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(The Journal of The All-India Veterinary Association)



Editor

P. SRINIVASA RAO, G.M.V.C.,

Veterinary Surgeon, Madras.

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NOTICE

The Indian Veterinary Journal

A quarterly record of Veterinary Medicine and Surgery
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EDITOR:

P. SRINIVASA RAO, G.M.V.C.,

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(The Journal of the All-India Veterinary Association)

Vol. VII.]

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M. Anant Narayan Rao, G. M. V. C.,
Lecturer, Madras Veterinary College.
(Just returned from England.)



Colonel Arthur Oliver, C.B., C.M.G., F.R.C.V.S.,
Expert Adviser in Animal Husbandry to the
Government of India.

THE Indian Veterinary Journal

Vol. VII]

JULY, 1930

[No. 1

Editorials.

DIET AND THE TEETH.*

By far the most outstanding contributions in medicine during recent years have been in the realm of "What man is in relation to the articles of food and drink, and to his other occupations, and what are the effects of each of them to every one." The results of experiments and the effects of discoveries in this field have greatly revolutionised our views on Health and Disease, and their relationship to Dietetics and Nutrition. "Since the functions of food are to rebuild the tissues, to supply energy and to preserve a proper medium in which the biochemical processes of the body can take place," any deficiency of food either in its quality or in its composition must inevitably result in malnutrition and "malnutritional diseases." The general conception that an essential food must consist of the three proximate principles—Protiens, Carbo-Hydrates and Fats—has, as a result of recent discoveries, undergone a radical change and we have now come to know that these constituents of a diet, although essential in themselves, do not, however, make up a complete and perfect food. A food to be called perfect and well balanced must, besides the above energy producing constituents, contain what are called Vitamines. "We know neither what they are, nor yet how much of them we need, though knowing that normal metabolism is impossible without them." (McCarrison). These Vitamines—designated Vitamin A, B, C, D & E—are such important and necessary constituents of a

* Diet and the teeth: An experimental study. Part I Dental Structure in Dogs.—By May Mellanby.

food, that many diseases are attributed to the lack of one or the other of them. One such disease is dental disease. "It is well known that some people with neglected mouths have teeth free from caries whereas others who take great care in matters of oral hygiene have extensive caries. In fact, the most rigid adherence to the commonly accepted rules of dental hygiene constitutes no safeguard against dental disease. It appears then that the prevailing teaching as to the aetiology of dental caries is inadequate and that the whole subject demands investigation from a new point of view.

In a neat volume illustrated by a splendid collection of photographs and Radiographs, Mrs. May Mellanby presents "her studies of the relations of diet to the structure of Teeth and Jaws in Dogs" as a preliminary to her studies of the teeth of human beings. We find from the observations that a definite relationship is established between rickets and defectively calcified teeth of dogs and that the substance responsible for perfect calcification of teeth is a vitamin called Vitamin D or anti-rachitic vitamin. It is, of course, essential that for development of perfect teeth the diet must contain some Calcium and Phosphorus, because the teeth are largely made up of Calcium Phosphate. The relation of Vitamin D to Calcium and Phosphorus intake is very great and of the utmost importance. If the diet is poor in Vitamin D and rich in Calcium and Phosphorus, then calcification is imperfect; if, on the other hand, the diet is rich in Vitamin D and poor in Calcium and Phosphorus, perfect calcification results. The articles of dietery that contain this substance are rather few and not within the easy reach of everyone. "Egg yolk and fish, fats including Cod Liver Oil are its richest known sources; but it is also associated with milk, butter, cheese and animal fats (other than lard and bacon which contain a variable but usually comparatively small quantity)".

An important discovery that has been made in the course of these experiments is with regard to the part played by the cereals. We are told that cereals contain an "anti-calcifying" factor which definitely interferes with the deposition of calcium salts. "When a diet contains but little Vitamin D, then, other things being equal, an increase in the amount of cereal consumed is associated with (a) more rapid general

growth and (b) more defective calcification of the teeth, both as regards the amount of calcified tissue and the type of calcification". Cereals differ greatly in their anti-calcifying effect on the teeth. Of those tested, oatmeal has the most effect, and white flour the least. Intermediate between these, are maize, next to oatmeal, then rye, whole meal flour, and rice (polished and unpolished), the last corresponding to white flour. Wheat and maize germs have also a deleterious effect on calcification". It need hardly be said that such deleterious effects can be easily overcome by a liberal supply of substances rich in Vitamin D, such as eggs and milk.

Another equally important discovery that has been made is that exercise plays practically no part in the formation and development of good teeth. On the other hand, exposure to sunlight and irradiation of skin are very good calcifying agencies.

Great stress is laid on the necessity of ante-natal feeding of expectant mothers. A bitch in whelp fed on a diet poor in Vitamin D induces the development of poorly calcified deciduous teeth in the offspring.

The necessity of correct ante and post natal feeding of animals is thus a matter of vital importance for "it is now possible to produce at will any degree of dental structure from the most perfect to the most imperfect mainly by regulating the diet".

BIHAR & ORISSA VETERINARY COLLEGE, PATNA.

We are glad to report that the the Bihar & Orissa Veterinary College at Patna will open and commence its first session from the 1st of July, 1930.

The college is situated 4 miles from the Bankipur town at a place called Phulwari. The main college building is an imposing structure. The hospitals, laboratoires, shoeing forge and pathological theatre are all built on modern lines with the up-to-date appliances. In time it will grow one of the first Veterinary Educational Centres in the East. Attached to the college is the Government Cattle Breeding Farm, containing over 500 animals, which will give the students ample opportunities to learn the principles of breeding and rearing

livestock, which no other college in India possesses. The farm will also afford students to study Veterinary Obstetrics in practice, a most important subject in their profession. The farm is directly under the supervision of the Principal.

Bihar is fortunate in securing Mr. R. T. Davis, I. V. S., of Bengal, as the first Principal of the college. His experience, knowledge of the country and of the students will ensure success of the institution from the beginning. Mr. Davis who was on leave in England, joined in the middle of April last, and is busy with his staff in organising every details.

The staff will be as follows :

Mr. R. T. Davis, M. R. C. V. S., I. V. S.,—*Principal and Professor of Medicine.*

Vacant—*Professor of Pathology.*

Mr. G. N. Roy Chaudhuri, G. B. V. C.,—*Professor of Surgery and Obstetrics.*

Dr. A. C. Chaudhuri, B. Sc., (Edin) Ph. D. (Edin),—*Professor of Hygiene and Animal Dietetics.*

Mr. J. M. Lahiri, M. R. C. V. S.,—*Professor of Anatomy.*

Mr. M. Bose, M. Sc., Cal.—*Lecturer of Biology and Chemistry.*

Mr. Maubari I. Akbari, Pg. G. B. V. C.,—*Lecturer of Therapeutics and Materia Medica.*

We wish the new college all success and congratulate the Government of Bihar & Orissa for their opening of the much needed institution.

SHATTERED HOPES!

We gladly give prominence to the following letter which we have received from an esteemed correspondent.—*Ed. I. V. J.*

Commenting on the adverse recommendations of the Director of Veterinary Services, Madras, regarding the pay and prospects of his subordinate staff exactly a year ago, you, Dear Editor, expressed a pious wish that the Hon'ble the Minister for Development, convinced as he was that the veterinary assistant surgeons deserved better at his hands, will not pay heed to such unsympathetic recommendations. We are very sorry that your wish has been only a 'pious' one

and that the Hon'ble the Minister has simply shattered all our fervent hopes and expectations. Here is what the Minister said in reply to the convincing appeals of the several M. L. C's during the last Budget Session:—"Some mention was made regarding the pay and prospects of the veterinary surgeons and assistants in this province and I may say that I quite sympathise with them. But the only consideration was that when the matter was examined by the Government we found that their pay was quite sufficient when their qualification and work were compared with similar services".

Compare this with what he said in March 1929. "My attention has been drawn to the low pay of veterinary assistant surgeons. I have reason to think there is a genuine discontent on this question and I hope to take up this question in the course of this year and see if the position could be improved". What a change, indeed! Evidently, the Government has simply "gulped in" what the Head of the Department had recommended without in the least considering whether such recommendations could ever stand scrutiny. Let us therefore examine these recommendations in detail.

As early as 1923, Mr. Ware wrote to Government as follows:—"District Health Sanitary Inspectors whose general educational qualifications are identical with those of veterinary assistant surgeons, but who have to undergo only a six months course are offered Rs. 60-3-120 in the ordinary grade, with a selection grade of 5 per cent on 125-5-140, so that the youths we shall attract to the Madras Veterinary College in future for a three years course will probably be of an inferior stamp which is most undesirable. There is a considerable amount of discontent amongst the subordinates who consider that they should be given equal treatment with sub assistant surgeons and I feel bound to uphold them in this".

In 1927, Mr. D. Aitchison, the then Veterinary Adviser to the Government, recommended to the Government as follows:—"The request of the men of the Madras Veterinary Department is that they should be treated on equal terms with sub assistant surgeons in matter of pay. I consider that the request, if anything, is on the moderate side. They possess a professional qualification equal to that of sub assistant surgeons. I respectfully submit that, if we share

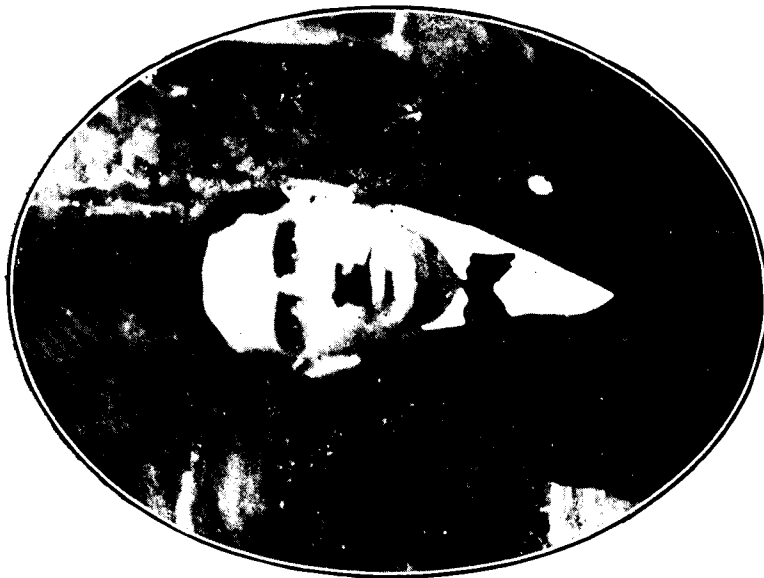
the views of the men of the Department in the existence of a real grievance, Government might well be prepared to meet as far as possible the request contained in the memorial from the Madras Veterinary Assistant Surgeons' Service Association and I strongly recommend that the scale of pay for the Madras Veterinary Department should be placed on exactly the same scale as that of sub assistant surgeons."

Again, he wrote—"Almost all subjects taught in the Medical School are also taught in the Madras Veterinary College and also in addition Botany, Handling of Animals, Shoeing and Equitation. In the present Veterinary Course there is not a fourth year, but it may be observed that the third year course in the Veterinary College is a more condensed one than the third year in the Medical and in a considerable way makes up for the absence of the fourth year."

Now, compare the above with the latest recommendations. Can any one give us the reasons for this *volte face* of the head of the Department? It is up to the Government to enquire and find out whether the recommendations are just and proper and sufficient enough to ensure atleast a living wage to the subordinates. But, of course, to enquire and *give* is rather a troublesome procedure; to consider and *refuse* is quite so easy and the Government have, with a light heart, adopted the latter. It is a shattering blow to the legitimate hopes and aspirations of the veterinary assistant surgeons whose duties and responsibilities have, of late, become very onerous and exacting. We, therefore, once again appeal to the Government to reconsider their decisions in the matter as, in the long run, the present acute discontent and distress will affect the efficiency of the department.

IN OUR MIDST AGAIN.

Mr. M. Ananthanarayana Rao, G.M.V.C., District Veterinary Officer, Madras Civil Veterinary Department, who sailed for the United Kingdom for higher studies in August last year has now come back. He has specialised himself in Helminthology, Protozoology, Entomology, at the London School of Hygiene and Tropical Medicine. He has been taken into the staff of the Madras Veterinary College.



Rai Saheb R. V. Pillai, G. Ben. V. C.,
Deputy Director of Veterinary Services,
Central Provinces.



K. Garudachar, G. B. V. C.,
Civil Veterinary Department, Bombay.
(Just returned from Scotland.)

Rai Sahib R. V. Pillai

7

We announced in our January 1930 issue of our Journal that Mr. M. K. Garudachar, G. B. V. C., Veterinary Assistant Surgeon, Dharwar, Bombay, has sailed to Great Britain in October, for obtaining further training in Pathology and Bacteriology. He has now returned after finishing all his courses and we welcome him home on behalf of the profession. We hope that the Bombay Civil Veterinary Department, will make the best use of his newly acquired knowledge to the best advantage of the profession. We wish him all success in life.

Rai Sahib R. V. PILLAI, G. Ben. V. C.,

Deputy Director of Veterinary Services, Central Provinces.

We are glad to inform our readers that Mr. R. V. Pillai, Deputy Director of Veterinary Services, Central Provinces, is the recipient of birth day honours this year and gets the "Rai Saheb" title. We congratulate him on this on behalf of the profession and wish him every success in life.

Mr. Pillai, born in December 1888, was educated at the Ernakulam College, Cochin, and qualified himself as a Vet from the Bengal Veterinary College in 1910. He was the brightest student in the College, securing prizes in almost all the subjects, year after year. His intelligence and attainments caught the notice of Col. F. Raimond the then Principal, who offered him an appointment in the college staff, which he held for over 9 years. Finally he held the position of Bacteriological Assistant in the same college, which post had all along been held by a medical graduate, thus paving the way for future employment of veterinary graduates in this appointment. He underwent P. G., Course at Muktesar under Dr. Sheather prior to employment as Bact. Assistant, Bengal Veterinary College.

He volunteered for war service in the Great War on transport duty, safely landing consignments of animals in Egypt and Mesopotamia during the dangerous periods of war, also proceeded to China to get down mules from Wei-Hei-Wei to Karachi and was awarded the war Badge 1914-19. He was transferred to Central Provinces Provincial Service as Deputy Superintendent in charge of Nagpur Laboratory.

vacated by late Mr. Waldares in 1919. The Local Government nominated him for advanced P. G., training at the Imperial Institute of Veterinary research, Muktesar, with a view to promote him to I. V. S., in 1922. He returned to Central Provinces in 1924 after completion of the course. Lee Commission recommendations delayed his permanent promotion to Indian Veterinary Service. He acted as second Superintendent, Civil Veterinary Department, Central Provinces, till 1929 and joined hands with Major R. F. Stirling in organising Central Provinces Veterinary Association and placing it on sound basis.

He was confirmed as Deputy Director of Veterinary Services, C. P. in class 1 Central Provinces Veterinary Service from 1st of June, 1930.

Notes.

The Veterinary profession in India will welcome the appointment of Colonel Arthur Olver, C.B., C.M.G., F.R.C.V.S., retired D.D.V.S., of the Northern Command to the newly created and important post of Expert Adviser in Animal Husbandry to the Government of India. This post owes its origin to the recommendations of the recent Royal Commission on Agriculture in India, and the advisory Board of the Imperial Council of Agricultural Research in India. The appointment of this eminent veterinarian to this important post is highly gratifying, in view of the fact that the first man selected for the post is a veterinary surgeon though it is open for a non-veterinary surgeon to occupy this post provided he is an "expert." The colonel has got a bright record of service behind him. He is known to have successfully eradicated that scourge of Cattle Disease-Rinderpest-from the Nile District, in Egypt. We hope under his guidance and advice, similar results will be possible to be achieved in this country, during his regime as expert adviser to the Government of India.

The Indian Veterinary profession hopes, the Colonel will train up atleast a small band of Indian Veterinary Surgeons to become experts in animal husbandry, so that a successor

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Price per 2 lbs. Bottle Rs. 4.

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3. Hoof Ointment.—This strengthens the hoof and is a specific for brittleness, sandcrack and split hoof.

Price per Tin Rs. 2.

4. Cough Electuary.—A specific for cough and catarrh in Horses. Works wonderfully.

Price per 1 lb. Tin Rs. 4.

5. Embrocation.—A specific for all kinds of sprains, thickened tendons, cold, catarrh etc., in horses, dogs and cattle.

Price per Small Bottle Re. 1-4-0. Big Bottle Rs. 2.

6. Electric Mange Cure.—An excellent remedy for all kinds of mange, and is a specific for follicular mange in conjunction with Aricyl injections. Acts like magic.

Price per Bottle Rs. 2.

7. Pulvex (Tick Specific).—A wonderful tick destroyer.

Price per Bottle Re. 1-4-0.

8. Canogen.—An excellent Pick-me-up for dogs.

Price per Bottle Re. 1-8-0.

9. Bovotone.—*Best tonic powder for cattle and growing calves and is a good lactagogue.* This improves the appetite, and general condition of the animal. Fattens the cow, sweetens the milk, and at the same time increases the yield of rich and creamy milk.

Prize per 4 lbs. Tin Rs. 3-8-0. 2 lbs. Tin Re. 1-12-0.

10. Painokil.—A specific for all inflammatory swellings, fibrous growths on the neck of the bulls, caped elbow, hock etc.

Price per Bottle Rs. 2.

11. Curolia.—Acts very wonderfully in drying up all cuts, wounds and sores.

Price per Bottle Rs. 2.

12. Specific for Fowl-Pest or Ranicket Disease.—Acts wonderfully well.

Price per 8 oz. Bottle Rs. 3.

13. Aricyl.—An arsenic injection, a specific for follicular mange in dogs.

Price per box of 10 ampoules Rs. 2-8-0.

14. Eczemine.—A best remedy for eczema in dogs;

Price per 8 oz. Bottle Re. 1-4-0. 1 lb. Bottle Rs. 2-8-0.

15. Dr. Pangal's Pain Balm. A wonderful specific for all kinds of pains and sprains.

Price Rs. 8 a Bottle.

to him will be found from among his band of workers, when he retires from this important post. Let not this fond hope of the Indian Veterinary profession be in vain.

* * * * *

It is curious that though there are number of Indian Veterinary Surgeons occupying responsible posts as officers in the provincial and subordinate services for a number of decades, discharging their duties with great credit to the profession and benefit to the country, none of them have been pronounced "*suitable*" to hold responsible posts of Directors, Advisers and Principals of Government institutions excepting in the case of one single solitary instance in Madras and always the Government have got to advertise for men to fill up these appointments from abroad.

* * * * *

The eminent veterinary surgeons who have held the important posts of Advisers to the provincial and imperial Governments from time to time have somehow or other failed till now to train the Indians and give them opportunities, to occupy similar posts, but they have been keen only in getting the local men trained for the subordinate posts and rarely for the provincial posts. In other departments responsible posts, such as the heads of many departments, the principals of colleges, have been held by the Indians with Indian training. That the Indian veterinary colleges and the heads of the veterinary department have not taken steps to train sufficient number of Indian veterinary surgeons to take up the important research work and hold the responsible posts of heads of departments and institutions is a stun on the present veterinary administration in the country. We hope this stun will soon be removed, so that Indians trained in Indian Veterinary Colleges, will soon become available to fill up as many of the above posts as possible. May Colonel Olver prove the leader in this noble affair!

We publish in this issue the two valuable speeches made by Dr. L. C. Coleman, Director of Agricultural Department, Mysore and Major R. W. Simpson, Superintendent, Civil Veterinary Department, Mysore, at the annual meeting of the Mysore Veterinary Medical Association, held in Bangalore on the 29th May, 1930. The former is the Patron

and the latter, the President of the Association. Therefore their speeches will give our readers an insight into the working of the Civil Veterinary Department in Mysore State as the Civil Veterinary Department is under the control of the Agricultural Department in that State. It is evident that both the above officers are working in hearty co-operation with each other, their supreme object being to serve efficiently the ryot population and the State.

The annual meeting is the occasion in Mysore State when all the members of the C. V. D. meet together, discuss the various problems (both professional and departmental) which need immediate tackling and arrive at proper solution. We had the privilege of attending some of these gatherings. It was pleasing to see that the two heads of the department sit in the midst of their subordinates and discuss freely with them many difficult points in the administrative and professional matters. The patience and the sympathy on the part of these two officers in participating in such functions are indeed worth commendation to others placed in similar positions.

The rank and file assembled at such gatherings have been freely and in a dignified way representing to the authorities the several difficult situations met with officially and professionally. Sometimes in the course of discussion, their own comrades will solve the difficulties with their experience and this will be supplemented by the heads of the department present. The net result is that the members at the close of the meeting disperse very much benefitted by such discussions with a wide outlook and hope for their future. Dr. Coleman and Major Simpson are embodiments of patience and sympathy and they have thoroughly identified their own interests with those of their subordinates and the country they are serving.

Mysore has about 72 taluks and it has at present 57 veterinary institutions besides 14 members in the Mobile Staff. It seems to be the ambition-right and laudable one of Major Simpson to see that 15 more institutions are soon established, so that each taluk may have a veterinary dis-

pensary of its own before he lays down office about the end of next year. He has the hearty support of Dr. Coleman and it is a sufficient guarantee that this object will be soon achieved. Mysore taluks are very much smaller in area than the taluks in British India being nearly 1/3 of the latter. Therefore it can be safely said that Mysore has been making rapid progress in providing necessary veterinary aid to all dumb creatures within easy reach. We wish her all success in her attempts to provide more facilities in this direction than at present.

