history of this outbreak, which but for the energatic measures adopted by the officer in charge of the animals might have proved a serious one, shows the necessity that officers in charge of Government cattle should, as far as possible, be kept informed by the civil authorities of the existence of cattle disease in villages in the vicinity of military cantonments.

61. While engaged on this duty in Bellary, I also made inquiries as to the existence of disease in the district, but, although it was reported that some time previously murrain had prevailed, from information then available, it appeared to have nearly died out, and it was considered unnecessary for me to remain there on that account after the 18th June, and I accordingly returned to Madras.

62. During June application was made to me by the Collector of South Canara for medicine. This was supplied and attention once more directed to the preventive measures necessary for Rinderpest in the Udipy Taluq.

63. I also received a report from the Collector of Trichinopoly of diarrhœa which had prevailed in the Museri Taluq in the month of April, but which had however apparently ceased. This I considered another outbreak of Rinderpest, and wrote and advised accordingly.

64. It was reported also to have been in the Coimbatore District, but had ceased before the information reached me.

65. In the Salem District it appeared by the farm reports sent me to be still in existence, and although in every report it was stated that segregation had been attended to, and Dr. Thacker's medicine had been given, no good result appeared to have followed, and I resolved to see for myself how matters here stood. I accordingly left Madras for Oossoor on 4th July and visited all the villages, *viz.*, Morasur, Killamungalum, Odenapilly, Tuppaganapilly, Bettiganipilly, and Koorawarapilly, in which I could hear of any sickness.

66. No attempt had any where been made even to remove the sick from the herd. My offers to treat them or to give medicine were invariably declined, and a high wind which then prevailed was given as a reason why segregation could not be tried; several opportunities were found for making *post mortems*, but the disease appeared to be dying out, so, in consultation with the Assistant Collector, it was determined that he should endeavour to induce the ryots to give a further trial to the medicine and also advise some precautionary measures, and that I should revisit the locality later in the season if necessary, and I returned to Madras on the 16th July.

67. When again at leisure early in December I was informed that disease had there entirely ceased.

68. Reports now reached me of some mortality in the Bellary District, but too late for a visit, and the proper measures appeared from the reports to have been adopted.

69. From Tanjore also I received reports of Rinderpest, Anthrax, and Foot and Mouth Disease, and, in reply to my letter advising the necessary precautions, I was informed that a visit was not required.

70. Diarrhœa was also reported to have prevailed in the Kurnool District in the Ramulkota Taluq. and, though it had apparently ceased, the disease being evidently the Rinderpest, I wrote to advise precautions and the necessary treatment in anticipation of its re-appearance in the neighbourhood. It did extend to several villages, and segregation is said to have been tried, as also the medical treatment advised, and, though some mortality occurred, the disease has, I believe, now disappeared.

71. From North Arcot and Vizagapatam reports of small outbreaks which had died out also came, and were acknowledged with similar warnings, as likewise one from the Godavery District. It has not spread to any extent in either of these localities.

72. I was in communication with the Collectors of Bellary and Cuddapah with regard to the advisability of a tour in those parts early in August, when I received orders to proceed to Wynaad to investigate a disease among the cattle on coffee estates near Vythery. While engaged on this duty I found that disease prevailed to a great extent among the cattle belonging to the villagers in the neighbourhood of these estates, and my report thereon has already been submitted for the information of the Board.

73. The very unmanageable character of the cattle of this taluq, their small value in comparison with that of the medicine necessary for their treatment, and the extreme unwillingness of the natives to be guided by my advice, rendered a prolonged stay there unadvisable, and I once more returned to Madras on 30th August.

74. During the month of September I received reports from the Nellore and South Arcot Districts, but in both instances the disease had ceased before the information reached me. Disease was still reported from the Bellary District, but everywhere it was said segregation was put in practice and medicine sent. In consequence of its apparent increase towards the end of the month I thought it best to make a journey in that direction, and left Madras on the 12th October.

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75. Visiting the Bellary, Hurpanhally, Havinhadagally, and Kudligi Talugs, I once more found the disease fast dying out. Nowhere could I find more than one or two sick animals. Leaving medicine and explaining in every case the necessity of preventive measures, I visited each village in which I could hear of disease. In two instances I found attempts at segregation, but the good likely to result nullified through the obstinacy of one or two individuals, who refused to turn out their cattle.

76. Reports of disease from other parts of the district, but where it also appeared to be on the decrease also reached me, but fully persuaded of the inutility of going there without the Collector or one of his Assistants, who were just then otherwise pressingly occupied, I again returned to Madras on the 5th November.

77. During this month Rinderpest made its appearance in South Arcot, and medicine was supplied, but on inquiry I found a visit was useless, the disease having ceased by the time the report reached me.

78. From Trichinopoly and Godavery, further reports of diarrhœa were replied to with warnings that the disease was the Rinderpest, and that measures to prevent its spread were necessary. I was unable to go to so great a distance from Madras, on account of my services having been placed at the disposal of His Excellency the Commander-in-Chief for duty at the Presidency during the visit of His Royal Highness the Prince of Wales, and no other call for my services having been received in the meantime, I assumed charge of the horses of the Detachment of the 16th Lancers and 18th Hussars, on 1st December and on the 23rd December, in accordance with orders of Government of India, reported myself to the Officer Commanding His Grace the Governor's Body Guard for military duty with that corps.

79. Anthrax : under the headings Hæmaturia, Splenic Apoplexy, Inflammatory Fever, and Malignant Sore-throat, are described in the Manual of Cattle Diseases, so many different maladies, in their nature essentially the same, but exhibiting themselves externally under so many various forms depending on local causes.

80. They belong to a type of disease or blood-poisoning called anthrax consisting in a special alteration of the elements of the blood, a vitiation rendering it unfit for the performance if its particular functions, *viz.*, the nutrition of the tissues, and the maintenance of the life of the animal.

81. This change is said to be invariably characterized by the presence in the blood of numerous minute organisms called Bacteria, but whether these are the cause or only a consequence of the specific alteration is at present a disputed question among pathologists. It would, however, appear that their presence in the blood may be considered a proof that it is capable by innoculation of producing similar disease in other animals, or even in man. It is on this account dangerous for human beings to handle or to eat the flesh of animals dying from this class of disease, and I have already brought to the notice of the Board an instance where several men, two of whom died, were in the South Arcot District attacked with disease in consequence of their having flayed or otherwise handled the carcasses of sheep which had died from a malady, the local name of which is "Terriyan," but which is easily recognized as belonging to the anthracoid class of diseases.

82. The chief causes which bring about these diseases are said to be increased barometrical pressure, fogs, and excessive humidity followed by excessive heat. It is frequent in countries exposed to inundations, or where water stagnates in the soil or on its surface, more particularly where animals are exposed to the miasmatic emanations and effluvia generated in such localities during the heat of the day, or are fed on the rank herbage which usually grows there so plentifully.

83. In almost all parts of this Presidency, these causes may be found in full operation, and with the habitual use for cattle of half-dried tanks, the water of which is loaded with decomposing organic matters, animal as well as vegetable, for drinking purposes, may fairly be considered a fruitful source of disease.

84. The constant presence in villages, in the close vicinity of the cattle sheds, of vast accumulations of filth and rotting manure, the stench from which is only too palpable to the olfactory nerves of any less accustomed to live there than the natives themselves must also be another cause of blood-poisoning.

85. The filthy practice, repeatedly seen by me, of permitting the cattle (I may fairly say of encouraging them) to feed on human excrement, cannot fail to be prejudicial in the same manner. It certainly has much to do with the extraordinary prevalence of entozoa in these animals, and no one who has not had similar opportunities to those I have lately had for making *post-mortem* examinations of cattle could believe the fearful extent to which these creatures (in particular the hydatid forms of tape-worms) infest the domestic animals in this country. This is an important matter in connection with the meat-supply, and the prevalence of entozoa in man, and requires much further investigation.