The veterinary surgeons in British India in their meetings and conferences, have been all along requesting the Government to open Serum Institution in each of the big provinces with a view to meet the growing demand for serum, whereas the small province of Mysore has achieved this object with great success, opening her Serum Institute in 1927, at Bangalore. Major Simpson rightly says in his speech that it was found more economical and necessary to open the above Serum Institute. What do the Directors of Civil Veterinary Departments in British India think about such a step in their own respective provinces? Did they tell their Governments similarly about the necessity and economy? If they have not done so till now, we hope they will soon do it.

Major Simpson's speech tells us that Mysore had two of her men trained for research work at the Imperial Institute of Veterinary Research at Muktesar, and on their return sanction was got for Scientific Section and they have been placed to do research into some of the diseases peculiar to the State. This is a step indeed in the right direction. Our Pandits in British India, will, we hope, follow this good example instead of attempting to get experts on short period contract at enormous cost to the State. Mysore some how sees much ahead and provides for future contingency. We, in British India suddenly wake up and find we have no men qualified to take up higher teaching work, research work and any other work. Is there no sufficient talent in the country? Can we not send up our members in the profession for such higher training to special institutions both in India and outside, and utilise their services for the benefit of the State?

Surely none can say that British India has neither talents nor necessity for such improved conditions.

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If courses of education have to be extended in the veterinary colleges, if the higher work in research has to be taken up, if more responsible work has to be done in the Civil Veterinary Departments and if Principals and Professors are wanted to the existing and prospective Veterinary Institutions in the country, we always hear that there are no suitable men for all these works. The result is either we have to go in for men from outside at great cost or we have to cry for help in each of these activities. It is high time that British India also wakes up to the needs and equips herself for all the contingencies.

* * * * *

Major Simpson as the head of the Mysore Civil Veterinary Department and President of the Association rightly exhorts the members and the association "to strive to maintain its efficiency in order that it may develop on right lines and show that Mysore is fully qualified to lead." What a glorious exhortation to the members of the department from their head! We wish all the officers placed in similar responsible positions in other parts of the country will similarly attend the gatherings of professional men, take an active part in their deliberations and exhort them to achieve noble things.

* * * * *

Though the expansion of the Civil Veterinary Department in Mysore is due to the willing and enthusiastic support given to it by Dr. Coleman as its administrative head still he rightly pays a high tribute to Major Simpson, the professional head of the department, for all the expansion and achievements. Those who had the privilege of closely following the activities of these two worthies, know quite well that these two gentlemen have been working in close co-operation with each other for the benefit of the ryot population. Therefore, the compliments paid by each other is no conventional one, but a hearty and deserving one.

* * * * *

Dr. Coleman is well known for his many and useful activities in the State and for his sympathy with the suffering

poor and as such he has rightly considered it his duty "to see that the veterinary aid reaches the people who most urgently required it—the great agricultural population". He is not satisfied with the providing of veterinary institutions to the hill stations and district head quarters neglecting the nooks and corners of the country.

* * * * *

His assurance to the members of the State Veterinary Service that he would do what he could to further their real interests is really refreshing. He is in sympathy with the veterinary officers of the State in their attempts to get the Damodar Das Scholarship for higher training in foreign countries and he has promised his help in the matter. The advantages of sending Indian trained veterinary officers to foreign countries for higher studies are too numerous to mention here. But they are known to all thinking men. This system is much superior to that of importing raw graduates from foreign countries either on short term contract or on long term service system, as the imported has to spend much of his early stay in this country in learning her needs and requirements at her cost, and finally when his term of office is over, he leaves her for his home and thus his experience is lost to this country, owing to the departure from here, when he is in a favourable position to do her some good in return for the money and opportunities given him to become an "expert."

* * * * *

Will the British provinces in India take up the question of deputing the Indian Veterinary Surgeons in their places for higher studies in foreign countries, so that they may be available on their return to do the much needed research and other professional work in this country? If the veterinary authorities do not think it their duty to take up this question, atleast the M. L. Cs. and Ministers would do this.

* * * * *

In spite of Dr. Coleman and Major Simpson the wheels of administration probably of financial Secretariat, even in a model state like Mysore have been moving very slowly, with the result, the prescribed scheme of pay of the subordinate services, sanctioned long ago has not been given effect to.

owing to delay in reaching at a settlement of allocation of funds. Now that Dr. Coleman has promised to do his best to expedite the matter, it is hoped the scheme will be put in force without further delay.

We are extremely thankful to the several members of the Madras Legislature who, during the last Budget Session, once again championed the cause of the ill paid subordinates of the Civil Veterinary Department, Madras. Members after members rose and fervently appealed to the Government to raise the pay and prospects of these servants of the Government.

It is a matter for very deep regret that all their pleadings were in vain and that the Hon'ble the Minister for Development remained adamant and unmoved.

Strange are the ways of the Madras Government and inscrutable are its methods of administration! Here is a typical example.

People cry aloud for more and more veterinary help: the cry is taken up by the members of the Legislature who openly complain in the Council about the paucity of veterinary staff. The Hon'ble the Minister, in reply, repeats at every turn that sufficient number of trained hands are not available and hence he could not open more dispensaries.

These words are plain enough and one naturally expects that when hands *are really* available, they will be employed by the Government. But no, such is not the practice.

This year 19 students passed out of the Madras Veterinary College. Of these only 9 men have been so far entertained by the Government. The rest are still unemployed. Will the Government kindly tell us the reason for this?

Are we to take it that the number so far employed is enough to meet the demand? Are we to understand that the cry for more dispensaries and itinerating billets is sufficiently met by entertaining 9 men this year?

Judging from the cry for more Veterinary aid, the employment of even all the passed out graduates will not be enough to meet the situation: and, yet, the Government halt and hesitate!

We hear of complaints from the staff of the Civil Veterinary Department, Madras, that they cannot get leave even when they are in urgent need and the majority of leave applications are turned down, because there is not enough "leave reserve". And yet the Government would not make up even this "leave reserve" by employing all available men. Is this not strange?

The percentage of posts in the selection grade in the Madras Civil Veterinary Department has been increased from 10 to 15 with effect from 1st April, 1930. This is a small tardy and partial redress even for which the subordinate service will feel grateful to the Hon'ble the Minister. As a result of this rise in the percentage 13 men from the ordinary grade were promoted to the selection grade.

It may be mentioned here that in effecting these promotions the just claims of several seniors of 20 years service and over have been overlooked and the juniors have been promoted. When vacancies in the selection cadre were filled up in 1927 similarly, the claims of seniors for promotions were overlooked and the result was loud protests and silent discontentment. When the matter was finally brought out in the Legislative Council in the form of interpellations by the Hon'ble members, the replies given and the subsequent action said to have been taken by the then Hon'ble the Development Minister, it was understood that such bungling will not recur.

But the history has repeated this time also. There ought to be a definite set of principles and rules for selecting subordinates for promotions. The seniors who have been long waiting for promotions and who should have got them this time at least, have not been told that they all have been debarred from further promotions for the proved faults if

any on their part. They themselves have not been aware of any reasonable causes for such overlooking of their claims, as they have been working in the department doing as good work as any other who has been promoted now. To have discontented men in the service is a positive disadvantage to the growing department. Therefore this matter needs the immediate attention of the authorities.

* * * *

Now, reverting to the general grievances of the department, we are pained to see that instead of removing and redressing the existing and long standing grievances, the recent orders regarding the admission of students into the veterinary college seem to add some more grievances to the long list. The rule has been till now that irrespective of the general educational qualification of the students admitted into the College, to start all the veterinary graduates taken into service on one and the same pay, as all of them undergo the same scientific training in the College and pass out the same standard of examination.

* * * *

Now according to the new rules advertised, the School Final passed candidates after graduation for the veterinary college will be started on Rs. 60 per month, Intermediate passed candidates on Rs. 72 per month, and B. A., passed candidates on Rs. 80 per month. The reason for this invidious distinction in the starting salary of the veterinary graduates is not at all clear in view of the fact that all of them as above mentioned, have to undergo a three years course in the veterinary college in all the subjects pertaining to the profession, passing out annual and final examination of the same standard.

* * * *

The offer of stipends of Rs 15 to the School Final passed candidates in the veterinary college, and the denial of such offer to the Intermediates and B. A's, should certainly be no reason for making a difference in the scale of starting salary, when they enter into service. This will create unnecessary heart burning and discontentment among the subordinates.

who are all required to do the same kind of work in the department.

* * * *

The future veterinary graduate when he enters into the department, if he happens to be an Intermediate or B. A., will be placed as senior to those who have already put in 4 to 5 years of service and acquired experience in the profession and the department. This creates complications at the time of promotions and adds to the existing list of grievances.

* * * *

A B. A., M. B. B. S., is not started on a higher salary than an Intermediate M. B. B. S., in the medical department. A B. A., B. E., is not started on a higher salary in the same cadre than the Intermediate B. E., in the Engineering department. We can go on multiplying these examples, where men entering into the same cadre of service with equal technical or scientific training are not started on different scales of pay.

* * * *

Even in the ordinary clerical grades, where once special allowance to the graduate clerk had been allowed over his non graduate clerk, has been withdrawn as experience showed such difference in the matter of starting pay for men doing the same kind of work leads to several untoward results.

* * * *

Such being the case, why the veterinary department in Madras should adopt this differentiation discarded by other departments is a great puzzle to any thoughtful person. Already we hear murmurs from those in the service as they apprehend that their causes will suffer as a result of introducing this new scheme.

* * * *

It is not at all wise that schemes after schemes rudely shaking the faith of the subordinates in the justice and fair-play of the Government should be introduced, in their anxiety to try experiments after experiments to improve the type of men seeking admission into the veterinary college. What is really needed is not introducing such distinctions, but impro-

ving the pay and the prospects of the subordinate service, which alone will attract the right type of men in good numbers to the profession. We have often indicated the urgent need for this step and we have done it again now. We hope the present Hon'ble the Development Minister before he lays down his high office, will look into all these matters and do justice to a deserving young department entrusted to his kind care.

Obiter Dicta.

To increase the efficiency of any Department, whether Government or otherwise, the first thing which those in control should consider is whether the staff which they have is a contented one and secondly whether the conditions for the recruiting of young graduates to take the place of those who are bound by conditions of age and other things to retire are sufficiently good to induce the best men to apply with the idea of remaining and making it their life's work.

On the administrative side, he must be prepared to devote considerable time and effort to improving the conditions for his workers and to obtaining due recognition of their services from Government. He must ensure that they are not neglected or unfairly treated as so often happens when Government is framing measures for the general improvement of conditions in the services; and he must press for the allotment of funds necessary to ensure maximum efficiency for his institution.

(Report of the Royal Commission on the conditions of Veterinary Services in the Colonies).

Original Articles.

THE PREPARATION OF A CULTURE MEDIUM FROM DRIED BLOOD ALBUMEN.

BY

D. C. MATHESON, F. R. C. V. S., D. V. S. M. (Vict).
*From the Department of Pathology and Bacteriology,
 The Royal (Dick) Veterinary College, Edinburgh.*

Albumen from blood can be obtained in the form of dry scales from many laboratory purveyors. From such material a culture medium for bacteria can be made after the following manner:—Weigh out twelve grammes of the dried blood albumen scales, place them in a mortar and grind them up into a fine powder. The powdered albumen is now to be spread in the form of a thin layer on the bottom of a sterile flask (Conveniently of 100 c.c. capacity) and is then to be covered with Chloroform, about 10 c. c. Chloroform will be found to be sufficient; replace the cotton-wool stopper in the flask.

The employment of Chloroform is not essential but its use at this stage facilitates the subsequent sterilisation of the medium. Allow the Chloroform to remain in contact with the albumen for at least one hour. Remove the Chloroform by filtering the material through sterile filter paper and pour as much as possible of the albumen from the flask on to the paper. Place the flask containing the residue of the albumen and the filter paper containing the greater part of it under a bell-jar and allow the Chloroform to evaporate, to facilitate which process, spread out the albumen in a thin layer on the filter paper by means of a sterile glass rod. Evaporation is facilitated if the paper be placed upon a conveniently sized tripod and then covered with the bell-jar. That permits a more rapid evaporation of the Chloroform as the under surface of the paper is also exposed. When the Chloroform has evaporated, replace the albumen in the flask and add 88 c. c. of sterile physiological saline solution, stir gently with sterile glass rod but avoid the formation of air bubbles. Do not beat up the material nor shake the flask. Allow the material to stand

for 12 hours. Filter the material through a thin layer of cotton-wool supported by a double fold of muslin. The filtrate—the medium to be—is light brown in colour and turbid: it imparts a faint pink colour to blue litmus paper and a fainter blue colour to red litmus paper. The medium should then be placed in clean sterile test tubes in quantities of 3 c. c. per tube or 5 c. c. if large tubes be used. Nearly fill the water jacket of a serum inspissator with cold water, slope the apparatus to a convenient angle to permit of the medium spreading out properly when the tubes are placed in it. When the tube is sloped the fluid medium should reach half way up it. Light the gas or apply whatever source of heat be available and very slowly bring the temperature up to 50°C. Such care is necessary to preserve an even surface on the medium. When signs of coagulation appear, the heat may be slowly and steadily increased to about 70°C. and may be maintained at that temperature for about one hour.

Complete the sterilisation by exposing the tubes of medium to a temperature of from 85-90°C. for one hour on three or four successive days. Each time, the inspissator should be nearly filled with cold water and the temperature gradually raised to about 85°C. and maintained at that figure for one hour. In using these comparatively high temperatures in the inspissator, care should be taken not to fill it very full of water otherwise the expansion may result in some of the water falling into the part of the inspissator where the tubes are, and spoiling them by soaking the plugs and even invading the tubes themselves. It is possible to complete the sterilisation of the medium by placing the tubes in a wire basket set upon a tripod which is placed in the Koch Steam Steriliser. In that way the tubes are exposed to the steam high up in the steriliser and the temperature may be allowed to reach approximately 100°C. for ten minutes. Considerable care is necessary however, otherwise the medium will be spoiled. Finally, test the sterility of the medium by placing the tubes in the incubator at 37°C. for twenty four hours. The result of these manipulations is a solid, smooth, ivory coloured medium which has proved serviceable for the cultivation of a number of micro-organisms; and as the dry albumen scales keep indefinitely, it is possible to prepare a blood albumen medium at any time when, for example, it is

difficult to obtain blood serum for culture purposes. Before storing the medium the cotton-wool plugs may be clipped, flamed and covered with an India-rubber cap to hinder evaporation from the medium.

When it is desired to prepare a glycerinised blood albumen medium, 5% of glycerin may be added after the first filtration. Care must be taken when incorporating the glycerin to avoid the formation of air bubbles. The material also supports the addition of various colouring matters e. g. fuchsin etc. For larger quantities, 12% blood albumen powder in physiological saline solution is satisfactory. The saline solution does not take up all the albumen. Peptone Water or Nutrient Broth may be used in place of the physiological saline solution.

A NOTE ON TOXICITY OF THE ROOT OF *GLORIOSA SUPERBA*.

(*N. O. Liliaceae*. Vernacular name—*Basavana Pada*)

BY

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Introduction.—This brief note is just to acquaint the readers especially those who are interested in Animal Husbandry with the poisonous character of the plant called “*Basavana Pada*”. In the Karnatic districts (India) it grows widely in the forest area.

History.—During my stay in the Kanara district (Bombay) some time ago, I had a call to attend upon a cow which was said to be in a precarious condition. The place was visited immediately just at about the time of sunset.

Symptoms.—The following were the symptoms noticed :—

Dullness, loss of appetite, rumination suspended, muzzle dry, staring coat, occasional purging, faeces mixed with mucus and blood, slight tympany, heavy breathing, pulse quick, occasional dry cough, temperature 102°F. and the animal had no inclination to get up. The owner was asked whether the animal was given any irritant kitchen refuse (compare “Swill tub” kept for pigs in Europe). He assured me that no irritant materials were added to the kitchen refuse

(Vernacular name-Kalagachchu) but since he was anxious to get his cow treated by a qualified man, he gently broached the fact that his cow ate some pieces of "bread" which he had kept for wild pigs—the most annoying pests to the standing crops of sugarcane and rice—and this piece of "bread" was made with the powder of the poisonous root of a plant which grew extensively in the forest.

Treatment.—As the case was urgent I at once commenced treatment as follows:—First an enema of Castor Oil emulsion was given. Large oleagenous purgative was followed by heart tonics and the owner was told to give gruel mixed with Sodium bicarbonate if the cow showed any inclination to take its food. Massage to the rumen was also advised. The animal was to be kept warm. The owner was further advised to call upon me later and report the state of things. Blood from the ear was examined for Anthrax with negative results. Fortunately the animal made a good recovery next day.

The plant in question was obtained from the jungle, and was identified as "Basavana Pada" (meaning feet of ox). The matter was referred to the Agricultural Chemist (Dr. H. H. Mann) for confirmation of its poisonous character.

Meanwhile, I was waiting for an opportunity to record any case among the wild pigs—dead or otherwise. So the owner was requested to inform me when any such cases occurred in his garden.

The wild pigs seem to be instinctively clever and do not readily fall a prey to any baits unless it is made very attractive. Anyhow, after about 15 days one wild pig was found by the owner of the garden near the bush 400 yards away from the garden where he kept the bait. On receiving information, I visited the place.

Post Mortem on the wild pig.—

The following conditions were observed:—

(1) Inflammation of the stomach in which were traces of the "bread".

(2) Lungs congested.

(3) Heart full of venous blood.

(4) Liver congested.

(5) Intestines congested, portion of rectum everted; Other organs were normal.

Dose of Poison administered.

The quantity of the powder used by the owner of the garden was $1\frac{1}{2}$ ounces of the root mixed with 4 ounces of rice flour. By adding sufficient quantity of water it was made into a "bread" piece which was smeared well with ghee (clarified butter).

There was no necessity to undertake any special experiment on it. The Post-mortem proved the poisonous character of the root. This plant is now freely introduced into all home gardens and parks and it is in the interest of the animal breeders that the result of this research has been recorded.

The following is the extract of the letter from the Agricultural Chemist, Bombay:—

"This is a very ornamental creeper and is common in hedges during rainy season. Its flowers are used by the Hindus in the worship of Shiva.* Root tuberous, cylindrical or flattened, 7 to 8 inches in length, 1 inch in diameter and when fully grown they unite at a right angle. Taste is mucilaginous, feebly bitter and has an acid taste.

Root has been examined by Warden, who obtained from it two resins—a tannin and a bitter principle which has been provisionally named "Superbine"—a bitter principle closely allied to if not identical with squill, 0.047 grain injected into the stomach being sufficient to kill a full grown cat".

It is said after repeated washing of the root, it is at times used by the quacks as an enthelmintic for cattle. Since the correct dose is not known, much depends upon the growth of the root and it is most unreliable in their hands and poisonous symptoms are likely to follow its administration.

Summary.—(1) The root though not a very powerful poison to cattle is apt to be dangerous if the medicinal dose be exceeded.

(2) The root is decidedly poisonous to pigs and other small animals. The time between taking the poison and death depends upon the amount eaten.

* Flowers come out in the month of September, i.e. just at the "Ganapati Festival" Writer.

(3) Poisoning among cattle can successfully be treated if the case be taken on hand in time and the initial dose be not too large.

The writer desires to thank Professor D.C. Matheson, F.R.C.V.S., D.V.S.M. (Vict), Royal (Dick) Veterinary College, Edinburgh, for his assistance in preparing this article for the Press.

REFERENCE.

"Indian plants and drugs with their medical properties and uses, 1917".—*K.M. Nadkarni*.

General Articles

ELECTROCUTION OF DOGS

BY

R. SWAMINATHA AIYER, B.A., G.M.V.C.

Veterinary Surgeon, Veterinary Hospital, Ootacamund.

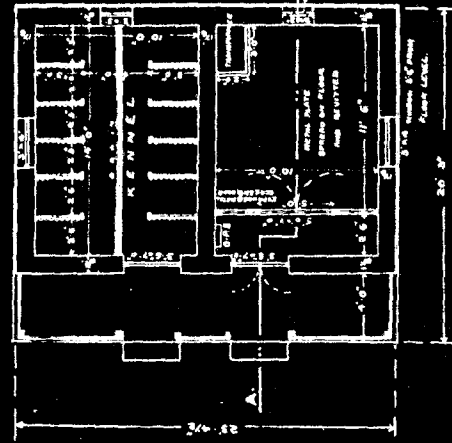
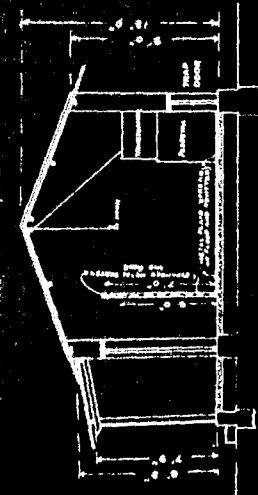
Of all the Municipalities in the Madras Presidency, Ootacamund is the first to introduce an electrocuting chamber as a humane method of destroying dogs. The plant was installed over a year ago, and nearly 500 dogs have, so far, been destroyed by this method. I have personally witnessed a good number of dogs being electrocuted and I can confidently say that the method is painless, quick and effective. With the first shock, the death of the animal is assured but, as a safety factor, the switch is "on" for seven seconds.

The accompanying illustrations will give the readers an idea of the chamber and wiring details.

The chamber consists of two small rooms about 12'x12' with a common verandah in front. One of the rooms is used as the kennel for housing dogs before electrocuting and the other is the electrocuting room proper. The entire floor of this electrocuting room is covered with steel sheeting $\frac{3}{32}$ inch thick and is rivetted and sloped for drainage and connected up the wall to the earthed High Tension side of the transformer.

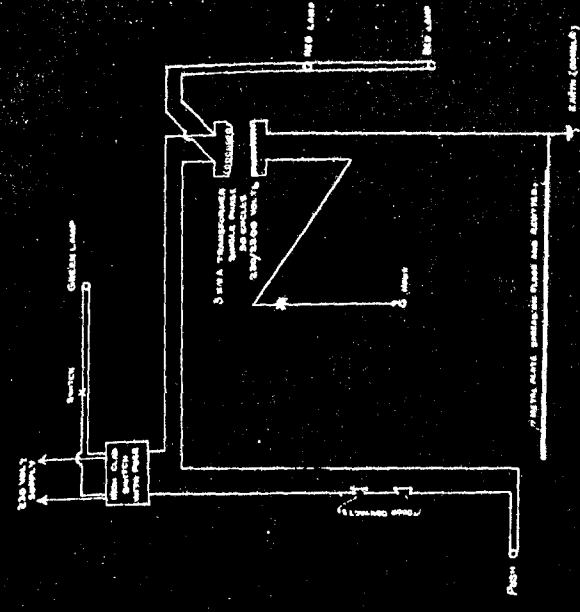
The electric current supply is 230 volts, single phase stepped up to 2200 volts by means of a transformer. The

SECTION THROUGH A.B.



MECHANICAL WORKS (OPTIONAL) (SEE DRAWING 1355)

DIAGRAM OF CONNECTIONS.



OPTIONAL MECHANICAL
ELECTRIFICATION OF BOSS
BUILDING AND EQUIPMENT
SCALE 1/4"

1921
CHARTERED

whole control is on the low tension side and is fool-proof: the High Tension can become alive only if the special lock-out switch is closed and this can be done only if the room doors are closed.

Contacts. 5. Amperes, single pole, metal contact with terminals for attaching wires. All live parts are completely enclosed for mounting on doors. The contacts are so designed that they will close and make a circuit continuous when the door on which they are mounted is completely shut. But when the doors are opened, these contacts will separate by means of spring and open the circuit.

The High Tension consists of a piece of No. 8 galvanised iron wire suspended from a shackle insulator fixed very securely to the ridge piece. The lower end of the galvanised iron wire is provided with a steel inch $\frac{1}{2}$ inch diameter. The animal to be electrocuted is made to stand on the steel floor and tied with an iron chain to this steel ring.

The illustrations and details have been kindly supplied by Mr J. A. Davis, the Municipal Chairman of Ootacamund, to whom my grateful thanks are due.

**THE POSITION OF VETERINARY ASSISTANT
SURGEONS IN INDIA.**

BY

M. C. PARIKH, G.B. V.C.,

Veterinary Assistant Surgeon, Borsad.

It will be very interesting to read the position a veterinary assistant surgeon has in India. Even some of the educated people do not know the existence of the Veterinary Department in India. Most of those who know its existence do not know what it is, and understand under whose control it is. Some consider it to be under the control of the Local Board: some, under the control of Municipality and some even take it to be under the control of Pinjrapole, if the dispensary is situated in a hired building of the Pinjrapole; but none knows it to be quite an independent department, like the medical department. Moreover as the veterinary assistant surgeon has to deal with poor ignorant cultivators,

he is unknown by the general public. In big cities he is a non-entity; while into wns and villages he is something like a powerless public servant of no significance and hence, not entitled to the respect due to an officer of any other department.

He has got duties both at head-quarters and in district or taluka where he is serving; and hence he has often to go to villages under his jurisdiction for combating outbreaks of contagious diseases, for doing castration and for popularising vaccinations etc. Being powerless, he is not in the least cared for, nor given any assistance in his public duties. Moreover, he is neither supplied with conveyance nor is given any permanent conveyance allowance and still has to attend to his duties very promptly! His scale of pay being very low (60-4-140) he generally draws Rs. 0-12-0 to Rs. 1-8-0 as daily allowance, or mileage at annas two per mile and in this allowance he has to manage to take with him a servant and the bags and baggages of both of them, in addition to the medicine chest, and inoculation outfit with serum or vaccine bottles. His servant gets a daily allowance of annas three and that for journeys over five miles only; he gets nothing for journeys under that distance. Can anybody say this allowance to be sufficient? Can anybody judge how it is possible for him to go to the village promptly when he is not supplied with a conveyance or given a permanent conveyance allowance? Everybody who has got experience of occasional travelling, will admit that this is impossible, for, even to go to a distance of a mile or two no cartman nor any tongavalla will charge less than Rs. 2 to Rs 5 (for little long distance). Nowadays tongas have almost disappeared due to the advent of motors and it is very difficult to procure a tonga, an ekka or a cart easily and cheaply. Some may argue that the motors have made travelling cheaper, but, they forget or do not know that motors do not run everywhere. They run only on pucca roads where hardly any of the villages are situated; and even if there is one the average motor rate is anna one per mile i.e., 2 annas per mile for two seats mean actual allowance; but what of the other incidental expenses to touring?

In districts too his troubles are numerous. Wherever he goes he has to put up in an unclean, moist chora full of bugs.

mosquitoes, flies etc., even roofless and roomless at some places, with one of its four walls down on the ground.

Here too, who cares for his arrival? If he informs the *police patel* before hand, he is found present in the village; otherwise it takes about an hour or two to search him out. Even if the *police patel* is informed, he will keep a *RAVANIA* at *CHORA* and when the doctor reaches there the *RAVANIA* goes to call him. The people though sent for, do not come except when they have got personal acquaintance with him or when they badly require him; that too, before 8. a.m., or after 8. p.m., as they pass their whole day in their fields.

The epidemics generally break out in the monsoon and summer. In monsoon, he has to travel for miles and miles on irregular and bridgeless roads through ankle and often knee deep slush and offensive smelling mud, in showers of rain. The village roads become impossible and neither tonga nor motor can go through them, consequently he has to go either on foot or on horse back. Even after reaching the village, his troubles do not end. The villagers, being ignorant and superstitious, consider the outbreak of disease to be due to the wrath of God or Goddess. In their opinion, the treatment of the diseased animals by a veterinarian only increases the wrath of Gods and consequently they refuse any kind of treatment. The veterinary Assistant has, therefore, to use his personal charm and influence in convincing the people by his sweet arguments. He must also go in for the help of the *police patel* and local leaders. If after these permissive influences, a few agree for inoculations, he must perforce go from house to house with very low roofs—hardly 4½ feet high—made of untrimmed thorny branches of trees. The highly insanitary cowsheds with ankle or knee-deep of mire and filth wherein even the owner hesitates to enter, only add to his difficulties: still, all the same, he has to do the inoculations in such places. Can anybody realise his difficulties? Can anyone honestly say that he has got a pleasant life in his tours?

Even at Head-quarters his troubles are not less. He has to deal with ignorant, indifferent, careless people who are hardly able to tell the proper history of the case, and its pro-

gress, who generally neglect their animals and who care very little for the nursing and feeding of the sick animals. Hence he has to depend upon his own judgment for diagnosis and prognosis. His servants too are very low paid—only Rs 12 to Rs 15 per mensem. Can any servant with some intelligence and tact be procured at such a low pay? This profession requires servants of some intelligence and strong physique as they have to deal with dumb animals. Under these circumstances he has to depend upon his own self and has to combine in himself a doctor, a compounder, a clerk, an instructor and an inspector of dressing work. In society, he has to maintain his position and respect and for that he has to put a show of decent living. He has to please the public as well as the officers and has to work under the control of a committee formed of different departments such as members from Local Board, Municipality, Revenue Department, agriculturists, donors etc., who only want to exercise their power on this powerless servant and do nothing for the interest of the institution. After the reforms of 1919 the above departments are generally filled with third grade persons of little knowledge, vanity and shallow heart. Can anybody work with satisfaction under the control of such persons? Is there any appreciation of his work? It is quite natural that such members require only flattery and he who flatters them is the best in their opinion.

The management of the institution is not in one hand only. It is managed partly by Veterinary department, partly by Local Board and partly by the above committee. The great power lies in the hands of the local board whose members have hardly got any knowledge of this institution. Can any good be expected from such nonentities? Moreover when they do not pay attention to the recommendations of the heads of the Veterinary department, will they ever care for the recommendations of the committee who is appointed to control over the institution? Their main object is to curtail the expenditure as far as possible and save money under the pretext of financial stringency. When they can spend a large amount for other branches of the Local Board, can they not spend a little more for the welfare of the poor cultivators who are the real subscribers of the Local Fund money? When the Government spend nearly Rs 2000-2500

after this institution in pay, travelling allowance and grant, should not the Local Board spend at least one third of that amount? Still, in spite of all these, I must assure you that veterinary assistant surgeon has to mutely work like a bullock under the control of so many masters with varying guidance; for if one recommends one thing, the other rejects it and recommends another, while the third shows a third way and thus the institution suffers. The real conductor of the institution has no voice and, if anything goes wrong, the blame is on the surgeon. The reader might easily picture to himself the position, troubles, difficulties and the trying circumstances under which a Veterinary Assistant Surgeon has thus to perform his duties.

May I therefore request all the veterinary assistant surgeons and the heads of the department in every province to try their utmost and to leave no stone unturned to redress their grievances and improve their position and prestige! I hope the public, Government, and the members of the Assembly shall heartily help them in their cause and do the needful in the matter.

The present Minister for Local Self-Government Hon'ble Dewan Bahadur Harilal has got good experience of this department, as he has worked as a member of the Veterinary Defence Committee, Ahmedabad, for a very long period and who, during his time, took great interest for the uplift of the institution. Every time he appreciated the services of this department and sympathised with them and had many times agreed that like other departments the subordinates of the Veterinary department should be supplied with some kind of conveyance or permanent conveyance allowance as they have to promptly attend to their outdoor duties.

Everybody who comes in good touch with this department realises the utility of this department and need for its widespread and they really think that such persons should have a conveyance of their own to cope with their work. They also regret the low salary for such an arduous and dangerous work after a hard scientific study of 3 years.

We hope the Hon'ble Dewan Bahadur will do his utmost for the uplift and welfare of this department and will sanction a permanent conveyance allowance and also see his way to increase their pay.

SILAGE.

BY

L. SUBRAMANIA AIYER, G. M. V. C.,

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Silage is the name given to contents of the silo or pit in which green grass or green fodder is stored, the process itself being called 'Ensilage'.

Any crop will make silage if it is cut and siloed when green and there is sufficient moisture in the crop. The crops mostly used in India for siloing are maize, jawar, mixed juar and a legume and monsoon grasses. Sunflower gives a big yield and should be cut when the plant is in flower.

The crop to be used for silage should be easy and cheap to grow, and requires little attention. It should be a reliable crop, so that the farmer can reckon on a sure out-turn. It should be easy to handle, cart and chaff, also be a crop that will smother weeds.

To make good silage it is necessary that the crop is wet enough and sometimes water has to be added to the chaffed fodder at the time of silage making, this if necessary is best done by inserting a $\frac{1}{2}$ " pipe in the delivery pipe in the chaffer.

Whether the crop for silage is put in a pucca overhead tower, or a kutchra pit, both require that the air should be excluded if good silage is to be made and if the crop was properly handled both systems will make good silage, but a too dry crop or too wet crop does not make good silage.

Premature silage is more liable to sour and an unripe and dry crop siloed is likely to heat and burn, but most failures to make good silage is because the crop was too dry or too wet.

The advantages of silage are:—Silage is palatable and succulent, is an aid to the digestive system and is far more palatable than dry fodder.

Silage can be made when crops cannot be dried and made into hay, as the former is usually made during the rains. It supplies a succulent fodder when no green fodder is available.

In crops such as juar and maize which have a thick stem, or are likely to grow coarse, there is more likelihood of a greater loss in feeding dry than in feeding silage, as more

than 1-3rd of the total plant food is in stems of all fodder plants (maize, juar) and when these crops are harvested and dried there is a loss in feeding value.

Crops of silage are cheaper to harvest, than if cured and dried, as more machinery can be employed in the former, than in the latter and if the crop has been chaffed there is no loss in feeding.

By siloeing early green monsoon grasses you prevent the crop from being spoiled and you will leave a second cutting for hay making.

Silage is one of the cheapest ways to supply succulent fodder for dairy stocks and while it does not taint the milk it stimulates the production of milk.

Silage with a little dry fodder such as bhussa and hay, makes a good balanced fodder. Silage can be stored without fear of loss by fire. It is a good food for cattle suffering from "Foot and Mouth" disease as it is soft and succulent.

Silage is very simple to make. If a pit silo is to be made it is best to work out the size required as once the pit is opened at least 4" of silage must be taken off the top daily.

For herds of about 200 head and over the convenient size of pit siloes are 30' x 12' x 6' : 2160 C. ft. A pit of this size will hold about 65,000 lbs of chaffed silage. The ratio of green fodder to silage is 3 to 2. For a pit of the above size it is better to take 4-5 days in filling as follows.

1st day. Fill level to top or ground level.

2nd day. This will have sunk, then again build to about 5' above ground level.

3rd day. Build up to about 10' above ground level and slope sides like a stack, then leave for a day, shape top properly and cover with 1' earth.

To estimate what a pit will hold take

$L \times H \times X$

30 x 6 x 12 : 2160 C. ft.

and allow $\frac{1}{3}$ for top. 720 .

Total 2, 880 C. ft.

and allow 25 lb. long grass to the C. ft.

22 " " juar "

30 to 35 lb. chaff "

according to the condition of the crop into the cubic contents

by number of lbs. of silage which will give the contents, or if the green crop is weighed and you wish to know approximately how much silage you have, use the ratio of 3: 2.

Chaffed silage after it has settled properly will give about 40 lbs. per cubic foot.

For a man owning about 40 head of stock, a pit silo 15' x 8' x 6' would hold about 25,000 lbs and will be about the right size for daily feeding, and may not cost more than Rs. 10-for digging such a pit in the Madras Presidency.

In making silage in pits care must be taken to select a piece of ground where the water level is low, so that the pits can be dug at least 5' or 6' without fear of water logging.

In places where the water level is high, it will be necessary to build overhead masonry towers, but on the whole I don't think there are many places in India where pits could not be dug and the present experience in India shows that better silage is being made in pits than in overhead towers.

The advantages of a pit silo over an overhead masonry or other overhead tower are:—

- (1) The pit, can be made any size best suited to the needs of the user.
- (2) There are no heavy initial expenses.
- (3) They can be dug near the crop to be siloed.
- (4) No machinery is required for filling the pit if grass is silced,
- (5) Less expense and labour in filling a pit.
- (6) Better pressure can be put in pit silo.

The disadvantages are.—(1) New pits have to be dug every other year and pits have to be reframed.

(2) The sides may fall in on the silage in sandy soil after opening, but this can be prevented by making circular pit and lining the walls with bricks.

(3) A larger quantity of silage can be stored in a smaller ground space than with a pit silo.

(4) Where water is high less loss may occur than with a pit.

Making Silage.—If grass is to be siloed in a pit, the pit must be dug and measured and loose earth around the sides thrown well back to prevent it from getting into the pit.

The grass for silage should be cut by hand or mower and carted direct to the pit and thrown in, one man should be in the pit to spread the green grass evenly and to trample around the sides. A pair of bullocks are also used for trampling in some places. Grass is thrown into the pit until the level of the same is above the ground level, then two more men are required to build the pit evenly around the sides so that it will settle into the pit. Then men in the pit should move all the time. When the grass is about 5' above ground level it should be allowed to settle for a day and then completed by building the grass high in the centre like a stack at least 10' above ground level. As soon as this is finished the whole should be covered with 1' of earth.

The covered pits must be inspected every few days, as the grass settles and causes cracks which must be filled in to prevent air getting into silage. All round the pit a channel about a foot in width and the same depth should be dug to drain off the water.

If the pits are properly looked after the silage is said to keep for 2 to 3 years quite easily in England, but in India it is not generally kept for more than a year.

If juar or maize is to be siloed these crops should be chaffed and blown straight into the pit and treated the same as for grass. One silage cutter will fill a pit in 3 days.

If silage is being made in a tower, the crop is best chaffed and blown in by the cutter and blower although in some places where only grass is siloed steps or a ramp is made and grass is thrown in at the top.

After a tower is full it should be allowed to settle for 2 days and again filled, then covered with earth and all cracks stopped. Once a silo is started it must be completed, otherwise there will be a great loss in fodder.

Silage Cutter & Blower.—The two silage cutters most used in India are the Climax and Chio, both American machines. Different sizes can be obtained of both machines according to the requirements.

The machine can be either driven by steam engines, oil engines or motors.

The cutter is placed near the pit or tower and the pipes directed towards the place to be filled.

Full instructions are issued with both these machines and these should be carefully read and understood. The speed the machine is to be driven is pointed on the cover and for good work this speed should be maintained.

Before starting it is essential to see that the machine is in perfect running order and that you have sufficient spare parts and knives available. Before starting, the machine should be well oiled and all grease caps screwed down after being filled, also see that the cover is properly bolted down.

The quantity a machine will chaff and blow depends on the size of the machine, the way it is fed and the speed it is driven.

In working any machine it should be borne in mind that to get the full worth out of the same, it must be run at its full capacity. It pays every time to have one or two men extra than to have one short, as the machine will use the same fuel or will work less efficient at half-load.

General.—When grasses grown on sewage farms are used for making silage, it is advantageous to leave them in small stacks for a day outside the pits, before being put in.

This produces a partial fermentation and dryage of excessive moisture.

The smell of silage is very objectionable and repulsive and cattle do not take to it all at once. It is therefore necessary to mix it at first with hay or straw in small quantities. Digestive troubles are also observed at the outset. After a week or so the cattle become accustomed to it and relish it.

The younger and greener the grass, the stronger the smell. Mature grass produces sweet silage of a brown colour.

THE SERUM INSTITUTE, BANGALORE.*

BY

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This Serum Institute was opened by the Government of Mysore during the year 1925 as a virus producing station. Owing to a heavy demand for virus and serum, the Government decided to try the preparation of anti-rinderpest serum along with virus. During the latter half of the year 1917, the present Serum Institute was started as an experimental station. At present the magnitude of the operations done on an economical basis with the production of a potent serum and virus has converted the Institute as a commercial concern and the Government is now much interested in its welfare seeing a rich source of revenue besides the protection afforded by it to the State Cattle Wealth.

During the year 1929, the Director of Veterinary Services, Madras, was pleased to sanction the request of the Principal, Veterinary College, Madras, to arrange for an excursion to the Imperial Institute of Animal Husbandry and Dairying, Bangalore and the Serum Institute, Bangalore. Seven Post-graduate officers under the guidance of the Professor of Medicine were deputed to proceed on the above excursion. The Director of the Serum Institute was kind enough to explain to the above officers the various operations conducted in connection with the serum and virus productions including the various experiments conducted in the Institute. Further, he pointed out the different problems, which await his solution.

Serum Production.

Young he-buffaloes in good condition from different parts of the State especially from the hilly Malnad tracts are selected for the purpose. Serum producing buffaloes are so selected as to contain animals with different degrees of susceptibility and typical breeds with a good bleeding capacity so that a potent serum could be obtained on a commercial basis at a minimum cost. Some animals produce an efficient serum and some are good bleeders yielding a good quantity of serum for each bleeding and stand the ill-effects of repeated depletion

* Read at the sixth All-Indian Veterinary Conference in December 1929.

very well. A mixture of the different bleedings from different animals gives only one class of serum of a very high potency at a minimum cost. No classing of serum is done at this institute as is being done at the Imperial Institute, Muktesar. Further the introduction of Piroplasmiasis or Trypanosomiasis is specially guarded against from the commencement of the operations. Sufficient rest and vitality of animals are ensured before subjecting an animal for hyper-immunisation.

A batch of animals is injected with a 2 C. C. dose of living rinderpest virus and kept under strict hygienic conditions. 24 hours after virus injection, a dose of 18 to 20 C. C. of anti-serum per 600 lbs. body weight is injected. The dose of serum used at the Institute is comparatively less than that advised for use in natural outbreaks in villages and it is carefully adjusted according to the vitality of the animals and at the same time to produce sufficient reaction for the production of an efficient serum with a high titre of anti-body content. The object of injecting serum 24 hours after the virus injection is to control the severe reaction that may ensue from the primary virus provocation. Thermal reaction sets in 4-6 days depending on the atmospheric temperature and the range of rise also varies with the individual susceptibility. With a sharp rise in temperature reaction more anti-bodies are found to exist in serum than when the rise is low and sluggish. In the former case, the body tissues actively resist the invader producing more immune bodies and in the latter only a passive resistance takes place with the production of a negligible quantity of immune bodies, and the animal may even die due to the aggressive character of the virus in such non-resisting tissues. The Institute has recorded mortalities in such cases.