86. Many outbreaks of a disease called "Adippan" or swelled throat have been reported to me, and these I easily recognized from the symptoms described as a form of anthrax. Unfortunately the disease runs its course so rapidly, that it has almost invariably, simultaneously with the first intimation given of its appearance, also been reported that the disease has ceased, and I have consequently had no chance of seeing animals thus attacked. When in Wynaad however I had an opportunity on one of the coffee estates of making a *post mortem* on the carcass of a bullock which, with a view to eating the flesh, had been brought there from an adjacent village by the coolies, and then found full confirmation of my opinion of the nature of the disease in the appearances met with. These were precisely similar to those I had frequently seen in *post mortems*, and horses dying of Loodiana fever, which has within the last few years been a cause of considerable mortality among horses in the military service ; I saw a great deal of this disease at Secunderabad in connection with an epizootic of typhoid fever, depending, I am inclined to believe, on similar causes. The horse lines occupied for years past by the various mounted corps being altogether undrained, the soil must have become saturated with organic matter, from urine, &c., in which under certain favorable circumstances a peculiar decomposition is set up, the emanations from which are capable of originating disease, add to this the frequent too close proximity of manure heaps and possible contamination of the water-supply, and we need, I think, look no further for the cause of these outbreaks.

87. Doubts have been expressed whether this disease is contagious in the horse ; I have myself seen such abundant and undoubted evidence that it can be so communicated, that I can no longer question the fact. It is so reputed on the Continent in all animals, but a doubt has been raised in England where the disease is now seldom met with in this form, and this it is, I imagine, what has caused Veterinary Surgeons in India to doubt also. It is usually considered contagious by native cattle owners, and, although they are indubitably far behind in the treatment of disease, their powers of observation are great, and they are, as a rule, extraordinarily clever at diagnosis, and their ideas on this point are, I think, worthy of some consideration.

88. I have already alluded to what I consider another cause of predisposition to this class of disease, *viz.*, partial starvation followed by superabundance of rank food. It will usually be found that the fattest and most robust of the herd are the first to be attacked with anthrax, and these also most easily fall victims to it.

89. In a malady of this sort, next to nothing can be hoped for from medicinal treatment. Unless given very early after the attack, medicines cannot be swallowed, and so rapidly does the disease run its course, that there is seldom time for any effect to be produced by them.

90. On the other hand, the removal of the herd from the particular local influences which bring about the peculiar change of the blood which is the cause of the disease, with entire change of diet, seldom fails to put an end to the outbreak. The adoption of segregation and fumigation is also desirable as a prophylactic measure.

91. The judicious use of salt with the animal's food has been found very valuable in Europe, and would, I am sure, prove equally so in this country as a preventive of this class of malady.

92. Immediate investigation on the spot of the probable causes of an outbreak and promptitude in carrying out the necessary preventive measures are absolutely required to cope with diseases of the anthracoid class, and here also the need of early imformation is apparent.

93. A competent professional man armed with the necessary power, or backed by the presence of a civil authority who could enforce obedience to his recommendations, could do much to lessen the mortality and check the ravages of such enzootics, but without such power I regret to say my experience leads me to believe he could do nothing.

94. When in the Trivellore Taluq in May making inquiry as to the existence of Rinderpest in the neighbourhood, I heard that many sheep had recently died at the village of Ecar, and had the opportunity of seeing some four or five in different stages of the malady, and also of making a *post mortem* on the body of one which died while I was present.

95. Water was very scarce at the time, and what there was I found foul and stinking. The sheep were fed in the dried-up beds of the tanks for want of better pasture, and the symptoms and *post-mortem* appearances plainly indicated blood-poisoning of the anthrax type. I advised the separation of the sick and a change of pasture (if possible) for those not already suffering, but doubt if any attention was paid to my advice, though I have since heard that the disease has entirely disappeared.