On the sixth or seventh day of virus injection and while the animal is still under the influence of anti-serum, a second dose of virus 5-7 C. C. is injected as a test dose and as a hyper-immunising dose during the negative phase. This second virus provokes a further rise in temperature and the second rise in temperature is found very necessary to stimulate tissues to put forth its maximum anti-body content. This is just like whipping a whipped horse. During the first two virus injections the animal is under the protection of the foreign anti-serum injected. This foreign serum starts

protecting the animal with its highest immunising capacity and gradually declines and is eliminated from the system. Final elimination of the foreign anti-bodies and the commencement of the native anti-body production some what overlap and maximum production is reached on or about the 18th day of the first virus injection. The hyper-immunised animal is now bled for the first time at 5-7 C. C. per pound of body weight. Five bleedings are made at intervals of one week, since it was found that sufficient rest between bleedings ensured more immune body production by tissues. By experiment it was ascertained that the first bleeding contains the maximum amount of immune properties, second and third the least amount but the fourth bleeding contains immunising properties next in value to the first serum. This appears paradoxical since with every subsequent bleeding the anti-body content must go down. It is said that the depletion of blood does not effect the production of anti-bodies but it is considered that the interval and sufficient rest to tissues between bleedings that account for more anti-bodies in serum. Further, it is ascertained that the protein constituent of a food article not only accelerates or retards its digestibility and tissue building capacity but also stimulates the body tissues to put forth the maximum anti-body content in serum. The higher the ratio of proteid in a food article the greater is its digestibility, tissue forming capacity and influence over anti-bacterial serum. The method of its (of protein) influence over the digestibility of a food article etc. is not known at present but it is being investigated by the "Nutrition Section" of the Imperial Dairy Institute. The animals undergoing hyper-immunisation are therefore allowed a good nutritive diet not only to repair the loss resulting from repeated depletion of blood but also to stimulate body tissues to prepare a maximum amount of anti-bacterial properties. Various theories are held about the seats of anti-body production. Lymphoid tissue, Liver and Muscle fibres are supposed to originate them in addition to the blood tissue. Further, it is found that animals bled after a previous starvation for 8-12 hours provide clear Plasma free from chyle.

About one litre of blood is collected under aseptic precautions in Potassium Oxalate solution and kept in a cool place for 24 hours for the plasma to separate itself from the

formed elements of blood. Then the supernatant clear plasma is gently siphoned into a sterile glass jar and a precise quantity of calcium chloride solution is added to the plasma to separate Fibrin and to neutralise the Potassium Oxalate previously added. In 5-10 minutes the Oxalated Plasma solidifies and a clear straw coloured serum separates. The separation of serum is hastened by placing suitable weights over the clot or by cutting the fibrin clot. The clear serum from the different bleedings is pooled to give a uniform potency and is preserved with 5% carbolic acid, then tested for purity and potency, then bottled and stored in a cool place until despatch for use.

Standardisation of Serum. A batch of 12 susceptible animals are selected and divided into four lots. Each animal is injected with a dose of 1 C. C. of virus including two control animals. The four lots are protected with anti-serum in varying doses of 10, 15, 20 and 25 C. C. and the controls are not protected but they must die with the quantity of virus injected. The results of the tests are adjudged and a proper and safe dose of serum is fixed. The doses of serum fixed by the Institute are 18-20 C. C. for hyper-immunisation at the Institute and 25-30 C. C. for sero-virus inoculation in natural outbreaks in villages.

Virus Production.—Buffalo calves in good health are injected with a dose of 1 C. C. of live rinderpest virus without any protection by anti-serum. The thermal reaction sets in 4-6 days of virus injection or it may be delayed even to the 8th or 9th day depending on the atmospheric temperature as well as on the individual susceptibility of the animal injected. The severity of the reaction depends likewise. Sometimes the animal either resists the virus or offers an unsuitable soil for the activity of the virus, thus leading on to an athreptic immunity or blocked out reaction, which, experience shows is less satisfactory than the active immunity obtained after a real struggle between the tissue cells and the toxin molecules. It has even been suggested that every animal possesses a positive and a negative phase in which the virus becomes either active or abortive and it has even been suggested that different types of rinderpest virus are responsible for the production of a particular type of rinderpest.

Blocked out reactions in serum simultaneous method of inoculation are of common occurrence and they passed the later immunity tests successfully. A few years back, it is reported that a few animals, which have been protected with sero-virus method with distinct reaction and later positive immunity tests have succumbed to rinderpest, which broke out in the locality the next year. The deaths were not due to piroplasmiasis or trypanosomiasis or coccidiosis but they are believed to be due to want of protection against that particular type of rinderpest virus, and this suggestion requires further investigation and confirmation. Hence the conditions namely athrepsia—positive and negative phases in an animal's life—and differences in the types of rinderpest virus await the consideration of this professional conference to guide the proper performance of serum simultaneous inoculation in India.

At the height of fever with mouth lesions but not with diarrhoea the animal is bled completely or partially depending on the vitality, the maintenance of the febrile stage and the bleeding capacities of the individual. Formative stage blood is a potent living virus and remains active when the temperature is high but with the onset of diarrhoea and the resulting lowering of temperature the vitality of virus tends to go down. With aseptic precautions the collected virus is defibrinated in sterile bottles containing glass beads by brisk shaking for about half an hour. Later the liquid portion of the defibrinated virus is decanted into a sterile virus transferring apparatus and transferred aseptically into small glass phials or bottles protected from sunlight and kept in cool chamber or in an improvised ice chest until despatch for use. The virus is previously tested for potency, purity and freedom from protozoan diseases.

Morphology and virulence of Rinderpest Virus.—Very little is known at present about the morphology of the rinderpest virus. It is ultra-microscopic with the present microscopes. Sometimes with certain dilution and pressure the virus passes through Berkfield Filter but the filtrate from the Chamberland Filter is sterile. As such, it is both a filter passer and a non-filter passer depending on dilution, pressure and the fineness of the filter used. The red blood corpuscles are supposed to contain the virus but the white blood corpus-

cles have been proved to be infective in comparatively infinitesimal doses than the red cells. The peculiarity of the virus is that no difference in clinical manifestations exist between the smallest dose and the highest dose i. e. 1 C. C. is as infective as 100 C. C. or more. Hence the impossibility to attenuate the virus for vaccination. The virus has not been cultivated. No attenuation has been effected by passing the virus through cattle. Neither the passage through cattle exalts the virus. Passage through goats is supposed to attenuate the virus and the sheep to intensify the virus. Virus is fixed by passing buffalo blood into ox and the ox blood back into the buffalo.

Virus becomes sterile immediately with 58° C and sunlight deoxidises it. In ice-chest it keeps up for days. Salted hides moist-bone marrow, milk, urine etc. contained in air-tight containers and protected from heat, light and putrefaction remain infective for several days thereby favouring the spread of infection to distant rinderpest free areas and even overseas. Susceptibility varies with breeds of cattle and buffaloes are more susceptible than the white cattle. One attack of the disease confers a lasting immunity and calves with congenital immunity fairly resist natural infections but the immunity wears out early. Young calves immunised with sero-virus method are supposed not to carry immunity for a long period but a few calves subjected to the above immunisation by the Institute in the year 1925 have been tested with virus and are still immune. The average period of an active immunity resulting from serum simultaneous inoculation is not investigated by the Institute but will be worked out later. So far as the results of the immunity tests conducted by the State Veterinary Department on the animals protected in 1925 are concerned, we may be confident of an active immunity of at least four or five years.

Old and New methods of Serum preparation.—A few years back animals undergoing hyper-immunisation were injected with gradually increasing doses of virus ranging from 5 C. C. to 4000 C. C. When the animal has regained its normal condition, it was bled on three consecutive days and during the third bleeding one to four litres of virus injected

and re bled after sometime once or twice and a period of a fortnight's rest allowed between the last two bleedings. This serum was very efficient having an immunity for 4-6 weeks in smaller doses, but the method was very costly and the animals died of protein poisoning with large doses of protein in the virus. The efficiency of serum was due to more antibodies prepared by primary stimulation with virus and the intervening provocation with virus with due attention to the long intervals between bleedings. At present the interim virus injection between bleedings is not done and sufficient interval between bleedings is not allowed. Since the original virus stimulation and the subsequent intervals between bleedings are insufficient to produce more immune bodies, the present serum has immunity period decreased to 9-12 days, which is enough to cut short the course of rinderpest in outbreaks and enable isolation or for sero-virus method of inoculation. A dose of 200-300 C. C. of anti-serum intravenously is considered curative in the incubation period or in the formative stage of the disease but ineffective when diarrhoea sets in. Some consider the anti-serum as not curative in any stage or by any route but that it checks the activity of the virus and that the anti-bodies have no effect on the lesions produced by the bacterial products.

The experience of professional brethren on the various aspects of rinderpest is earnestly solicited.

HORSE KEEPING IN INDIA.

WHAT THE OWNERS SHOULD KNOW.

BY

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Lt. S. Datta, B. Sc., M. R. C. V. S., (Lond), A. I. R. O., Bengal Veterinary College delivered following address before the cavalry section of the Chota Nagpur Regiment A. F. I. during the last camp of exercise at Purulia under the presidency of Lt. Col. F. C. Temple :—

It is not my intention to inflict upon you a lecture on Veterinary matters, such as I have to do every day. Nor do

I propose to bore you with a daily routine for the management of horses in the camp or at home. I shall only attempt to emphasise the importance of 'certain items in the scheme of horse keeping' not so much to tell you things that you do not know, but with a view to rouse interest and stimulate thought in you on behalf of the horse.

Our Limitations.

First, let us consider 'our limitations'. It is not possible for a veterinary scientist or any student of science to be dogmatic about his ideas or his theories. At best he can only qualify his statement with 'as far as I know' or 'so far as we know to day'. He cannot pretend to be so definite and unchallengeable as the quack or the farrier because that will mean an intellectual death for him and display nothing else but his own mental arrogance. I have no such pretensions. I do not suggest that I can make the horse run faster without making myself liable to the frownings of law at the same time. Nor am I able to lend support to the greatest misconception in the world and one that has the largest adherents, viz., that a human or animal doctor can cure a disease. I shall straightaway tell you that we cannot. It is nature that cures disease, we can either aid or retard its processes. We cannot supplant nature with our science. The healing sciences are important and useful nevertheless. Science has not yet produced life in the laboratory but it has altered and can alter its manifestations.

Scope of Healing Science.

I want you to realise 'the scope of the healing sciences' so that you may realise also how much depends upon you. Medical sciences claim to prevent disease, make life more vigorous and secure and death more remote and less painful. I suggest that in a good many cases the blame of professional inefficiency or uselessness is wrongly put on veterinarians. The blame should really go to the neglect and indifference of the owner in the apparently healthy stages. In my opinion, an animal in health needs as much close and intelligent attention as it needs vigorous medicinal or surgical treatment after the onset of disease. A lack of supervision by owner in the healthy stages cannot be replaced by the high profes-

sional skill of the doctor at a later stage. My aim is to impress upon you with your responsibility in the matter. The need of "close supervision" of syces and stables cannot be under-rated. A horse that is worth keeping is worth keeping well.

Grooming.

In the original scheme of things, horses were not meant to live under conditions of domestication. Nature has provided them with powers of adaptation. If the conditions of their life change quicker than they can accommodate themselves to, they fall a prey to disease. In artificial life, a much greater strain is put on every part of their system, they have to live a much more strenuous life than in nature. In nature the horse is free to run about, he eats only so much as can sustain him and enable him to carry himself about. A roll or two on sand is all that he requires to cleanse the sweat and dandruff from his skin. In artificial life he consumes extra food, he produces extra work and there is extra waste in the body. His digestive organs have to work harder. His excretory organs—the kidneys, bowels, and skin work faster also to eliminate extra waste products. A process of 'grooming' which means sponging, brushing and wiping is therefore essential for keeping the skin and coat clean, for increasing the excretory efficiency and ensuring uniform circulation and nourishment to the skin. Grooming prevents disease and renders disease more amenable to eradication. The length and frequency of grooming should be varied with the quality and quantity of exercise and food. Horses need not be washed. Grooming takes the place of washing and massaging of men.

As horses have to work hard in the service of man, they sweat more profusely than in nature. A long coat prevents drying of skin and interferes with grooming. The liability to skin diseases and catching cold is also increased, so "clipping" has to be resorted to. It enables the horse to work harder with less distress.

Clothing.

After the removal of the natural coat by clipping, the horse has to be protected from severe wind, scorching sun etc. Particular attention to 'clothing' is necessary in cold countries and during winter. A rug or two is all that is necessary.

Clothing increases the wellbeing of the animal gives him comfort and ease. It helps to keep him in condition and working efficiency. It economises food. If clothing is not provided, extra rations have to be given for the maintenance of the normal temperature of the body.

Strict attention to the cleanliness of the horse lines, clothing, saddlery and harness should be paid. A little exposure of clothing, etc., to the sun and air is greatly needed.

Bedding.

Horses are provided with the check ligament and so can sleep standing. The utility of a horse depends upon the durability of his legs. If the horses are induced to lie down, relief to the legs from the burdens of carrying the body-weight is obtained and the legs last better. Bedding provides the inducement to lie down. It also saves them from injuries of the legs from the hard floor. Straw bedding is quite good, if it is long, fresh, dry and free from moulds. Sand serves too. Wet bedding and litter should be removed with droppings as often as possible.

Shoeing.

Another important item for ensuring the durability of the horse's legs is attention to the foot and frog pressure. How very important is the foot in the economy of the horse will be quite evident if you realise that nature has been very elaborate in its plan for the foot. The extremely large number of blood vessels, the detailed provision of elasticity point unmistakably the importance of the foot. The frog gives a firm non-slipping foot-hold, saves tremendous jerks and concussions like the pneumatic tyres in a car. Frog pressure stimulates growth of horn. The lateral cartilage, the bed of blood, the ligaments and tendons contribute to the resilience of the foot in nature. The horny foot was meant to withstand the wear caused by the animal's weight while carrying itself about. The hoof is sufficiently hard and grows with rapidity enough for its natural life. The working horse has a greater wear and the growth of horn is not rapid enough. So shoeing with a rim of iron has been adopted. Shoeing is an evil that cannot be avoided. It is an evil because the natural elasticity of the foot is impaired and

because the dangers of concussion are increased. The dangers of ill-fitting shoes are too numerous to mention. I would only say that you must first make sure that the shoe is well fitted before the animal is taken out.

Watering.

This has a greater importance than feeding. If you are told what a large proportion of the animal body is water you will realise the real importance of water in animal life. Food has first to be taken into solution and then digested. A horse must have plenty of drinking water. It is very essential for flushing the system, otherwise waste products accumulate and on absorption produce disease. Horses should not be watered directly after feeding as undigested food will be washed into the caecum and digestive disturbances will set in, probably also due to the dilution of the digestive juices. Wholesome water free from mud and sand should be given. Suspicious water should be avoided. If there happens to be no other alternative, give it boiled. Horses should be allowed to drink freely whilst at work even though sweating. If brought in hot they may be watered immediately and moved about till they cool down. They should have their fill. They should not be led away as they first raise their head.

Feeding

Food serves the purpose of maintaining life, of supplying energy for the production of external and internal work for repairing body waste and building up tissues. Food also maintains body warmth.

As horses have small stomachs and very large intestines they should be fed in small quantities and often. They have no gall bladder and cannot store bile. Mastication helps digestion. Horses must be encouraged to masticate by attention to teeth and provision of chaff and dry food. Diet should be well balanced. Digestion is impaired by unbalanced diet. Diarrhoea, dispepsia, liver disorders, swollen legs skin eruptions, overheating of the body or even death may follow unbalanced diet. If the food lacks in vitamins, scurvy and nervous disorders may ensue. Bran is rich in phosphates and is good for young growing animals. Dry bran is given in diarrhoea cases. I cannot lay too great an emphasis on regularity in feed-

ing. The functions of the body show a periodic rhythm and the secretion of digestive juices is no exception. Horses should not be given a heavy meal after exhaustive work. The preparation of food by crushing, steaming, or boiling increases the digestibility. A little less in the amount of food is always better than a little too much. Substitutional dieting or trying to get the maximum work at a minimum cost without any damage to the horse's condition should be aimed at.

In my opinion, there is nothing to beat oats as a perfect food for horses. Linseed meal, oat meal, decorticated cotton cake may be given to the horses to keep them in condition. Indian gram is quite suitable provided the animal gets his full share. It is good to study the likes and dislikes of horses in the matter of food. A change in the dietary is welcome to them. Make it a point to see that your horses are not given fermented grains or grasses from marshy land. I cannot end the subject of feeding better than by recommending a very good preventive of disease to you. Horses should not get their full rations when they are idle, or partially idle. As a matter of principle, horses should be given a light laxative diet, a linseed and bran mash on Saturday evening and their corn ration should be cut down. Green food is an appetiser and tones their system up. Salt is a condiment and preventive to parasites. Salt may profitably be added to a horse's food.

Summarising, I have tried to bring out the importance of personal attention and supervision in horse keeping. I have also shown the importance of letting the horses have as much water as they like because that helps the drainage system of the body and helps digestion. Attention to the foot is also important and the usefulness and durability of the animals can be assured by inducing them to rest their legs by lying down."

Clinical Articles

SUB CONJUNCTIVAL INJECTION OF DIONIN IN THE TREATMENT OF OPACITY OF CORNEA.

BY

M. LAKHSMANA RAJU, G. M. V. C.

Veterinary Assistant Surgeon i/c Veterinary Dispensary, Tekkali.

Opacity of cornea is very commonly met with by every Veterinarian and various drugs as Argentum Nitrum, Calomel, Mag-Sulph, Zinc Sulph, Corrosive Sublimate and sub conjunctival injections of 2% normal saline solution etc., have been tried from time to time with satisfactory results. But Dionin (Ethyl-morphine, Hydrochloride) was found very useful in my hands in the above complaint and the method of treatment adopted is given below in detail.

Subject:—A white cow aged about 6 years was brought to the dispensary on the 6th April, 1930, for the treatment of corneal opacity.

History:—The duration of the complaint was two months.

Causes:—The cornea from its position is very susceptible to injury by external agent and also to bacterial invasion and damage may occur even to the outer layer of cornea, which is made up of stratified epithelium and is continuous with the columnar epithelium lining the conjunctiva.

Symptoms:—The whole surface of the cornea was involved and the opacity was dense white.

Treatment:—The eye was treated with Ag. No₃ lotion 5 grs. to 1 oz. for about a week and no improvement was noticed.

On 15-4-30, the animal was cast and secured and after observing all aseptic principles, the eye ball was pressed with left thumb and the needle with the Syringe containing 1 c. c. of 3% solution of Dionin was slowly inserted into the conjunctiva on the upper portion of the eye ball where there is loose conjunctiva, and the solution was injected. Care should be taken not to puncture the anterior chamber.

The solution must be freshly prepared in aqua distillata. There was slight swelling on the next day and the eye was fomented. On the 3rd day, the swelling was reduced and a few drops of 3% solution of Dionin were instilled into the eye, and this was continued, but as it was not completely cured another injection of 1 c. c. of 3% solution of Dionin was given on 26-4-30. After the 2nd injection the eye became quite clear, and the animal was discharged on 1-5-30.

Note:—This article is written with a view that other members of the profession may try the treatment and publish the results in the Journal. Two more cases were successfully treated by the above method on former occasions.

The action of Dionin on the cornea is given below, as very little information is available in our Veterinary text books.

Dionin is recognised as lymphagogue, absorbent and analgetic, suitable for inflammation and opacity of cornea and is indicated to secure rapid absorption of inflammatory products and serious exudation and the effect of Dionin consists of a simultaneous dilatation of minute capillaries with an increased lymph excretion and this excess of fluid results in an improved nutrition of the cells and washes out pathological products. The drug by this lymphagogue action is of service in clearing up corneal opacities

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TEA POISONING IN A PUP,

BY

B. RAMAIAH, G. M. V. C.,

*Veterinary Assistant Surgeon, Veterinary Dispensary,
Parvatipur, Madras.*

At about 11 O'clock one morning a boy brought a pup in good condition, aged about a couple of months, to the dispensary for treatment. The following symptoms were present: Foaming at the mouth, eye ball fixed, pupils dilated, muscular twitching, tetani jaw, animal unable

to stand on all fours and frequent switching of the tail. I at once took the temperature which was 107°F. The boy on being questioned, told me that the pup was well at 8 O'clock in the morning and at about 10 O'clock it developed these symptoms. I could not get anything more from him.

I then began to treat the animal. Administration of medicines per orum was impossible. After evacuating the rectum by means of an enema, I gave a rectal injection of an emulsion containing two grains of Chloral and three grains of Pot Bromide and went on applying cold water to the head. After quarter of an hour the temperature came down to 105°F and the animal was able to move about on fours, but was still delirious. I continued the cold water application to the head and carefully managed to give the same medicine by mouth. At about 4 P. M., the animal was much better and the temperature was 104°F. Just at this time the owner came to the dispensary to know the state of the animal. I then questioned him as to the history of the case. He told me that only a few days back he brought it from a village and that morning he offered a cup of tea to the animal at about 8 O'clock which it drank and after a couple of hours he observed the symptoms and sent it to the dispensary. I then sent the animal home with three powders of aspirin in two grain doses to be given to the animal in milk every four hours. This was done and the animal was quite well when it was brought to the dispensary next morning.

EQUINE CASTRATION BY BURDIZZO METHOD.

BY

J. C. DAVID,

*Veterinary Assistant Surgeon, Veterinary Dispensary,
Tellichery, Madras.*

In this dispensary two equine castrations were done by the Burdizzo method. Both the ponies were aged. It will be interesting to note that the two cases were undertaken as a trial.

In the first case, there was persistent emaciation in spite of good feeding although the animal had stopped the vice 'wasting'. The case was diagnosed as spermatozoa and castration was found quite indispensable. This case after castration by the Burdizzo method has improved much in condition. The owner has appreciated this method as the testis have become shrunk now. Besides, by this method, the pony can be put to work on the second or the third day the latest.

The second case, though aged as the first one above mentioned, was quite unmanageable in the midst of mares. Apart

from this, the animal was found to waste 5 to 7 times a day whether there was heavy work or not. After seeing the benefit of the first case, the owner of the second case asked me to get his pony castrated by the Burdizzo method. The testis were enormously big. The cords were very thick. I had my own doubt whether these would get crushed under the pressure of the castrator without slipping away from the jaws of the castrator. However, with great care and exertion, both the cords were crushed separately.

In this case slight swelling was observed the next day after the operation. By cold water irrigation the swelling disappeared after two days. On the fourth day the pony was harnessed. The size of the testicles had become considerably smaller. At present, the pony is found to be free from the vice and is very quiet. However, the spirit of the animals is not lost as it had been feared by the owners.

[Four horses of varying ages have been emasculated by this method, by us in Madras, during the past year and they have all been successful. The great advantage in this method lies in the fact, that there is no necessity for prolonged after-treatment and the animals can be put to work almost immediately after the operation. This method is worth being followed more often than at present. *Editor.*]

NEEDLES AND THEIR SOJOURN.

BY

S. CHINNAYYA, G. M. V. C.,

Veterinary Assistant Surgeon, Pudukota.

No. 1.

Case No. 858-29 dated 30-4-29.

Red bullock, aged, used singly.

The owner first reported that the animal was running down in condition, perhaps due to loss of appetite. A diffused swelling on the right side of the chest a little away from the elbow was noticed. He was not able to say whether the swelling was due to any injury caused by external violence.

Treatment.—Painted the swelling with Tr. Iodine and gave internally carminatives with tonics. The patient attended the hospital regularly as he happened to live close to the institution. The swelling developed into abscess with an ill-defined base and it was opened on 7-5-29. On digital examination, a sharp point was felt which was caught and drawn out. It was found to be a stitching needle. The wound healed without much trouble.

No. 11.

Case No. 949-29.

On 21-5-29 at dead of night, I was called in to attend upon a cow with bloated rumen. The owner, a milk vendor, could not account for the trouble. The usual hospital mixture for tympanitis was prescribed. Next morning the cow was reported to be alright. The same animal was again admitted (Case No. 367.) on 5-10-29. A swelling as big as an orange with a thick bottom and a soft top on the left side of the chest close to the elbow, was noticed. The owner who has got 3 or 4 cows used to let them loose during nights to find fodder for themselves and so the abscess was thought to be due to some external violence such as pelting with stones. On 7-10-29, the abscess was opened when a sudden gush of gas with bad, foetid and offensive odour escaped. Digital exploration brought out a needle $5\frac{1}{2}$ inches long. When she was first admitted she was carrying. Now she is milking. Tympanitis observed on that night may be of traumatic origin. The journey in other directions would have caused traumatic pericarditis.

CLOGGING OF SAND IN THE ABOMASUM.

BY

S. CHINNAYYA, G. M. V. C.,

Veterinary Assistant Surgeon, Pudukota.

Case No. 147/27. Red bullock. Aged.

Date of admission 23-8-27.

The patient was brought to the hospital from Malavarampatti, a village 7 miles off the town, with the history that the animal had impacted stomach and his treatment was of no avail. It was treated for impaction.

Prescribed the following :—

Mag Sulphus	6 $\frac{3}{4}$
Am. Carb.	1 $\frac{3}{4}$
Pul. Nux vom.	1 $\frac{3}{4}$
Treacle.	Q. S.

M. ft. electuary. Sig now.

An enema also was given. On back-raking, the rectum was found empty with a little dark green faecal matter mixed with sand.

24-8-27. Next day no improvement but the animal stood dull, occasionally chewing. Repeated the electuary.

25-8-27. Pulse was sinking. Stimulants prescribed. At 1 P.M. the animal found dead. Post mortem conducted

immediately. Rumen contained thick roots of hariali and green macerated grass. Reticulum contained comparatively small quantity of sand with alimentary matter. Abomasum (true stomach) was simply packed up with sand and the pyloric orifice as well as 2 inches down the deodenum was closely packed up with sand. The other organs were found quite normal. The cause of death was therefore impaction of the true stomach leading to obstruction in the intestines. The sand weighed 4 pounds 8 ounces 2 drams.

The cause of such trouble might be due to careless feeding on grass scraped off the ground and oil cake and bran adulterated with sand.

DELIVERY THROUGH FALSE OPENING.

BY

C. V. PADMANABHAN, G. M. V. C.,

Veterinary Assistant Surgeon, Cannanore.

*Subject:—*Bitch terrior, aged about four years.

*History:—*During third delivery the bitch suffered very much to deliver the pups, straining violently all the time and lastly delivery took place through an opening formed above the superior angle of vulva. There was bleeding for some time after delivery through the ruptured wound. The animal did not at all feel any inconvenience or sickness after delivery. One pup was born alive and two dead. The owner brought it to me one week after.

On examination, I noticed an opening an inch above the superior angle of the vulva communicating with the vagina. The part below the opening was flapping downwards, exposing an unsightly ulcer, the animal licking it every now and then.

*Treatment:—*Dressed the ulcer daily in the usual way for a few days. Finding that the ulcer was getting healthy, put the animal under chloroform and had the wound sutured. First the edges of the mucous membrane of the vagina were brought in apposition and then the external skin and muscles together. Dressed with boric acid and collodium. Swabbed daily with Tr. Iodine externally. Sutures on the skin were removed a week after and the animal was discharged cured in 10 days.

I write this not because the operation is difficult but because of the peculiarity of the case; the delivery had taken place through a false opening while the vagina was normal.

The owner of the bitch told me that it had an easy delivery through the natural opening.

ABNORMITIES IN CATTLE.

BY

T. N. KULKARNI, G.B.V.C.

Veterinary Assistant Surgeon, Poona.

*Case No. 1,—*A bull calf about two years old with three horns and three eyes.

This bull was brought to Nargund in 1927, for exhibition. Admission fee was half an anna per head. I also visited the exhibition. I found the bull had three rudimentary horns, the extra one being situated in the centre. I did not notice any sign of grafting and moreover grafting is not an easy job for the Indians. I also found that there was an extra eye



CASE NO. 1.—A bullcalf 2 years old with three horns & eyes.

opening between the two eyes. On close examination it was found that it was not quite open but was open only about $\frac{1}{2}$ to $\frac{3}{4}$ of an inch. Eyelids were found moving, eyelashes were present and there was slight lachrymation. I approached the owner with a request to allow me to slit open at one of the corners, so that there will be a clear view of internal parts of the extra eye, but he refused.

The owner is an ordinary cultivator coming from Belgaum District. To attract the visitors, he advertises that the bull was born on the auspicious day i. e., the first day of the Hindu New Year. There are four persons with the bull, and they move from place to place and fair to fair and they are earning good money. The photo was taken in 1927, when the bull was two years old. The photo is slightly touched to give a clear idea of the positions and margins of the abnormalities by my friend Mr. Rao, Artist. I saw the same bull again in May, 1928, at Navalgund, when I was there temporarily. The horns were well developed. I was told that a gentleman offered Rs. 1000 for the bull but the owner would not part with it.



CASE NO. 2.—Bulldog. 4 days old. Hair-lip & blind anus.

Case No. 2 :—A calf of four years old, a case of hare-lip and blind anus.

This case was brought to the dispensary at Nargund on 11-2-27, when it was only three days old, for blind anus. I opened the anus with cross incisions, sutured and gave enemata. The owner was careless and used to bring the calf at long intervals. On account of constriction of the part, I had to open again and the hare-lip was also operated on 3-3-27. But the animal succumbed after a fortnight not being attended to by the owner.

Extracts.

PROCEEDINGS OF THE LEGISLATIVE COUNCIL OF THE GOVERNOR OF MADRAS, 27TH MARCH 1930.

VETERINARY SERVICES.

The hon. Mr. M. R. SETURATNAM AYYAR :—“ Sir, on the recommendation of His Excellency the Governor, I move—

‘that Government be granted a sum not exceeding Rs. 11,60,100 under Demand XXIV—Civil Veterinary Services’.

Mr. A. B. SHETTY :—“ Sir I move—

‘To reduce the allotment of Rs. 33,300 for Direction by Rs. 100.’

“ Mr. President, the work of the veterinary department touches most intimately the interests of agriculture. Cattle are essential for cultivation purposes. The provision made for veterinary aid is not at all adequate for the needs of this province. I do not know how long it will take for the Government to employ veterinary officers sufficient to give us one Veterinary Assistant Surgeon for every 25,000 head of cattle, which is the standard laid down by the Royal Commission on Agriculture. The control of the contagious diseases is the most important problem that confronts the civil veterinary department and rinderpest is the most formidable of these diseases. In most of the western countries, it is said they have either stamped out this great scourge or reduced it to a great extent, but here in this country we find rinderpest raging in an epidemic form in several parts of this Presidency and the number of deaths is increasing year by year. We find from the latest report that it has reached its maximum in the year under report. The Government have, in accordance with the recommendation of the Royal Commission, taken to the serum-simultaneous method of inoculation as the only hopeful means of combating rinderpest and they are spending large sums of money for this purpose, but the work of inoculation is handicapped to a great extent on account of the want of a sufficient supply of serum. Now, we get our supply of serum from the Muktesar Institute, which supplies the demand from the whole of India including Burma, except only Mysore. The Muktesar Institute is not able to cope with the demand. Madras being the biggest consumer, the necessity for starting a serum institute has been felt and accepted by the Madras Government. The Government have also drawn up plans and estimates for this purpose, but they are now holding up the scheme and awaiting the result of their correspondence with the Government of India regarding the division of the profits of the Muktesar Institute between the Government of India and this province. From the latest report, we find complaints from five of the circle officers about the inadequate supply of serum and also virus, particularly serum. Moreover, during the last one year, at least, it is said that Madras has not been able to get first class

serum from the Muktesar Institute. In Mysore, they have got their own serum institute. If we are to have not only an adequate supply of serum but also serum of good quality and at a cheap cost, the Madras Government must establish their own institute for manufacturing serum. I trust the hon. Minister will pay his immediate attention to this matter and see that no time is lost in starting the serum institute which is so necessary for the work of inoculation.

"I wish to urge upon the attention of the hon. Minister the question of the pay and prospects of veterinary subordinates. They have for a long time past been asking for better pay and prospects. Their pay and prospects do not at all compare favourably with those of men in the subordinate ranks of other departments. They have no scope for private practice and the hon. Minister has admitted the justice of their demands. He has also said the Government are considering this matter, but I want to know how long they are going to consider this matter. It was also promised that this matter would be considered in connexion with the proposals for this budget, but it has not been done so. I understand that the subordinates of this department proposed to wait on a deputation on the Minister, but this deputation was not received and I do not know for what reasons. The recent reorganization of the higher services of the department will result, I am told, in a large saving. This saving may very well be utilized for increasing the pay of the veterinary subordinates. I trust the hon. Minister will take up a firm attitude and do justice to these people."

*Mr. C. S. GOVINDARAJA MUDALIYAR:—"Sir, in seconding this motion I shall turn to my cut motion in order to raise the question of protecting cattle from diseases by means of compulsory inoculation. Sir, the prevalence of rinderpest has done great havoc. For example, taking the case of . . ."

"The hon. the PRESIDENT:—"Does the hon. Member propose to have legislation in regard to compulsory inoculation? Compulsory inoculation means legislation."

*Mr. C. S. GOVINDARAJA MUDALIYAR:—"No, Sir, I do not propose to go into that question at all, but I will speak on the motion. At present in this Presidency, rinderpest has been prevalent and cattle are dying and necessary inoculation could not be had, because, I understand that in the veterinary department enough of serum is not available. To give a concrete example, there is an institution called the Madras Pinjirapole, where more than 800 head of cattle are being looked after and the other day, they had to requisition about 20 head of cattle, mainly calves to be taken from that institution to the veterinary hospital. There, they were kept for some time and after inoculation sent back. The necessary arrangements for housing and feeding them is not altogether up to the mark and are not satisfactory. If enough of serum is available, I should have welcomed the inoculation of all the cattle in the institution, so that no possible chance of the prevalence of the infection of the cattle by rinderpest can take place. As was suggested by my hon. friend, Mr. Shetty, when in Mysore-

they have got an institute where they successfully manufacture this serum for cattle, we do not see any reason why such an institution could not be had within the Madras Presidency. The Nilgiri hills, Coonoor, for example, can afford sufficient facilities by way of cold climate to keep and manufacture the necessary serum. I would very strongly urge upon Government the immediate necessity for steps being taken for the starting of manufacture of the serum either in Coimbatore or in the Nilgiris, so that it may be applied to the cattle immediately and effectively and thus the agriculturists may be benefited.

"I may also state that the present pay and prospects of the officers in the veterinary department are not so high as to attract a sufficiently large number of candidates. By improving their condition we will be solving the problem of unemployment and also increasing the number of assistants in the service. At present there are very few private veterinary practitioners in the country, and I need not say that at present all the graduates sent out of the college are absorbed in the Government service and consequently there are very few of them in the country who can be easily approached by the ryots. Considering the number of cattle owned by the people one should certainly be struck with the necessity for a sufficient number of veterinary officers in the province. But, as it is what do we find? There is only one officer, and that in important towns only, and the calls on his service are so large in number that he cannot find time to attend to all the cases. For these reasons, I would ask the Minister first to see to the manufacture of serum in this Presidency itself so that we need not depend on others, and secondly to increase the pay and prospects of the officers of the veterinary service so that more and more men may be attracted and relieve the great demand for the services of those officers that at present exists, and thus finally we may eradicate rinderpest altogether from this province."

Mr. V. I. MUNISWAMI PILLAI:—"Mr. President, Sir, I rise to support the motion of the hon. Mover, Mr. Shetty. I myself have given notice of a similar motion to point out to Government that the number of veterinary officers now existing in the service is not adequate and thereby the ryots are put to various sorts of inconvenience. Sir, due to the constant outbreak of rinderpest both in the urban and rural parts of the districts, a large number of ryots have to go without cattle. Sir, it is a well-known fact that in an Indian home it is highly necessary that you must have a cow. Now after the constant outbreak of rinderpest, I know most of the people have not this species of cattle, and as a result they not only do not get manure for agricultural purposes but also they do not get even the ordinary cow-dung for their household purposes. Sir, in the course of the general debate on the budget, the hon. the Minister told us that very soon attempts would be made to establish a depot for the opening of an institute for the manufacture and preservation of serum in Coonoor. I would seriously request Government not to delay this matter any longer. For, recently there was an outbreak of rinderpest on the borders of Coimbatore and as a result of it many cattle died. Jackals feasted upon their bodies and turned rabid, and they in turn bit the dogs, which as a result of that turned

rabid also, and they in their turn began to bite men. This menace grew so intense that Government sanctioned a sum of five hundred rupees for the destruction of these jackals. So unless Government takes proper preventive measures to avert such a thing they will have again to spend money on uncalled-for and unforeseen things, like this and waste much money in taking patients to the Pasteur Institute and curing them. I would also say that at present there are not enough number of veterinary assistants to cope with the problem in the province, so that immediate and prompt measures ought to be taken to prevent the spread of the disease.

"Again such a thing is essential not in the interests of the cattle alone but also in the interests of the children who have to depend on them for their milk. For, if we have diseased cattle all over the province, how can we expect to have healthy children? So the time is come when Government should see that a proper veterinary service is kept all over the province for the welfare of humanity as well as of the cattle."

* The RAJA OF KALLIKOTE :—"Mr. President, Sir, I rise to support this motion. I have given notice of a similar cut motion to discuss the question of better pay and prospects of veterinary assistants and also to point out the need for more veterinary dispensaries. I therefore wish to take this opportunity to say a few words about the lot of these Veterinary Graduates."

"The Civil Veterinary Service is a young and small department of the Government and is perhaps the lowest paid of all departments. Time and again this legitimate grievance of the Veterinary department has been brought to the notice of the present Ministry and also the previous Ministry in the form of interpellations and token cuts but I am sorry to observe that the Ministry seems to be heartless to persons whose misfortune it is to serve in the department and who are doing such useful work in treating the dumb creatures. On the 18th of this month, to questions Nos. 1585 and 1585-A, my hon. friend the Minister for Development replied that the question to improve the pay and prospects of veterinary assistant surgeons was under consideration in connection with this budget. I think to a supplementary question my hon. Friend gave us to understand that other things might be considered, but not the question of pay, which he feared could not be taken up on the ground that other departments of Government would want increase in their salaries. I wish to point out to this hon. House that this department need not be compared with other departments which are well paid. The veterinary assistants have a genuine, legitimate and long standing grievance to put forward. I understand they wanted to meet the Government on a deputation and they were informed that they need not do so as the matter was under consideration. May I ask for how much longer this is to be considered and are they to be given no better prospects in their service? Their training is as costly and valuable as that of the medical sub-assistant surgeons and I wish to impress on the hon. the Minister that their scale should be raised from Rs. 60 to Rs. 120, to the same level as the sub-assistant surgeons, i.e.

Rs. 75 to Rs. 150. The sub-assistant surgeon has some prospects of gaining some private practice, but this cannot be expected of the Veterinary Graduate. No ryot will voluntarily pay anything for the treatment of his cattle unless it is a compulsory fee to Government for the cost of any medicine or serum. I trust the hon. Minister will reconsider the position.

"There are not enough dispensaries or touring assistants to give immediate relief at the time of outbreak of epidemics etc. This method of treatment of cattle and other animals is gradually getting popular and is appealing to the country folk but unfortunately they do not have enough facilities to take full advantage of treatment. I see from the budget that the present number of veterinary assistants is 107 and this is proposed to be raised to 114, an increase of only 7. This is too miserable a number to cope with the needs of the Presidency. I understand the Veterinary College is turning out about 20 graduates every year; why not give them posts in the Government instead of allowing them to drift for themselves? There are not enough men even on reserve to fill up leave and other vacancies. We have failed so far with the previous Ministry. I hope the present Minister before he lays down his office will do something much more substantial to this department. I have said this is a small department of the Government. Don't choke it, view it more liberally, give its subordinates better pay and prospects and I am sure it will prosper."

SWAMI A. S. SAHAJANANDAM :—"மிருக வைத்தியம்.—இந்தியாவிலுள்ள தொழில்களில் மிகவும் முக்கியமான மூலாதாரத் தொழில் விவசாயமே. அதற்கு உற்றதுணையாவது உழவுமாதே. உழவுமாதிகள் நன்றியிராவிட்டால் குடிகள் முதல் அரசாங்கம்வரையாதும் நிலைபெறுது. ஆகவே உழவுமாட்டினது நிலையிலேயே அனைத்தும் நிலைபெற்றுள்ளன. இதனால் தான் இந்துமதத்தில் சிவன் மாட்டின்மீதுருக்கிறான் என்று சொல்லப்படுகிறது. உபநிஷத்துக்களெல்லாம் பசுக்களை தனமென கொண்டாடுகின்றன. தற்போது நாட்டில் மாடுகளுக்குப் போதுமான பாதுகாப்பில்லை. உதாரணமாக தென்னார்க்காடு ஜில்லாவில் தலை நகராகிய கடலூரில் மிருக வைத்தியசாலை இருக்கிறது. சிதம்பரம் திருமுஷ்ணம் முதலான ஸ்டீட்களில் மாடுகளுக்கு நோய்வந்தால் கடலூருக்குக் கொண்டுபோக வேண்டும். சுமார் 30 மைல் 40 மைல்கள் கொண்டுபோக வேண்டும். நோய்வந்த மாடுகளை அவ்வளவு தூரம் கொண்டுபோகமுடியுமா? இவ்வருஷம் சிதம்பரம் தாலுக்காவில் மாத்திரம் சுமார் எழுபத்தினூயிரம் மாடுகளிற் தன. அதனால் சிலர் விசனம்பிடித்திருந்தனர். எழைகள் ஒரு ஏர் இரண்டேர் மாடுகள் வைத்திருப்பவர்கள் அவற்றை இழந்தால் என்ன கஷ்டப்படுவார்களென்பதைச் சொல்லவும் வேண்டுமா? ஆகவே எங்கெங்கு மக்களுக்கு வைத்தியசாலைகளைப்படுத்தியுள்ளார்களோ அங்கங்கும் மிருக வைத்தியசாலைகளைப்படுத்தவேண்டும்.

“இது மிகவும் முக்கியமானது. சிதம்பரம் முக்கியமான லிவ் சாய்ஸ் தலையிருப்பதால் அங்கு உடனே மிருக வைத்தியசாலை யேற்படுத்தவேண்டும்.

“மாடு மேய்ப்பவர்களும் அவற்றைப் பாதுகாப்பவர்களும் தாழ்த்தப்பட்ட மக்களாதலால் அவர்களுக்கு எலிமெண்டரி பாடசாலைகளிலேயே மிருக வைத்தியமும் கற்றுக்கொடுக்கவேண்டும். இவ்விஷயமாக கனம் அபிவிருத்தியிலாகா பந்திரியவர்கள் கவனிக்கவேண்டுகிறேன்.”