96. In another village I found the cattle suffering from large boils due to similar causes, and these I was told frequently ended by causing the death of the animal. I should have wished to have seen more of this form of the disease, which though not hitherto described as seen in this country, is a common mode of its manifestation in Europe, in particular, when affecting man, but a more serious outbreak of disease elsewhere called me away, and when again at leisure this also had disappeared.

97. I have endeavoured to tabulate the reports received by me of outbreaks of anthrax in a similar manner to those of Rinderpest, but the Returns are imperfect, because it so frequently happens that the two diseases are collectively, instead of separately, reported.

98. Epizootic Aphtha or "Foot and Mouth Disease" has apparently been less prevalent than usual during the past season, or perhaps more probably has not been considered of sufficient importance to be reported to me.

99. I have heard of it from Tanjore, Godavery, Malabar, and Kurnool. From South Canara, Vizagapatam, and Godavery some mortality is reported from this cause, but Rinderpest has also been prevalent there, and it would, I think, be found that this was the real origin of the fatal cases. In Wynaad I saw this disease, and learned that it commonly prevails there. I have also in other parts seen it among heards belonging to villages where I was assured that no cattle disease existed.

100. It is highly contagious, and, in my opinion, it is invariably by contagion that it appears in a herd, and the same measures that are advised for the repression of Rinderpest and Anthrax will be found applicable in epizootics of this particular kind.

101. It is only in very exceptional cases that the life of an animal is endangered by its being attacked with this disease, and the sick in reality require little or no treatment beyond nursing and ordinary attention to cleanliness, but, as a rule, they are shamefully neglected by their native owners, and maggots are allowed to breed in the sore, or the animals which are unable to graze from the soreness of their mouths are still driven out with the herd and left to feed themselves or starve; draught bullocks are kept at work regardless of their being lame, or in other cases irritating drugs are used, and as may be expected many fall victims to this mal-treatment.

102. In Proceedings of Government of 2nd November 1875, Cattle No. 7, a report on this disease by Colonel H. N. Davies, Madras Staff Corps, is published. With reference to this, I beg respectfully to remark that although the remedy prescribed for local application is as good as can be used for the treatment of the sores, that this officer is altogether mistaken in his ideas of the nature and causes of the disease.

103. Veterinary Surgeons are agreed that it is a peculiar contagious fever, characterised like small-pox or measles by a particular form of eruption, in this instance usually confined to the feet, mouth, and udder. It does not invariably first show itself on the feet, and although "microscopic infusoria" may very possibly be found about the corona and clefts of the hoofs, they certainly cannot be the cause of the disease. He is also mistaken in imagining that in England and on the Continent "death is the only prescription." Animals imported for the meat markets are by law condemned to slaughter at the port of landing if found infected with this or other contagious malady, or to have been in contact with animals so affected, but I am unaware that slaughter has ever been adopted in India to root out the disease, nor do I think it either necessary or desirable that it should be. Of the highly contagious nature of epizootic aphtha there can be no doubt, but it is often associated or confounded with foot-rot, a local disorder of a totally different character. Where medicinal treatment is considered desirable, the simple course advised by Mr. Thacker in the Cattle Disease Manual will be found all that is necessary.

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Concluding remarks.—Since my transfer to military duty I have continued to receive reports from various quarters to which I have replied when necessary, and I have included in the returns appended all which reached me prior to the 1st February.

During January I also complied with a requisition from the Collector of Trichinopoly for medicine for diarrhœa and dysentery. I also advised the immediate adoption of segregation, the disease being evidently the Rinderpest once more.