* Rao Sahib R. SRINIVASAN:—“Mr. President, Sir, the Veterinary department is making a serious attempt in the way of curing diseases. Unless they have strict quarantine that cattle should not move from one place to another, all their attempts will be futile because my experience in another country has convinced me that it is only by quarantine that the spread of diseases far and wide can be prevented. It is easy for the department to say that they want more officers. But if an Act is passed prescribing that the village munsif should issue a permit for the movement of cattle from one place to another and if the Revenue Department co-operated in the matter cattle diseases can be eradicated.”

* The hon the PRESIDENT:—“I must point out to Mr. Srinivasan that this is not an occasion to suggest any measure for legislation.”

Rao Sahib R. SRINIVASAN:—“I have nothing more to say, Sir.”

* Mr. S. ARPUDASWAMI UDAYAR:—“I do not like to repeat the arguments that have been advanced by the previous speakers. There is one thing which is more important than anything else and that is the extension of the activities of the Veterinary department to rural areas. Like the demonstration work that is done in connection with the Agricultural department, there should be a great deal of the demonstration work in connection with the Veterinary department. We should have a number of veterinary assistants travelling to different parts of the rural areas and helping the villagers with their advice. It is all very well to speak of cattle. Some times we speak of it in depreciating terms—as being mere skin and bones—and say that such cattle are not worth preserving. But, Sir, has any serious attempt been made to have certain kinds of demonstration blocks in the shape of good pasture grounds for the benefit of these cattle in rural areas? Has any serious attempt been made to send veterinary assistants to different blocks and have some kind of demonstration work there? Sometimes we have animal shows organized at headquarters. Surely, it is very difficult for the villagers to flock in large numbers to the headquarter centres for the purpose of witnessing the animal show and derive any valuable lessons as to fodder and other matters relating to the well-being of the cattle. If the organizers could alternatively choose centres within easy reach of rural areas and have such exhibitions or animal shows there, they would go a long way in improving the cattle in rural areas. Many of my hon.

Friends spoke of the terrible havoc wrought by rinderpest and the enormous difficulties of taking the cattle 30 or 40 miles from the villages. It is very difficult for the villagers to do this. While they are taking them, the cattle might die on the second, third or the fourth mile. I know in the Tanjore district which is considered to be the granary of South India where one naturally must expect to find the very best kind of cattle and also in the adjoining Trichinopoly district, the cattle mortality was appalling. I know that in spite of the serious attempts made by the village officers and certain enlightened people it was absolutely impossible for any kind of help to reach them. So I request the hon. Minister in charge of this department to seriously consider the desirability of extending the activities of this department in the direction of rural centres. If it has been found possible in the case of the Agricultural department to select certain centres like Lalgudi in the Trichinopoly district or Tirukattupalli in the Tanjore district and other taluks for having such stations whence the demonstrators might go and help the villagers, I think it should be possible for them also to open small veterinary hospitals in such centres as are accessible to large masses of people in rural areas so that when rinderpest breaks out there might be a staff of men ready to give assistance to the people. It is a question of money and the hon. Minister has been probably fighting with the hon. Finance Member to get a large allotment. Probably he failed. Still I hope in the interests of the rural classes, especially the agriculturists to whom the cattle is a natural necessity and to whom the loss of cattle is loss not only of wealth but loss also of the means of carrying on their agricultural operations, the hon. Minister would put up a bold fight and get larger funds and see that the Veterinary department is extended, that more assistants are available, and that more dispensaries are started in places within easy reach of the villagers so that not only in times of the outbreak of rinderpest timely assistance could be rendered, but on other occasions also it might be possible for these assistants to go to the chosen blocks and give demonstrations which might be of real benefit to the people in rural areas. I do not know, Sir, whether members are aware of the fact that with regard to the activities of the Veterinary department even people like myself who reside nearly four or five months in villages have not the slightest idea whether anything is done, whether anybody is ready to give any kind of information to the villagers. I have been travelling about, passing from village to village at the beginning of last year when there was terrible outbreak. People came to me with stories of heavy mortality among cattle and all that I could do was to put interpellations which were answered by the Minister in such a way as to give us the idea that the department itself was not aware of the havoc and that they came to be aware of it only three months after the outbreak and after great loss had been inflicted in very many instances. This would show that there is something defective and that there is need for the extension of the activities of this department. If the activities of this department are to be extended in any particular direction it must be in the direction of reaching the rural areas so that the poor agriculturists

to whom cattle is far more important than any other source of wealth may be protected in times of danger and may derive all the benefits in order to make agriculture a paying concern."

Mr. S. SUBRAHMANYA MOOPANAR:—"இக்காருண்ணிய கவான்மென்டார்களில் அனேக இடங்களில் மெடிக்கல் ஆஸ்பத்திரி களும், மிருக ஆஸ்பத்திரிகளும் வைத்திருக்கிறார்கள்.

"ஒரு மாடானது திடீரெனக் கீழேவிழுந்து தீனி தின்னாமல் இரண்டு மூன்று நாள் மிருக கஷ்டமடைந்ததை உடையவர் மிருக ஆஸ்பத்திரிக்கு கொண்டுபோயினர்.

"அந்த மிருக ஆஸ்பத்திரியில் சுமார் 4 நாள் வரையிலும் நின்றது. மிருக ஆஸ்பத்திரி டாக்டர் தன் கையில் இருந்த உயர்ந்த மருந்துகளை கொடுத்தார். ஷெ மாட்டின் சீக்கு சொஸ்தப்படவில்லை.

"மறுபடி மாட்டை உடையவர் வீட்டுக்கு ஒட்டிப்போய்விட்டார். மறுநாள் நாட்டுப்புரத்திலிருந்து ஒரு ஏழை மனிதன் வந்து சீக்குள்ள மாட்டைப் பார்த்தார். அரை அணு கொடுமென்று மாட்டின் சொந்தக் காரரைக் கேட்டார். உடையவர் உடனே கொடுத்தார் நாட்டுப்புரத்தார் வாங்கிக்கொண்டு போய் அரை அணுவுக்கு எருமை மோரும் அவரைத் தழையையும் கொண்டு வந்தார்.

"கொண்டுவந்த தழையை இடித்து எருமைமோரில் கொடுத்தார். அன்றே தீனி தின்ன ஆரம்பித்துவிட்டது. இதுவையும் இன்னும் அனேக விஷயங்களையும் யோசிக்கும்பட்சத்தில் அனேக மகத்துவங்கள் தமிழ் நாட்டின் மருந்துக்கு உண்டென்று நான் வெகு உறுதியாய்ச் சொல்லுவேன்.

"இதற்கு ஓர் உதாரணமுண்டு. தாயுமானவர் சொல்லியிருக்கின்றார். அதை கவனியுங்கள். அதாவது—

கந்துகமதக்கரியை வசமாய்க் கடத்தலாம்
கரடிவெம்புலிவாயையும் கட்டலாம்
ஒருசிக்கமுதுகின்மேற் கொள்ளலாம்
கட்செவி எடுத்தாட்டலாம்
வெந்தணலில் விரதம்வைத் தைந்துலோகத்தையும்
வேதித்துவிற் றுண்ணலாம்
வேறொருவர்காணாமல் உலகத்துலாவலாம்
விண்ணவரை ஏவல் கொள்ளலாம்
சந்ததமும் இளமையோடிருக்கலாம்
மற்றொரு சரீரத்தினும்புருதலாம்
ஜலமேல் நடக்கலாம் அனல்மேலிருக்கலாம்
தன்னிகரில் கித்திபெறலாம்

சின்தையை அடக்கியே சும்மாலிருக்கின்ற

திடமரிது சற்றுகின்

சிற்பிசை குடிக்கொண்ட அறிவான தெய்வமே

தேஜாமயானந்தமே.

"தமிழ் சாஸ்திர யுகத்தினாலே இப்பேற்கொற்ற நடவடிக்கையெல்லாம் நடத்தலாம். அனேகர் நடத்தி வருகின்றார்கள்.

"இப்பேற்கொற்றவர்களை காணுவது யெப்படியென்றால்?

கைவல்லியம்.

சந்தேகம் தெளிதற் படலம்.

வேடமாரிய பேர்களை அரியவே

வேண்டி நான்மகளே கேள்

கூடமாமவர் சுபாவங் சிலங்கள்

குறிகளாய்ந் தரியாமல்

ஒடியுங் குதித்து தலைகீழ் நின்று

உயர்ந்த கம்பத்தேரி

ஆடியும் பல கன்மங்கள் செய்யினும்

அவருண்மை தெரியாதே.

இதற்கு ஓர் சிறிய உதாரணம்.

"ஐயா, நான் நீண்டகாலமாய் ஒரு வைத்தியரிடம் வைத்தியத்தை கற்றுக்கொள்வதற்கு அவர் சொற்படி நடந்துவந்தேன். ஒரு தினத்தில் சில மருந்துகளை கல்வத்திலிட்டு அரைக்கும்படி சொன்னார். அப்படியே அரைத்தேன். பிறகு மாத்திரையாக உருட்டி நிழலில் உலர்த்தும்படி கட்டளைபிட்டார்; அப்படியே செய்தேன்; பிறகு சீசாவில் அடைத்து பிரோவில் வைக்கும்படி உத்திரவிட்டார்; அப்படியே செய்தேன்; பிறகு கல்வத்திலிருக்கும் மருந்து கைக்கு வரமுடியவில்லை. வெளியில் என்ன நிற்கிறதென்று கேட்டார்; கழுதை நிற்கிறதாகச் சொன்னேன்; அருகம் புல் கொண்டுவாவென்றார்; கொண்டுவந்தேன்; கல்வத்தில் இருக்கும் மருந்தை புல்லால் தொடை யென்றார்; தொடைத் தேன்; கழுதையிடம் போடென்றார்; போட்டேன். கழுதை மூன்று நாளை வரையிலும் அவ்விடமே நின்றுக்கொண்டிருந்தது. நாலாவது நாள் பூவரசுமரத்திலுள்ள புல்லு குவித்தனையைக் கொண்டுவாவென்றார். கொண்டுவந்தேன்; தண்ணீர்விட்டரை யென்றார்; அரைத்தேன்; ஒரு சொம்பு ஜலத்தில் கரைத்து பிரணவ மந்திரத்தை எழுதென்றார்; எழுதினேன்; ஜலத்தை யெடுத்து கழுதையின் சிரசில் ஊத்தென்றார்; ஊத்தினேன்; கழுதை கத்திக்கொண்டே ஒடிப்போய்விட்டது. ஆனதால் இப்பேற்கொற்ற மகத்துவங்கள் தமிழ்நாட்டின் மருந்திலிருப்பதால்

அந்தந்த ஜில்லாக்களுக்கு ஒவ்வொரு தமிழ் வைத்தியசாலை யேற்படுத்தப்பட இக்காருண்ய கவர்ண்மென்டாரவர்களை ரொம்பவுங்கேட்டுக்கொள்ளுகிறேன்.”

Mr. G. LAKSHMANA REDDI:—“Sir, I rise to urge on the Government the need for establishing a serum and vaccine institute in our Presidency. At present, we are getting serum from the far off United Provinces. There is some delay and much expense in getting the serum from there. So it is very necessary that we should have a serum and vaccine institute in our Presidency.

“In 1927-28 the Anantapur district had a number of deaths owing of the prevalence of rinderpest. The figures were very high, and I think I am not guilty of exaggeration when I say that the toll claimed that year by rinderpest in that district was the heaviest in the Presidency. In 1928-29 also the figures were very high; but all the same, I do not think the Government have taken any effective steps whatever to prevent the spread of this fell disease. Last year, i.e., 1929-30 also the toll was very great because the disease had assumed a very virulent shape, and nothing which the non-officials were able to do was of any avail for want of sufficient number of veterinary officers. The veterinary staff is very much undermanned. There is, I think, only one veterinary assistant for every two taluks, and in some cases for even three taluks. As least when the disease is virulent, the Government should appoint more staff. Government, so far as my district of Anantapur is concerned, have not done any such thing although the toll was very appalling for the last two or three years. So, I think, there is a need for increasing the staff of the veterinary assistants. The number of veterinary hospitals and dispensaries should be increased. At present, for instance, in the district of Anantapur there are only two veterinary dispensaries, one at Tadpatri and the other at Anantapur and one hospital in the municipality of Hindupur. For a district of nine taluks—all large taluks—I think that two dispensaries are not adequate. And if Government really want to come to the rescue of the ryot, there must be at least one dispensary for each taluk. If that is not done, I should think that the Government is not at all solicitous about the interests of the ryot and the cattle will go to rack and ruin. Already the physical stamina of the cattle of the Ceded districts is going down and unless the Government comes to the succour of the ryot, I think, the condition of the ryot must be deplorable.”

Khan Bahadur MAHMUD SCHAMNAD SAHIB Bahadur:—“Mr. President, Sir, I think that if the quality of our cattle is to be improved, we require good bulls—strong animals. In order that the bulls may be kept in a fit condition, we require some dispensaries and other places where they can be concentrated, and to take care of them we want a sufficient number of assistants. Here again, there is a question of birth control. (Laughter.) We should take care that the quality of the coming generation of cattle does not deteriorate by the keeping on of unsuitable bulls. There should be central places where these animals should be kept and.

*The hon. the PRESIDENT:—“I think the hon. Member is not within his province to refer to livestock here. The hon. Member was not in his place when he was last called when the Grant for Agriculture was being discussed.”

Khan Bahadur MAHMUD SCHAMNAD SAHIB Bahadur:—“However, Sir, I have pleasure in supporting this motion for a larger number of dispensaries so as to prevent any deterioration in the case of bullocks and other animals we have.”

Mr. J. A. SALDANHA:—“Mr. President, Sir, I am aware that the hon. the Minister for Development has been trying to be responsive to the demands and requirements of the people and he has also been trying to meet them. But the excuse is given for inadequate measures on the score of financial stringency. Rinderpest is a very dangerous disease; and it carries away animals in thousands. All the same, there is no adequate provision made for effectively combating this disease. I have my personal experience in this matter. Rinderpest broke out in and near Mangalore some months ago. There was no adequate staff of Veterinary Assistants who could be present in the town and see if measures were taken to check the spread of the disease. Want of serum has been much felt. I may bring it to the notice of this House that some six months ago the serum could not be got in the whole of South Kanara. My Friend, Mr. Davis, Chairman of the Ootacamund Municipality, also brought to the notice of this House only two months ago the utter indifference and incapacity of the department in this respect. Also in reply to a question put some two days ago, the hon. the Minister explained that the authorities in charge of the preparation of serum at Muktesar should not give up their biggest customer—that is the Madras Veterinary department. Why should not the Government take up the preparation of the serum themselves when it is so clearly seen that the interest of the people are concerned. After all it will be only a question of a few thousand rupees. But considering the advantages we could derive from having our own factory, the cost will be worth incurring. I think the department is quite unequal to the task. Sir, we shall take the case of Mysore. Mysore, as every hon. Member of this house is aware, is a comparatively small province, and it is not after all very rich. Mysore introduced serum simultaneous as soon as it was known that one such serum existed. It was already five years ago. The Mysore Government have also established a factory for producing serum. That Government recognizes that it is in the interests of the poor ryot and that his interests should be safeguarded. This country is purely agricultural and the happiness of the ryot to a great extent depends on the health of the cattle. What would be the fate of the ryot if in a particular season all his cattle are carried away? I think, Sir, the hon. the Minister will learn a good deal if he were to visit the province of Mysore. Not only in this respect but also in so many others, there will be so several things which he would do well to copy. I think, Sir that we should follow the example of the Government of Mysore in all this.

“Another thing, I should refer to, Sir, Salt has been mentioned in a Salt Manual as a very essential food for animals. That salt is a necessity

for cattle is a thing which is very important to be borne in mind. On account of this salt tax people have lost many things. I am not speaking against salt tax at all. I am only pointing out how the imposition of a tax on salt has affected the cattle. Many of the cattle diseases are due to the deficiency of salt. But for the salt tax a large number of cattle could be saved. Then there is the question of the cattle being carried away by wild animals."

* The hon. the PRESIDENT:—"That I think is the province of the hon. the Revenue Member. I do not think I shall be justified in allowing the hon. Member to refer to the menace to cattle by wild animals in this debate."

Mr. J. A. SALDANHA:—"The hon. Minister can urge upon the Revenue Member. I am going to ask him to do it. I am merely referring to it from the agricultural point of view."

* The hon. the PRESIDENT:—"The hon. Member is requested to confine his remarks to this grant."

Mr. J. A. SALDANHA:—"Then there is the question of indigenous treatment for a number of diseases of cattle about which we have very little information. There are a number of country medicines which can be used at least as first aids. In good old days when we had not the services of the Veterinary department many diseases of cattle were treated by indigenous medicines successfully. As our old traditional methods are gradually going out of vogue, a small guide with a collection of such useful recipes will be very helpful. The people are very ignorant. They neither know the new medicines nor the old ones and the cattle are dying in thousands. The traditional methods are being kept as a sort of family secret but the indigenous medicines are more suited to our conditions than the medicines from the English pharmacopœa. I hope the hon. Minister will remember this point."

* Mr. K. KOTI REDDI:—"My Friend, Mr. Saldanha, has drawn attention to the fact that in the treatment of diseases of cattle the indigenous system of medicines will be as efficacious and certainly more economical than the present western system. I myself wanted to draw the attention of the hon. Minister to this very important question. Many of us have knowledge that the medicines which could be got in the villages are sometimes very effective in the curing of diseases of the cattle. I know personally an instance in which a man used to treat very successfully by means of a juice of a certain tree which is easily available, for the fractures of animals. One bandage of the juice was enough, was more than enough to cure that fracture. That man died recently without giving the knowledge of that recipe to the people of the country. Unhappily, Sir, there is a belief on the part of these people that before they die if they give their knowledge the medicine will be ineffective. On this ground they do not give the information and if they die the country is the loser. So I suggest to the Government the feasibility of purchasing this knowledge from such people before they die. Some of them do make money on account of that knowledge but on the ground that the medicine will become

ineffective they do not give it out. If the Government come forward with financial help, they can succeed. Government should make every effort to see that this indigenous system is utilized for the good of the cattle.

"Adequate steps are not taken by the department to arrest the spread of contagious diseases throughout the Presidency. In my part every village is affected by rinderpest and Government was not in a position to supply enough serum for the inoculation. The assistant surgeon was not able in time to get the necessary serum and virus and a number of cattle died consequently. The extent of loss the agriculturist has to incur is enormous. I hope Government will take adequate steps to help the ryots in this matter. In this connection, Sir, I may say that the number of students trained in the veterinary college are absolutely inadequate and I hope that with the present accommodation and staff there is every possibility of increasing the number of students trained. At present there is really no reserve staff and when an epidemic breaks out it takes a lot of time before assistance is rendered by Government. My friends have already referred to the inadequacy of the staff and the dispensaries, and I hope steps will be taken in that direction."

* Mr. B. RAMACHANDRA REDDI:—"Sir, the Royal Commission on Agriculture has recommended the establishment in each district of a central veterinary hospital having accommodation for the treatment of cattle and for sending out men to the outlying places to impress the value of veterinary dispensaries and treatment of cattle. I want to know how far the Government have pursued that recommendation made by the Royal Commission. I find from the budget estimate there is only an increase of five in the number of touring assistants and seven in that of assistants in regular dispensaries. I think there is also the policy laid down by the Government that most of the touring billets should be converted into regular hospitals and dispensaries. I think there is also the policy laid down by the Government that most of the touring billets should be converted into regular hospitals and dispensaries. Even towards this end, I wish to know what progress has been made by the Government. Even the entire budget estimate of Rs. 2,81,100 for 1930-31 shows only a slight increase over the estimate of last year. But no substantial and appreciable increase in the number of dispensaries or in the number of veterinary touring assistants has been made. I wish to know whether the Government are not sympathetic towards the recommendations made or whether they have got in mind any idea of moving a supplementary demand in due course."

* Mr. G. HARISARVOTTAMA RAO:—"Mr. President, Sir, if I intervene in this debate it is to point out to the hon. Minister concerned that as in the case of men so in the case of animals the indigenous systems of treatment of diseases must be explored and utilized to the fullest extent. In the matter of treatment of men things have gone too far and in the matter of treatment of animals things have not gone so far. Therefore we are in time to consider this matter to the advantage of the country. India possessed a great deal of animal wealth and the ancients' warfare in India included horses and elephants as principal factors. To-day you will find if you go to the Oriental Manuscripts Library books treating with all

diseases connected with elephants, horses and other animals. That field has not been touched or explored on account of the fact that more attention has been paid to urban relief under the British Government and the cause of animals has suffered. When that cause was taken up it was taken up on western lines. It has not been attacked till now by giving an oriental turn to the treatment of animals. We have just heard very interesting facts as to the treatment of animals.