I cannot refrain from expressing my regret that during my tenure of the office of Inspector of Cattle Disease, I was able to effect so little in checking the spread of contagious diseases in the Presidency, while convinced that if I had been able to enforce obedience to my recommendations so much might have been done, and I would once more respectfully repeat my opinion that (notwithstanding what was formerly done by Mr. Thacker) natives will now be found too prejudiced and too apathetic to act on the advice of a professional man, unless he be himself armed with power or accompanied by some official who can ensure obedience to his instructions. A small staff of trained assistants is also necessary, one of whom could be left at each village or district in which disease to any extent might be found to exist. These might be selected from future students of the Sydapet Agricultural College who, after their preliminary education there, would with a few months' practical training, be able to do much more good than can be hoped for from the present system of distributing medicine and leaving it optional with the natives to adopt preventive measures. Under the provisions of the Act already referred to, they would be able to carry on the measures inaugurated by the Inspector after he had ascertained the causes and necessary preventives thus leaving him at liberty to proceed elsewhere when necessary, whereas without such assistants his work would be undone by the natives returning to their own do-nothing system immediately on his departure. Immediate reports, direct to the Inspector from the village on the appearance of the diseases, should also be made compulsory, the telegraph being employed wherever available.

(Signed) G. WESTERN, Veterinary Surgeon,
His Grace the Governor's Body Guard.

ENCLOSURE No. 2.

Return of Outbreaks of Rinderpest in Madras Presidency reported from 1st June 1875 to 1st February 1876.

District.	Taluq.	June.		July.		August.		September.		October.		November.		December.		January.		Totals for eight months.	
		Attacked.	Died.	Attacked.	Died.	Attacked.	Died.	Attacked.	Died.	Attacked.	Died.	Attacked.	Died.	Attacked.	Died.	Attacked.	Died.	Attacked.	Died.
North Arcot.	Vellore	275	185	.....	.....	.....	.....	.....	.....	.....	.....	4	4	1	1	.....	.....	280	140
	Palmanair	.....	.....	50	18	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	50	18
	Arcot	.....	.....	.....	.....	38	14	29	21	.....	.....	.....	.....	.....	.....	.....	.....	67	35
Bellary	Bellary	1,175	703	.....	.....	24	3	60	31	6	6	3	3	500	244	.....	.....	1,768	990
	Huvinhadgally	1,374	665	61	35	261	162	284	166	30	20	.....	.....	.....	.....	.....	.....	2,010	1,048
	Hindupur	10	3	.....	.....	.....	.....	.....	.....	96	39	135	99	.....	.....	.....	.....	241	141
	Hurpanhully	41	22	.....	.....	.....	.....	21	7	16	4	.....	.....	.....	.....	.....	.....	78	35
	Anantapur	171	102	78	37	93	48	70	45	.....	.....	.....	.....	.....	.....	5	3	417	235
	Dharmaweram	536	393	19	17	62	39	349	278	97	83	152	91	.....	.....	582	351	1,797	1,252
	Ghooty	42	23	.....	.....	34	14	366	197	32	12	29	21	.....	.....	159	104	662	371
	Tadpatry	732	409	.....	.....	.....	.....	146	92	50	32	13	8	.....	.....	.....	23	1,013	574
	Hospett	43	24	.....	.....	.....	.....	259	153	69	53	31	14	.....	.....	.....	.....	402	244
	Alloor	200	110	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	200	110
	Madaksera	.....	.....	19	8	14	14	27	21	17	8	.....	.....	.....	.....	.....	.....	77	51
	Kudligi	.....	.....	46	32	.....	.....	601	293	.....	.....	.....	.....	432	320	.....	.....	1,079	645
	Pennacondah	.....	.....	.....	.....	12	10	.....	.....	36	19	92	61	.....	.....	.....	.....	140	90
	Raidrug	.....	.....	.....	.....	.....	.....	158	70	218	115	363	200	184	121	.....	.....	923	506
	Adoni	.....	.....	.....	.....	.....	.....	.....	.....	41	19	99	62	.....	.....	.....	.....	140	81
Coimbatore	Mettapolliem	64	42	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	64	42
Kurnool	Patticonda	360	90	15	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	375	94
	Markapur	212	116	24	14	10	8	.....	.....	54	32	140	118	301	207	.....	.....	741	490
	Ramulkota	52	16	54	18	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	20	8	126	42
	Nandial	.....	.....	.....	.....	.....	.....	.....	.....	3	3	3	3	.....	.....	4	4	10	10
South Canara.	Uppinangadi	73	38	35	29	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	108	67
	Kundapore	.....	.....	226	181	.....	.....	.....	.....	.....	.....	.....	.....	118	60	Uncertain.		344	241
	Udipi	41	34	56	26	.....	.....	16	7	.....	.....	84	33	416	205	300	134	913	439
	Kassargode	.....	.....	.....	.....	.....	.....	.....	.....	100	40	.....	.....	.....	.....	.....	.....	100	40
	Mangalore	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	382	227	Uncertain.		382	227
Trichinopoly	Museri	389	290	.....	.....	233	139	101	65	.....	.....	184	122	211	15	99	15	1,217	782
Cuddapah	Sidhout	214	100	398	208	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	612	308
	Jammalmadagu	233	98	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	233	98
	Rayachoty	20	10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	20	10
	Pulivendla	161	84	132	87	494	251	59	31	226	146	416	240	83	12	42	32	1,562	883
	Proddatur	37	19	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	37	19
	Madanapally	100	60	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	100	60
	Kadiri	.....	.....	720	411	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	720	411
Salem	Ahtur	81	37	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	81	37
	Oossur	412	130	333	88	.....	.....	394	229	275	187	.....	.....	.....	.....	.....	.....	1,414	629
South Arcot.	Villapuram	67	50	124	87	.....	.....	.....	.....	.....	.....	.....	.....	141	71	29	22	361	230
	Kullacurchy	.....	.....	.....	.....	125	46	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	125	46
	Chedumbram	.....	.....	.....	.....	111	89	30	23	.....	.....	64	58	824	775	.....	.....	1,129	943
	Tirunamallai	.....	.....	.....	.....	170	99	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	170	99
	Trickalore	.....	.....	.....	.....	180	80	.....	.....	.....	.....	140	74	15	8	500	223	835	490
	Virdachellam	.....	.....	.....	.....	518	208	6	6	20	20	.....	.....	.....	.....	11	9	555	243
	Cuddalore	.....	.....	.....	.....	412	268	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	412	268
	Tindevanum	.....	.....	.....	.....	681	218	.....	.....	516	387	558	325	.....	.....	.....	.....	1,755	930
Tanjore	Mayaveram	.....	.....	.....	.....	.....	.....	25	10	.....	.....	.....	.....	.....	.....	.....	.....	418	273
	Shealli	.....	.....	10	4	54	30	16	15	38	23	28	17	34	18	112	135	352	242
	Tanjore	.....	.....	7	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	7	4
	Negapatam	.....	.....	.....	.....	.....	.....	46	29	.....	.....	77	60	11	8	25	13	159	110
	Nannilam	.....	.....	.....	.....	8	8	10	7	.....	.....	28	39	.....	.....	292	163	408	217
Godavery	Ramachendrapuram	.....	.....	232	170	.....	.....	87	87	.....	.....	.....	.....	.....	.....	.....	.....	319	257
	Amlapur	.....	.....	184	109	.....	.....	125	10	254	121	21	21	.....	.....	6	6	590	267
	Rajahmundry	.....	.....	19	14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	19	14
	Peddapur	.....	.....	117	62	.....	.....	48	35	40	30	8	8	22	22	.....	.....	235	157
	Tuni Division	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	155	52	4	3	23	10	182	65
	Bhadrachellam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	11	11	10	10	21	21
Chingleput	Trivellore	.....	.....	.....	.....	429	243	.....	.....	37	37	.....	.....	.....	.....	19	14	485	294
Vizagapatam	Subrasidi	.....	.....	450	302	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	450	302
	Golconda	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1,210	1,000	.....	.....	1,210	1,000
Tinnevelly	Tenkarai	.....	.....	.....	.....	70	50	.....	.....	582	194	.....	.....	.....	.....	.....	.....	652	244
Madura	Dindigul	.....	.....	.....	.....	81	30	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	81	30
Nellore	Podilla	.....	.....	.....	.....	259	196	.....	.....	.....	.....	.....	.....	199	147	.....	.....	458	343
Malabar	Wynaad	.....	.....	.....	.....	.....	.....	602	468	41	7	.....	.....	.....	.....	138	123	1,040	598
Kistna	Narsaranpett	.....	.....	.....	.....	.....	.....	30	15	.....	.....	.....	.....	.....	.....	.....	.....	30	15
	Nuzvid	.....	.....	.....	.....	.....	.....	3	2	.....	.....	17	15	.....	.....	.....	.....	20	17
	Palnad	.....	.....	.....	.....	.....	.....	230	73	.....	.....	.....	.....	.....	.....	.....	.....	230	73
	Totals for each month	7,115	3,803	3,764	2,190	4,406	2,295	4,193	2,486	2,894	1,437	2,914	1,745	5,143	3,614	2,518	1,517	32,947	19,285