"One hon. Friend narrated how a particular animal was treated under the western system and was given up as hopeless, and how it was cured miraculously by a certain recipe of an indigenous doctor. My hon. Friend from Cuddapah has said that there are here and there men practising the indigenous system of preventive medicine, and that before they die out their recipes should be utilized to the fullest advantage by purchasing their ownership. I would go further and state that in Sanskrit, Telugu and other Dravidian languages, there is a great deal of literature bearing upon this subject, and all that literature has to be explored together with what knowledge remains in the country in the practice of preventive medicine for animals. If the hon. Minister—I suppose his term is coming to an end but probably he can lay down some further policies—if he is inclined to do anything at all, it is quite possible that he can make a beginning in a suggestive manner and leave it to his successor to carry on the work for the benefit of this Presidency. I know, Sir, there will be very powerful interests opposed to these schemes, but we have to assert ourselves and find out what best we can do. We have hoary traditions, we have an ancient civilization, we have had sciences at which we mocked at first but respected them afterwards. In India, we have had a strange spectacle where even the sons of the land scorned their own ancient learning, scorned their own methods of treatment, and scorned their own age-long practices, but later on they came to recognize along with their masters of the west the potentialities of Indian thought and Indian practice in all spheres of life. Therefore this sphere of life in India is not to be ignored as of no consequence in Indian history. It is essential that the Government should postulate a policy of exploring indigenous methods and indigenous sciences in regard to these matters. I hope, Sir, that, if to-day's debate will have some effect on the Government, the hon. Minister will proceed to take some steps in the directions indicated in this House."

*MR. M. V. GANGADHARA SIVA:—"Mr. President, Sir, I think the hon. Minister will remember quite well the points I gave out in my budget speech when he came into the office of Ministry, that it would be a memorable event if he is to start many dispensaries for the poor animals in every taluk and rural area. As it is, the present system of veterinary help given by the Government is not quite satisfactory, on account of having only one dispensary, where there ought to have been four or five dispensaries. When the ryot is in need of a veterinary doctor, by the time the doctor goes to him his suffering animal expires. So, under these circumstances, Mr. President, I would suggest to the hon. Minister to start as many dispensaries as possible in every taluk and in every unit of rural area, so that ryots will be in a position to get the help of a veterinary

doctor as early as possible and save his poor cattle in that way. Sir, the good condition of the animals forms the backbone of the depressed classes, whose entire living is dependent upon the healthiness of their cattle and other animals. So, I once more request the hon. Minister to allot a decent sum of money to open a number of veterinary dispensaries to give relief to the suffering animals."

MR. ABDUL HAMEED KHAN:—"Mr. President, I did not wish to intervene in this debate except to say one thing. There is absolutely no difference of opinion with regard to the fact that there is a great need for veterinary dispensaries in all parts of the province, and it is the duty of the Government to see that if one section of it looks to the welfare of humanity, another section in charge of this department should see that the cattle and other animals in the country are well treated and are prevented from getting diseases. Sir, at the same time, I would like to point out that, in addition to the maintenance of veterinary dispensaries, the Government will reduce much of its expenditure if it comes to the rescue of other institutions established by private bodies for the care of animals, by helping them and giving them annual grants. I rose to speak, Sir, as I said, in order to point out the importance of this aspect of the question, namely, that the Government will be able to reduce the expenditure incurred on their part for the maintenance of veterinary dispensaries wherever they are maintained, if they would make up their mind to aid the institutions which are run by popular bodies by giving them help in the shape of annual grants."

*The hon. Mr. M. R. SETURATNAM AYYAR:—"Sir, the chief points raised by several hon. Members of this House regarding the measures necessary for making the work of the veterinary department more useful and effective are the opening of a serum institute, the increase in the number of veterinary dispensaries, increase in the cadre of veterinary assistants and touring billets and the adoption of a policy regarding investigation into the system of indigenous medicines for animal diseases. As regards the serum institute, I have already said in the general discussion on the budget this year—and I can only repeat the same now—that a complete scheme is now ready for the acquisition of a site for the construction of an institute and that the scheme can be set in motion immediately the Council makes a grant. But this Government do not stand alone in this matter. The Government of India have been supplying serum to Local Government, and this Government are their largest customers to the Mukteswar Institute because the Madras is much ahead of any other province in India in regard to serum simultaneous inoculations. To stop suddenly our custom will seriously embarrass the Government of India and will put their serum institute to a loss. So, time and opportunity has to be given to the Government of India so that they may make an adjustment. We have been for a long time customers of the Government of India, and it is in fairness to our Government and to the Government of India that we should give them an opportunity to adjust matters. So we have been in correspondence with them, and as soon as we receive their reply, the matter will be taken in hand."

"With regard to opening more dispensaries and appointing more veterinary assistants, I may say that our aim has been to have at least one dispensary at each taluk headquarter." The only question now is want of trained hands. All the trained hands already available have been appointed. I can give some figures to show the progress made in the last three years; we had in 1926, 200 veterinary assistants and now in 1929, we have 246, and the expenditure also rose from Rs. 82,000 in 1926 to Rs. 1,07,000 in 1929, so that we have gradually improved the conditions of service of the veterinary surgeons and opened more dispensaries and created more touring billets also. To get more trained men, who have increased the number of stipendaries at the college from 15 to 40, and we hope that in the course of a few years we will have enough trained hands to man each dispensary with one veterinary surgeon under the scheme we have on hand at present."

(Mr. K. Koti Reddi said something inaudible from his seat.)

* The hon. the PRESIDENT:—"I request the hon. Minister to address the Chair and not to mind the interruptions."

* The hon. Mr. M. R. SETURATNAM AYYAR:—"We cannot go on all on a sudden in regard to this matter, but we can proceed only gradually. The Government are also fully alive to the needs of the situation in regard to cattle diseases, and are trying their best to carry on experiments for checking those diseases. With regard to the treatment by the indigenous system of medicine, I may say that I too come from the village, and I have seen some Indian drugs administered to the cattle which proved satisfactory. I have noted down what has been said on this subject, and I will see whether anything could be done as was done in the case of the indigenous system of medicine for human beings."

"Some mention was made regarding the pay and prospects of the veterinary surgeons and assistants in this province, and I may say that I quite sympathize with them. But the only consideration was that when the matter was examined by the Government we found that their pay was quite sufficient when their qualifications and their work were compared with similar services. The only difference between this service and the other services was that only 10 per cent of these veterinary assistants could rise to higher grades. And so we have made provision for 15 per cent being admitted to the selection grade, and thus we hope that in that way a number of people can have the benefit of rising to higher posts. Some hon. Member suggested that we should have a new provincial service as in the case of some other departments. This question has to be examined, because it has to be compared and contrasted with other services, to see whether any such thing can be done in the near future. Of course, I see the immediate necessity of giving relief to the men in the higher grades in the cadre."

"With regard to the suggestion of compulsory inoculation made by Mr. Govindaraja Mudaliyar, I can only say that we are not at present able to get all the serum that is in demand now. A system of compulsory inoculation will mean great cost and a very large supply of serum for which we have not got the source."

"Mr. Srinivasan suggested that poultry breeding might be undertaken. I do not know what difficulties we will encounter in such ventures, but I will have the question examined."

"In regard to grants to private institutions raised by one hon. Member, the Government will be glad to see that private institutions are opened, and, if they apply for grants, Government will consider what aid they can give. Formerly some institutions were aided, and the grants were stopped as they were not working satisfactorily. But, if any body comes forward and gives an undertaking to run such institutions on proper lines, the Government will examine the question again with a view to aiding them."

Mr. B. Ramachandra Reddi suggested that the budget estimate of this year is not very much in excess of the revised estimate of last year. I may inform him that in the last year's budget we had greatly increased the provision for circle officers and so on and that is why there is no appreciable increase in the budget provision for the purpose this year."

Mr. B. RAMACHANDRA REDDI:—"I was speaking of only hospitals and dispensaries."

* The hon. Mr. M. R. SETURATNAM AYYAR:—"My reply refers to them also. I can assure hon. Members that the Government are alive to the needs of the ryot population and will do what they can."

"Sir, some hon. Members spoke about birth-control in the case of cattle, I do not propose to reply to that point, till we see the results in human beings, about which so much talk was being made this morning."

Mr. RAMANATH GOENKA:—"I am very thankful to the hon. Minister for promising on the floor of the House to-day that he will give aid to private institutions. Sir, for the last 15 years the Madras Pinjrapole had been getting Rs. 1,500 from the Government and about three years ago it was all on a sudden stopped."

* The hon. the PRESIDENT:—"Is the Pinjrapole grant under this demand or under the Agricultural Demand?"

The hon. Mr. M. R. SETURATNAM AYYAR:—"I will look into the budget and tell you, Sir."

* The hon. the PRESIDENT:—"If it is under the Agricultural Department, I cannot allow the hon. Member to speak about that now."

Mr. R. NAGAN GOWDA:—"I will not refer specifically to Pinjrapole, Sir. On general principles, Sir, I would request the hon. Minister to give help to such of those institutions that come forward for help to the extent necessary for relieving the sufferings of the dumb animals."

Dr. B. S. MALLAYYA:—"Mr. President, Sir, one disquieting feature of the administration of the veterinary department is the progressive increase in the mortality rate of cattle. I have been observing during the last four years this fact: that as we go on increasing the grants for the purchase of serum and vaccine, the mortality rate also goes on increasing. Sir, the year before last, the demand was for a lakh of rupees under this head, and for last year, the demand was for double that amount. I do not know whe-

ther the serum simultaneous method of inoculation had anything to do with it; but the fact remains that the mortality rate increased from 35,000 to about 189,000 this year. Sir, calculating at the rate of Rs. 200 per head of cattle, the loss to the Presidency comes to the enormous sum of three crores of rupees. So much money is gone from the pockets of the poor ryots who contribute to the revenues of the Government. Sir, we asked the Minister to open an institution for the preparation of vaccine here so that we might remove this fell disease from the Presidency altogether. He said that the Government of India had to be consulted in the matter. Now I ask whether you are hereafter going to purchase vaccine at a cost of three or four lakhs from Muktesar and yet be unable to arrest the growth of this disease among cattle and occasional loss to the poor cultivators to the extent of three crores of rupees every year. I do not know how many crores it will be this year. But taking the ratio at one to four, the loss may come to five crores this year. Sir, how long are the poor cultivators to suffer from this state of affairs on account of the Government of India not permitting us to open our own institution here? There must be an end to this state of affairs. We must open our own institution here straightaway even without the consent of the Government of India. Bangalore has got an institution. We should open a similar institution in the Madras Presidency and begin the inoculation even now without waiting for the disease to make its appearance. Once it breaks out you cannot control easily. You should not wait till the last moment. The Kasimode battery waited for the 'Emden' to reach our shore and set the petrol tanks on fire and then after she had sailed in the direction of Pondicherry the battery replied. 'Emden' would not have started bombardment if the battery had not been silent all along. So also, the department should not wait for the disease to appear to begin their operations. The serum simultaneous method of inoculation is intended to prevent the epidemic coming on. Do we wait for smallpox to attack a person to start vaccination? Similarly you must see that the cattle are inoculated before the disease breaks out. The complaint of the officers in the districts have been that they have no serum. From Muktesar you get only serum and it loses much of its efficacy before we get it here. Virus is made here. When you make virus here, why not you also make serum which is its by-product? When you prepare rice, you have also got *conjee* water. It is its by-product. You have got men and you have got facilities. You need not go to Coonoor or Aravankadu for making serum. Those places are winter-resorts for the rich and are not necessarily suitable places for manufacturing serum. Serum and virus can be made in Madras. Lymph is made at Guindy. There is a big maidan there. I suggested long ago that if you are short of funds Mr. Goenka would place all the animals of his Pinjarapole at your disposal for the preparation of serum and virus and also contribute something for the expenses. Why not you make a beginning now and see that the disease is clean rooted out of the province? Sir, what is wanted is determination. Do not believe your experts. They have their own way of doing things. We had an expert in Madras for water filtration. He wanted to filter away our money. The sister State

of Mysore has rid rinderpest clean of its territory. It is therefore disgraceful for this Government to go to Bengal and beg for some serum and virus when they cannot get them from Muktesar. But what prevents you from making it here? You have got the men and you have got the facilities. We want the Minister to do it here and if he says that he cannot do it, let it be tried by private agency. Let the Government say that they will not do it and then we will see that a private agency is formed, serum is prepared in large quantities and placed at the disposal of the poor ryots who are now suffering very much."

The motion was by leave withdrawn.

Demand XXIV was then put and carried and grant was made.

VETERINARY RESEARCH.

Agricultural Board's Proposals.

The advisory Board of the Imperial Council of Agricultural Research has recommended to the governing body the according of sanction to a number of new appointments required for research work, mostly at the Muktesar Veterinary Institute. The first post thus recommended is for a Research Officer to investigate into the condition known as contagious abortion among domestic animals. It was explained that, at Muktesar, while work was increasing, the number of research workers was increasing. It was vital for the Institute to get together an adequate team of well-qualified research workers. The board had before it four veterinary research schemes and it was hoped that there would be more in future, especially schemes in regard to animal nutrition and a few schemes for local investigations in the provinces apart from the work of research at Muktesar which would increase in volume and in scope as time passed. There was need also for local investigations in the provinces. It was not necessary that they should multiply research institutes. Work could be done in the provinces without first setting up expensive buildings and in a small way as the work grew and developed buildings would follow. It was due to her efficient veterinary services, aided by preventive legislation, that England had been kept as free from animal disease as she had been. What India had not so far realised was first the economic value of veterinary research and, secondly, the importance of team-work in veterinary research. The cattle population of India was roughly 134 millions and yet, if one worked out what was spent on actual research at the Muktesar Institute, one would find that it had not come to more than two or three lakhs per annum. The trouble has been that, so far, the Muktesar Institute had been expected to pay its way. It was almost axiomatic that research could not be conducted satisfactorily on this basis. Even a commercial company, when it financed a particular piece of research affecting its business, did not finance the work on a profit and loss basis. The production of Sera should be separate from the prosecution of research and it was satisfactory that steps in that direction were now being taken by concentrating production work which, in the past, had

to a large extent, been carried on at Muktesar, at the Imperial Serum Institute at Izatnagar.

As with Muktesar, so with the Provinces, the need was now for men rather than for buildings. One member expressed satisfaction that the programme of work sketched out for the proposed research into the diseases of animals bore in some cases directly, in others indirectly, on human diseases. He therefore, welcomed the co-operation of the Veterinary Department with the Medical Department and hoped this would grow even closer than it had been so far. When he visited Muktesar he was struck by the complete lack of adequate personnel which was only sufficient to carry on the routine work of the Institute. He stressed the point that the need now was for men rather than for buildings and he was of opinion that only when Muktesar as an Institute became inadequate for the needs of Veterinary research should other such institutes be opened up.

In the result the Board decided to recommend grant not exceeding Rs. 1,45,400 spread over a period of five years. The Board took this figure as the maximum charge which would fall to the Council, though it was possible that the total expenditure might be less if, for example, suitable candidates were found in this country. It was further agreed that if the grant in this connection was sanctioned by the Governing Body, the principle already accepted in regard to appointments involved in other schemes previously considered by the Board viz., that the Officer should be recruited through the Public Service Commission should be applied in this case also.

A Protozoologist.

Similarly, a recommendation was made for a grant of Rs. 1,06,520 spread over five years for the appointment of a Protozoologist, and the Government of India will be approached in order to ascertain if they are willing to the appointment of a second permanent Protozoologist on the staff of the institute.

Equine Diseases.

There was a prolonged discussion over the proposal to appoint a research officer for equine diseases at the Institute which was finally recommended by sixteen to three votes, that appointment to last for three years, the total expenditure involved being Rs. 86,150, subject again to the condition that recruitment was through the Public Service Commission. One member remarked that catarrhal and other diseases were prevalent in other countries and if they, after years of research, had not been able to solve the problem he saw little chance of India being able to do so by the appointment of an officer for three years. It was replied that equine diseases were far more widespread in India than in other countries. They had, therefore, more material for research, but if it was necessary, the Institute could always come up to the Council for the extension of the officer's services in case a continuance of this research was considered necessary beyond the period of three years. Replying to the question as to whether the Army had done any work, it was said that they had done so in collaboration with Muktesar, but that a whole time officer was

Revision of curriculum in Madras Veterinary College 75

required who would devote his entire attention to it. The opposition argued that the funds of the Council should be allotted to schemes of greater importance to agriculture of the country and the Council should subsidise research into diseases which caused high mortality in horses and cattle which were common all over India. It was no doubt that research into any disease was valuable, but for a poor country like India they should pick and choose those diseases which did the most harm. One member on the other side remarked: "It was known that a modest sum of money was grudged for research into equine diseases, because equine health was held of little importance in India. Other countries would be amazed." Another speaking in support of the proposition contended that in certain Provinces horse-breeding was an agricultural industry and it was wrong to describe it as an Army question.

MADRAS VETERINARY COLLEGE.

Revision of Curriculum.

Orders have been passed on the question of the revision of the curriculum at the Madras Veterinary College, in the light of the recommendations of the Royal Commission on Agriculture. The subject was examined under three main heads—preliminary educational standard, curriculum of studies and staff; and the Government have come to following conclusions:—

Preliminary Educational Qualification.

"The preliminary educational standard will be S.S.L.C., with 45 per cent in English and in order to induce young men with higher educational qualifications to join the College, 14 of the 40 seats in the College will be reserved for Intermediates and six for Science Graduates. On appointment to the department, three years seniority for pay will be given in the case of Intermediate and five years similar seniority in the case of Science Graduates. These men will not however be given stipends as they will be started on a higher initial pay than the ordinary S. S. L. C., holder.

Course of Studies.

The course will extend for a period of three years as it is now but the subjects will be distributed according to the new curriculum as under—
First year:—(1) Anatomy, (2) Chemistry—Inorganic and Organic, (3) Biology—Botany and Zoology, (4) Handling of animals. Second year:—(1) History and Embryology, (2) Physiology including Bio-Chemistry, (3) Pathology, Bacteriology, and Immunology, (4) Parasitology including Protozoology, (5) Pharmacology including Materia Medica, (6) Surgical Anatomy and Shoeing. Third year:—(1) Surgery including Obstetrics, Soundness and Jurisprudence, (2) Therapeutics and Toxicology, (3) Preventive Medicine including meat and milk inspection and Sanitary law (4) Hygiene, including Genetics and Nutrition.

The Staff.

There will be eight lecturers under the new curriculum including the Principal who, in addition to his work of general supervision, will take up teaching work in his own subject. They will be designated as :—

Principal and lecturer in Preventive Medicine, Lecturers in Pathology, in Surgery, in Hygiene who will also be Resident Veterinary Officer and Personal Assistant to Principal, in Anatomy, in Physiology, in Parasitology and in Pharmacology. If the Principal cannot teach Preventive Medicine, he may take any other subject and the subjects correspondingly redistributed among the other lecturers. The lecturer in Hygiene will also be in charge of the Library.

Four additional posts of lecturers in the Madras Veterinary Service (250-25-750) are sanctioned with effect from 1st July 1930 in connection with the above scheme. These posts will be filled by officers with qualifications which have been laid down for recruitment to the Madras Veterinary Service. If such persons are not available, four temporary appointments on the scale of the selection grade of Veterinary Assistant Surgeons will be created in their stead for providing the lecturers needed. The assistants required for each of these lecturers will be found from the existing staff of lecturers, assistant lecturers and laboratory assistants.

Association News.

PROCEEDINGS OF THE ANNUAL GENERAL BODY MEETING OF THE ALL INDIA VETERINARY ASSOCIATION, MADRAS BRANCH.

*Held at the Madras Veterinary College,
on Saturday, the 19th April, 1930.*

Present.

Messrs.

P. Srinivasa Rao, (<i>President in the chair</i>).	G. R. Visvanathan.
K. S. Natesa Iyer.	R. Narayanan.
L. S. Parameswara Iyer.	Chea Phee Phay.
M. S. Sastry.	P. Sadasiva Bhatt.
Francis Joseph.	E. R. Nagarajan.
S. Ganapathy.	V. Janakiraman.
R. Venkatraman.	M. A. Rangasamy Iyer.
P. A. Parthasarathy.	K. Samharisimha Rao.
S. Vanjeesvara Iyer.	
C. V. Vasudeva Rao.	

The President welcomed the members present, expressed his regret that many more members have not found it convenient to attend the meeting, owing to some reason or other, but hoped for greater attendance at the future meetings. He thanked the Principal of the Madras Veterinary College for the kind permission to use the College Hall for this meeting and drew the attention of the members present to the second letter from the Principal, dated 8-4-30, in which it was stated that the permission already accorded to hold the meeting in the College Hall "is subject to the condition that no speeches will be made or resolutions proposed or passed criticising the action of the Government". The President said that their object in meeting, speaking or doing anything in these gatherings was only with a view to represent the views of the Association to the Government for the improvement of the profession, so that the latter may be able to render efficient service to the ryot. He therefore assured the authorities that they were not there to criticise the actions or views of anybody much less those of the Government as no useful purpose would be served by such action. He hoped the members present will agree with him in this.

The Secretary then read letters from many absentee members, who regretted their inability to attend the meeting but wished it every success.

The minutes of the last meeting as published in the INDIAN VETERINARY JOURNAL were taken as read and were confirmed.

The Secretary read out the annual report of the managing committee on the working of the Association, for the year ending with the 31st October, 1929, together with the statement of receipts and expenditure from 1-11-1928 to 17-4-1930.

The President then invited remarks and suggestions from the members present on the report before its adoption was moved. Many members expressed their hope that the senior members of the profession would take greater interest in the work of the Association, for the uplift of the profession than at present, and the members in general would again take the same keen interest as once before and attend the meetings with their friends in large numbers. It was also hoped that

the removal of the ban on contribution of professional papers from the service members direct to the *journal*, will be taken advantage of by the members concerned and flood the Editorial office with large number of professional articles and clinical notes.