ENCLOSURE No. 3.

Return of Outbreaks of Anthracoid Diseases in Madras Presidency received from 1st April 1875 to 1st February 1876.

District.	Taluq.	June.		July.		August.		September.		October.		November.		December.		January.		Totals for the eight months.	
		Attacked.	Died.	Attacked.	Died.	Attacked.	Died.	Attacked.	Died.	Attacked.	Died.	Attacked.	Died.	Attacked.	Died.	Attacked.	Died.	Attacked.	Died.
Bellary	Alloor	200	110	...	...	...	...	...	...	...	...	...	...	...	...	...	...	200	110
	Ghooty	...	...	...	...	14	13	68	56	17	15	...	...	...	...	...	...	99	84
	Hurpanhally	...	...	...	...	...	...	24	19	...	...	...	...	...	...	...	...	24	19
	Anantapur	...	...	...	...	...	...	...	...	...	...	156	81	...	...	...	...	156	81
South Canara.	Uppinangadi	62	31	...	...	23	16	...	...	26	10	7	8	...	...	...	...	118	65
	Mangalore	19	8	...	...	...	...	...	...	...	...	...	...	...	...	...	...	19	8
	Udipi	...	...	...	...	21	6	16	7	...	...	...	...	...	...	...	...	37	13
Tanjore	Mayaveram	...	...	18	15	17	8	...	...	...	...	28	28	52	40	...	...	115	98
	Negapatam	...	...	...	..	71	51	34	14	...	...	39	44	...	...	...	...	175	120
	Nannilam	...	...	...	...	34	23	49	24	...	...	1	1	...	...	...	...	84	48
	Shealli	...	...	...	...	...	...	...	...	...	...	67	60	...	...	...	...	67	60
South Arcot.	Chedambram	...	...	...	...	Uncertain.		...	...	...	...	Uncertain. 38	30	...	...	...	...	38	30
	Tindevanum	...	...	...	...	...	...	...	...	...	...	189	134	...	...	...	...	189	134
	Trickalore	...	...	...	...	...	...	...	...	...	...	...	...	15	15	15	14	30	29
Malabar	Wynaad	...	...	...	...	...	...	26	19	...	...	80	80	16	16	...	...	122	115
	Ellarnad	...	...	...	...	...	...	68	66	...	...	...	...	...	...	...	...	68	66
	Ernaad	...	...	...	...	...	...	15	8	25	15	150	135	...	...	20	8	210	166
Chingleput	Madaranticum	...	...	...	...	...	...	147	144	...	...	...	...	...	...	...	...	147	144
Nellore	Podilla	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	2	2	2
Kistna	Gudivada	...	...	...	...	...	...	...	...	...	...	...	...	76	75	...	...	76	75
	Totals for each month	281	149	18	15	180	124	447	357	68	40	775	601	159	156	38	25	1,976	1,467

With the foregoing letter the Inspector of Cattle Disease, Veterinary Surgeon G. Western, submits his report for ten months ending with the 31st January 1876.

2. From time to time the Board have had occasion to congratulate Mr. Thacker upon the success which has attended his treatment, but this report, although it bears ample testimony to the value of the remedies hitherto employed, shows only too clearly that, in spite of all that has been done, no permanent improvement has taken place in the treatment of their sick cattle by ryots left to themselves. Mr. Western describes the difficulties which he has met with in every case where he has prescribed, and complains that, being unable to enforce his orders, his efforts are often vain. He recommends the application, in case of outbreak of disease, of Act II of 1866 (Madras).

3. The returns contained in the statements which accompany this report show that the mortality among cattle attacked is very great. Of 1,976 cattle seized with anthracoid diseases, no less than 1,467 died, and of 32,947 attacked by Rinderpest, the deaths numbered 19,285. The Board are convinced that a very large proportion of the cattle which succumbed might with proper treatment have been cured. They are equally satisfied that it is useless to hope for any improvement on the part of the ryots unless they have some one to guide them. The Board have recently addressed Government upon this subject in their Proceedings, dated 21st March 1876, No. 798.

4. Regarding Mr. Western's proposal to introduce the Cattle Disease Act in infected districts, it is observed that when this course was suggested in 1869, strong opinions were expressed by certain Collectors against the application of the enactment (see G.O., dated 24th June 1869, No. 1,790), and that in this view Mr. Thacker concurred. The Board, however, are disposed to believe that the circumstances of some districts demand some more powerful sanction than the general advice and guidance of the Revenue Officers, and that the application of the provisions of the Act may be desirable in certain localities at certain times. It is not, of course, possible to lay down any general rule: the attention of Collectors being again particularly drawn to the subject, the Board would leave it to them to apply for sanction to introduce the Act whenever they may deem it necessary to do so.

5. The Board desire that Mr. Western will accept their thanks for his interesting report, which will be submitted, together with these Proceedings, for the information of Government with the suggestion that it be laid upon the Editors' Table.

(True Copies and Extract.)

Acting Sub-Secretary.

To the Secretary to Government, Revenue Department.

" All Collectors.

" Veterinary Surgeon G. Western.

" the Surgeon-General, Indian Medical Department.

" the Superintendent of Government Farms.

Ed. A. Grubert.

Brevs. of Sor. — I have given this matter considerable attention for years — and believe that the agricultural interests involved in this question are enormous. I feel even moderate exertion on the part of Govt to induce Ryots to attend to the health of their cattle will produce the best results — I have already brought the subject to the consideration of the Collectors

W/6

Ordered that the Report be placed on the Table — the Govt. whose Report this is, be requested to furnish a Report for the Board of Revenue for the year 1876-77 — and that the Report be published in the Fort St. George Gazette.

Ordered that the Report be placed on the Table — the Govt. whose Report this is, be requested to furnish a Report for the Board of Revenue for the year 1876-77 — and that the Report be published in the Fort St. George Gazette.

Kindly circulate this

Received 9 June 76

Proceedings, 9th May 1876, No. 1,210.

Copy forwarded. Encl.

MADRAS.

Extract from the Proceedings of the Board of Revenue, dated 9th May 1876.

MAY.

No. 1,210.

Cattle Disease—in Madras Presidency during ten months ending 31st January 1876.—Submitting to Government report of Veterinary Surgeon G. Western on —, suggesting that it be placed upon Editors' Table, and passing remarks regarding proposal to introduce the Cattle Disease Act in infected districts.

Please place on the Table & forward to the Govt. of India