Proposed by Mr. K. S. Natesa Iyer and seconded by Mr. Francis Joseph, the report and the statement of accounts was unanimously adopted.

The following papers were then read :—

(1) "Treatment of clinically diagnosed carcinoma of the base of the horn of cattle, in the early stages, with Antimonium Tartaratum" by Mr. M. S. Sastry.

(2) "Sterility in Cattle" by Mr. P. Thiagaraj.

(3) "All about Muktesar" by Mr. T. N. Kulkarni, Poona. (with 6 photoes).

Some more papers which had been received for the meeting were held back for publication in the *Indian Veterinary Journal*, owing to the absence of the authors and want of time. But a paper received from the Rajah of Kangundi, Kuppam, suggesting some improvements in the Civil Veterinary Department and inviting the remarks of this Association thereon was read and discussed. A keen discussion then followed from the papers mentioned above and the authors were thanked for the contributions. (The papers will appear later on.)

The following resolutions were then duly proposed, seconded and passed :—

(1) This Association regrets to record its sense of sorrow at the untimely demise of its member G. P. Srinivasan, and empowers the Secretary to send a letter of condolence to the members of the bereaved family.

Put from the Chair. Passed in silence all members standing.

(2) This Association is of opinion that the recommendations of the Royal Commission regarding the course of studies in Indian Veterinary Colleges should not adversely affect the period of training in the Madras Veterinary College, but requests the Government to take early steps to get the

Madras Veterinary College affiliated to the University of Madras.

(3) This Association requests the Government to take immediate steps to improve the pay and prospects of the subordinate Veterinary Service as the existing economic distress among them is very acute and is likely to affect the efficiency of service.

(4) This Association requests the Government to take early steps to make it compulsory on the part of all the Municipalities and Union Boards to engage the services of Veterinary Surgeons for the purpose of meat inspection in all the places, where there are veterinary institutions.

(5) This Association requests the Government to fill all the vacancies in the Madras Veterinary Service only by promoting the officers from the subordinate service, as they are well fitted to fill up such vacancies by virtue of their experience in the profession and the department and intimate touch with the requirements of the country.

(6) This Association requests the Government to take early steps to start veterinary propaganda work quite independent of Agricultural propaganda work among the rural population with necessary equipment such as magic lantern slides, cinema films, charts, exhibitions and lectures especially in such places as "shandies, cattle markets etc."

(7) This Association requests the Government to open a Serum Institute within the presidency forthwith, since the supply of Anti Rinderpest Serum from Muktesar is not sufficient to cope with the growing demand and consequent high mortality among cattle in the presidency.

The Election of Office Bearers.

All the retiring office bearers including the President and the Secretary were unanimously re-elected to hold office for the current year.

The President in his concluding remarks exhorted the members present and absent to evince great interest and enthusiasm in the work of this Association and the *Journal*, as these two have been working for the improvement of the profession as a whole and they would be able to do this work satisfactorily only with the co-operation of all the members.

irrespective of the position they occupy in public services. He thanked once again the Principal for the loan of the Hall for the meeting and thanked the members present for the trouble they took in attending the meeting from the distant parts of the country.

With a hearty vote of thanks to the Chair, the meeting terminated.

(Sd). M. S. SASTRY,
Secretary.

(Sd). P. SRINIVASA RAO,
President.

REPORT OF THE MANAGING COMMITTEE OF THE ALL-INDIA VETERINARY ASSOCIATION, MADRAS BRANCH, FOR THE YEAR ENDING 31-10-29.

Members :—At the beginning of the year there were 206 members on the roll. There was one casualty in the person of G. P. Srinivasan. The names of members of the profession living outside the Madras Presidency were removed from the membership roll of this branch, to enable them to join in the new associations formed in their own provinces. Thus there were 184 members on the roll at the close of the year.

Meeting :—The annual meeting of the Association was held on 24-12-28, the proceedings of which have already appeared in the Indian Veterinary Journal. At the request of this branch, a preliminary meeting of the members of the profession, resident in Madras and surroundings, was held, on 27-11-29, when it was decided, to hold the 6th session of the All-India Veterinary Conference in Madras, and the necessary Reception Committee was formed. It is gratifying to note, the Conference was held successfully, and the proceedings have already appeared in the Indian Veterinary Journal.

Delegation to the Mysore Veterinary Conference 1929 :—On behalf of the Association and at the invitation of the Mysore Veterinary Medical Association, the secretary of this branch attended the sessions at Bangalore, on 22-6-29.

The Indian Veterinary Journal :—This journal continues in its progressive career, winning the appreciation of the members of the profession in many countries. Its contribution towards the advancement of the profession, has been well known to all the members present. In this connection, we

cannot do better than quoting the words of the President of the last Conference, Mr. P. T. Saunders, O. B. E., M. R. C. V. S., I. V. S. He said :—"The Indian Veterinary Journal, the organ of your Association, is itself a reflex of your work and a most valuable index of your vitality. Its usefulness and its popularity is a tribute not only to its editor, Mr. P. Srinivasa Rao, but to the interest and to the team-work of its members".

The efforts to remove the ban placed on the contribution of articles direct to the Journal from the members in service in Madras Presidency were continued and though success was not achieved during the year under report, still it is pleasing to note that a modified order has been recently issued by the Government, which should enable the service members to contribute professional articles, direct to the Editor as before. It is hoped that the members will liberally contribute articles to the Journal in future.

Propaganda :—The President of the Association took advantage of every opportunity afforded him to educate the general public, landed aristocracy and the members of the Legislature and Government and placed the Veterinary needs of the country and the profession before them. The result has been that greater number of people have been taking keener interest in matters Veterinary, than before, and advocate the cause of the profession.

Financial :—The statement of receipts and expenditure is appended to this report. It is a matter of great regret that many members are yet to clear off the heavy arrears, due from them, with the result that this branch is in its turn in arrears to the Central Committee. The financial distress which is keenly felt by the members is no doubt the main cause of this sad state of circumstances. However, it is hoped that the members in arrears will try to clear off the dues, atleast in easy monthly instalments.

Remarks :—The Association with its energetic President, has done much silent unostensible and useful work for the advancement of the profession in the Presidency. The senior most members of the profession have been still keeping off the association in spite of its appeals to them to join it and help in its activities. No doubt they have been generously

responding on the occasions of the all-India gatherings and contributing liberally towards their success, to keep up the fair name of Madras, but it is not enough and what is expected of them is their hearty and steady co-operation by becoming members.

No stress need be laid on the fact that this is the only organisation of its kind to look after the interests of the Veterinary profession, and to study the Veterinary needs of the country on the lines of the National Veterinary Medical Association of Great Britain and Ireland, and similar associations in other foreign countries. There is some justification for some hesitation on the part of members of the profession in service, that expression of their views on Veterinary matters will be viewed with displeasure by the authorities, but the considered views of a collective body, members of which are in intimate touch with the agricultural population will not only be welcomed by the authorities, but will also prove of great use to the latter as the aims of both are identical, namely the advancement of the profession as an important factor in the national economy of the country. All these objects of the Association would have met with greater success than now if all the senior members of the profession had responded to the call of the Association, but the committee still hopes for response from them.

Before closing this report, we appeal to the members of the profession once again, to evince a keen interest in the activities of the Association and contribute towards its success.

MADRAS.

18-4-30.

(Sd.) P. SRINIVASA RAO,
President,
For the Managing Committee

Statement of Accounts, A.I.V.A. Madras Branch 83.

Statement of Receipts and Expenditure of the All-India Veterinary Association, Madras Branch, for the Period from 11-1-28 to 17-4-30.

RECEIPTS.			EXPENDITURE.		
	Rs.	A. P.		Rs.	A. P.
Balance on hand on 1-11-28	377	5 10	To printing	13	9 6
By Subscription	131	0 0	„ postage	19	8 0
Interest on S. B. Account.	10	0 0	„ conveyance charges	0	4 0
			„ meals & tiffin etc., for annual meeting 1928	9	0 0
			„ Secretary's trip to Madras and back for the meeting 1928	16	0 0
			„ Secretary's trip to Bangalore Conference, 1929	10	6 0
			„ Tea party to the delegates of the All-India Veterinary Conference, 1929	98	11 0
			„ Sundries	0	14 0
			To balance	350	1 4
Total.	518	5 10	Total.	518	5 10

	Rs.	A.	P.
Balance on hand on 18-4-30. In S. B. Account	287	0	10
Cash with the joint Secretary.	63	0	6
Total.	350	1	4

(Sd.) V. JANAKIRAM AIYER,
Joint Secretary & Treasurer.

(Sd.) P. SRINIVASA RAO,
President.

REPORT OF THE ANNUAL GENERAL MEETING OF THE BOMBAY VETERINARY GRADUATES' ASSOCIATION.

The Annual general meeting of the Bombay Veterinary Graduates' Association, was held at the Kashinath Devji Dharu Hall, Dadar, on Saturday the 19th April 1930, at 9-30 A. M.

The following members from all parts of the Presidency were present:—

- | | |
|------------------------|--------------------------|
| 1. Mr. M. G. Kulkarni. | 21. Mr. K. K. Parulekar. |
| 2. „ D. S. Laud. | 22. „ A. H. Khan. |
| 3. „ P. G. Date. | 23. „ P. B. Cardmaster. |
| 4. „ T. R. Khaladkar. | 24. „ V. G. Akula. |
| 5. „ A. A. Dave. | 25. „ V. R. Padke. |
| 6. „ Y. N. Marathe. | 26. „ R. G. Sathe. |
| 7. „ V. W. Nabar. | 27. „ S. K. Damle. |
| 8. „ S. J. Khambette. | 28. „ G. S. Patankar. |
| 9. „ V. K. Thatte. | 29. „ H. H. Uttanvala. |
| 10. „ N. S. Naik. | 30. „ R. M. Kalapasi. |
| 11. „ G. R. Dhuru. | 31. „ L. G. Amone. |
| 12. „ K. Kandade. | 32. „ V. V. Desai. |
| 13. „ M. N. Ronghe. | 33. „ U. Y. Gadag. |
| 14. „ G. T. Shah. | 34. „ P. Miranda. |
| 15. „ T. G. Desai. | 35. „ K. S. Ayer. |
| 16. „ G. G. Chabbi. | 36. „ J. N. Barowha. |
| 17. „ T. N. Kulkarni. | 37. „ R. P. Vedak. |
| 18. „ S. S. Patkar. | 38. „ P. V. Nagarshet. |
| 19. „ D. B. Sapre. | 39. „ J. S. Unerkar. |
| 20. „ P. C. Bapat. | |

As Khan Sahib Dhakmarvala, President of the Association could not attend the meeting on account of illness, Mr. D. S. Laud, G. B. V. C., F. Z. S., Superintendent, Victoria Gardens, was elected to the Chair.

Before the commencement of the Conference, the President informed the members, of the sad demise of Mr. J. R. Mascaranhas, Officiating Superintendent of the Municipal Slaughter House at Bandra, which took place on the 18th instant. The President remarked, that the late Mr. Mascaranhas was a graduate of the Bombay Veterinary College and passed in the year 1908. He was a man of very quiet

and retiring disposition and of unassuming character. After his graduation, Mr. Mascaranhas joined the services of the Bombay Municipal Corporation in the Market and slaughter-house department, and by dint of hard work had risen from the ranks and at the time of his demise, was the Officiating Superintendent of Bandra Slaughter House.

The annual report of the Managing Committee and the Presidential address of Khan Sahib Dhakmarvala was read by the President. The report stated that there were 136 members on the roll and that the balance on hand was Rs. 1053-7-1. The Chairman expressed a hope that the Government of Bombay would soon give effect to the recommendations of the Royal Commission on Agriculture. He further exhorted all those, who had not joined as members, to do so and send short and pithy professional papers on Veterinary subjects; also they were requested to take keen interest in the work and success of the Association and to refer their difficulties to the Association while doing any work.

After the reading of the Annual Report the Chairman requested the members to offer remarks. Messrs. K. Kandade and V. N. Kulkarni made some interesting suggestions in connection with the profession in general.

After the election of the office-bearers for the current year, some interesting and instructive papers were read by the members—

1. The importance of accurate knowledge of micro-parasites in the control of contagious diseases in animals by Mr. V. R. Phadke, Assistant Principal, Bombay Veterinary College.

2. On a lactating bull by Mr. M. C. Patted, Veterinary Assistant Surgeon, Belgaum. Photo of this subject was shown at the time to the members.

3. A photo of abnormality in a young bull was exhibited by Mr. T. N. Kulkarni, Veterinary Assistant Surgeon, Poona, seen by him while in charge of the Veterinary Dispensary, Nargund, in the year 1927, and again at Nawalgund in the year 1929.

4. On the pathological lesions observed in domestic animals, experimentally infected with plague, by Mr. R. G. Sathe, Veterinary Surgeon, Haffkine Institute, Parel, Bombay.

5. On the danger in handling anthrax smears and their packing in a laboratory, by Mr. K. S. Ayer, Lecturer, Bombay Veterinary College, Parel, Bombay.

6. Clinical notes in a case of tetanus in a wild ass (*Equus Hemionus*) of the Zoological Collection of the Victoria Gardens, by Mr. D. S. Laud, Superintendent, Victoria Gardens, Bombay.

Lively and interesting discussions took place on the papers read.

The minutes of the last meeting of the Managing Committee were read and confirmed.

The following resolutions were passed :—

1. Resolved that the Members of the Bombay Veterinary Graduates' Association express with deep regret the loss sustained by the demise of Mr. J. R. Mascaranhas and offer their sympathies to the family of the deceased, and a letter of condolence be sent to the family of the late Mr. Mascaranhas expressing their deep sorrows.

The resolution was proposed from the Chair and carried by all, standing.

2. Resolved that the sum of Rs. 200 (rupees two hundred) only should be spent during the year towards the Veterinary propaganda in the Press in the Presidency.

3. Resolved that this meeting of the Bombay Veterinary Graduates' Association requests the Western India Turf Club to set aside a portion of their annual earnings towards the purchase and maintenance of horse stallions in order to revive horse breeding operations in this Presidency and to produce a better class of countrybred horses.

4. Resolved that this meeting of the Bombay Veterinary Graduates' Association strongly recommends to the Government of Bombay to open an Institute for the manufacture of different kinds of sera and vaccines required for veterinary use in this Presidency and a beginning be made in this direction by undertaking the preparation of anti-rinderpest serum

and virus to control rinderpest by the serum-simultaneous method of inoculation as is done in the State of Mysore.

5. Resolved that the Minister for the Local Self-Government be requested to persuade H. E. the Governor of Bombay to start under his patronage a Veterinary Hospital Fund to meet the Veterinary needs of the Presidency, and that a portion of the Thanks-giving-Fund should go to form the nucleus of that Fund.

6. Resolved that this General Meeting of the Bombay Veterinary Graduates' Association requests the Government of Bombay to arrange for carrying on the work of Veterinary propaganda by means of Magic Lantern and that adequate number of men be appointed and trained as is done in the Agricultural Department.

7. Resolved that the Government of Bombay be requested to give immediate effect to the recommendations of the Royal Commission on Agriculture and to make necessary provision for the increase of pay of Veterinary Assistant Surgeons in the Department.

8. Resolved that the following members should be the office-bearers for the year 1930 :—

President : Khan Sahib Dhakmarvala,

Jt. Hon. Secretaries : Messrs. P. G. Date and D. B. Sapre,

Hon. Treasurer : Mr. Y. N. Marathe.

Members of the Managing Committee.

1. Mr. V. R. Phadke.

2. „ V. N. Kulkarni.

3. „ D. S. Laud.

4. „ R. G. Sathe.

5. „ G. G. Chabbi.

9. Resolved that Messrs. M. G. Kulkarni and R. G. Sathe be appointed as auditors.

10. Resolved that this Association offers its sincere prayer to the Almighty for the speedy recovery of our beloved President, Khan Sahib Dhakmarvala from his recent illness.

An important subject came up for discussion in the meeting affecting the interest of the Indian Veterinary Graduates. Mr B. A. Contractor, G.B.V.C., has written to the

President of the Bombay Veterinary Graduates' Association, that from the correspondence passed between Capt. J. Gove and the Principal of the Bombay Veterinary College, he was given to understand that the Principal of the Bombay Veterinary College is of opinion that a Graduate of the Bombay Veterinary College is not entitled to designate himself as a Veterinary Surgeon although many do so; and he further opines that the usual designation is a "Veterinary Assistant Surgeon." There was a heated discussion on the above question in the General Meeting. Copies of the whole correspondence passed between Capt. J. Gove and the Principal of the Bombay Veterinary College were placed before the Meeting and it was decided that necessary steps be taken in the matter to safeguard the interest of the Profession and Mr. Contractor was requested to write to Mr. Hewlett, Principal, Bombay Veterinary College, in connection with the above subject.

It was further resolved that a sub-committee be appointed to deal with this important question and to send in their report to the Managing Committee within three months. The following members were appointed to form the Sub-Committee:—

Messrs. V. G. Akula, P. G. Date, D. S. Laud, R. G. Sathe and K. K. Parulekar.

11. Resolved that the next Conference should be held at Poona during the Poona season of 1931.

The Conference dissolved with a vote of thanks to the President and the Retiring Managing Committee.

On the morning of the 20th instant all the members visited the Zoological gardens, Bombay, and were taken round by the Superintendent Mr. Laud and shown the various animals of the Zoo giving his interesting experiences on the habits, ailment, food and feeding of the Zoological animals in the garden and were also shown the mechanism and working of the operating cage of the Larger Carnivora. The notes were interesting and instructive to the Members and they were thankful to Mr. Laud for showing them round the gardens.

After the partaking of light refreshments in the Gardens, the Meeting terminated with a vote of thanks to the President.

U. P. VETERINARY ASSOCIATION:

The Tenth U. P. Veterinary Conference, held at Lucknow, on 19th & 20th April, 1930.

At last the tenth session of the United Provinces Veterinary Conference met on the 19th and 20th of April, 1930, in the gaily decorated hall of the Marris College of Hindustani Music, Kaisarbagh, Lucknow, under the presidency of Khan Bahadur Sheikh Niaz Mohammad, G. P. V. C., Superintendent, Civil Veterinary Department, Allahabad. It was kindly opened by our popular Director, Capt. S. G. M. Hickey, I. V. S.

Some of us who had an occasion to be present at the ninth session held at Jaunpore in the year 1927, must feel surprised at the unique success of the present conference. From the atmosphere that prevailed at Jaunpore one simply inferred that the Child Association was doomed to perish in the near future and that the new Secretary and the Editor would have to arrange for the funeral of this dear little child. God be thanked, the child is not only alive yet, but has grown up in spite of want of sufficient nourishment and care, as was evident during the Conference. About 125 delegates representing nearly all the districts of the Province and some of the native States attended and took keen interest in the proceedings. Owing to the prospects appearing unfavourable, (only the members of the Association were invited)

The Conference was actually to be held at Gorakhpur during the next year at the instance of Mr. Mukhtar Ahmad, Cattle Breeding Inspector. But owing to certain unavoidable circumstances it had to be postponed. Our Secretary then took the initiative and approached the Director for advice requesting him to open the Conference at Lucknow. We are very grateful to the Director that he not only consented to open the Conference but also gave many good pieces of advice regarding plan and programme. This was sufficient encouragement to the energetic Secretary and he immediately set about arranging accommodation and other necessities. He met with ready response everywhere. The beautiful hall of the Marris College of Hindustani Music was obtained for the meeting and elaborate accommodation arrangements were

made for the members. For those wanting separate arrangements, a nice, spacious and furnished bungalow in the Civil Lines was obtained through the extreme courtesy of Mr. S. K. Mukerjee, Head Assistant, C. V. D., U. P. For others who liked to stay near the meeting place accommodation was arranged in Kaisar Bagh, in the Kothis of Kapurthala and Nanpara Estates and Sah Sri Krishna Dass Sahib.

Captain S. G. M. Hickey, I. V. S., the patron whose charming personality was sufficient to ensure our success, arrived exactly at 8 a. m. on April 19, 1930. A group photograph was taken. The Conference then assembled in the Demonstration Hall of the Marris College. Sirdar Udey Singh, Secretary, welcoming him and requesting Captain Hickey to open the Conference explained to the audience the aims and objects of the Association and gave a short resume of its activities. While opening the Conference Captain Hickey gave a few valuable pieces of advice. He laid great emphasis on the castration of cattle and the new and painless method of doing it. Next he dwelt briefly on the necessity of serum-simultaneous method of inoculation against rinderpest. Concluding, he observed that this could only be done by every body putting his shoulder to the wheel and trying, in every possible way, to do his best for the advancement of Veterinary Science in these Provinces. He was then garlanded along with the incoming and outgoing Presidents and the Chairman of the Reception Committee. We cannot help repeating our deep sense of gratitude to Captain Hickey for all the trouble he took not only in opening the Conference but also listening to some of our deliberations and discussions.

After the Conference was declared open, Mr. S. K. Mukerjee, read an interesting paper, the full text of which we shall publish later. He observed that there were hindrances in our profession, there were religious scruples that marred the progress of our activities, there was the false fear of the ignorant villagers that the Veterinary man entering the village was creating a havoc without any advantage to the peasantry. But he said all those scruples and false fears must vanish when we can prove to them, by our own exertion and display of tact, that we are the best and true friends of the poor stock-owners. Concluding he observed that superstition

was vanishing and advised that we must all rise equal to the occasion and greet it with all sincerity.

Syed Rahat Husain, Chairman of the Reception Committee after thanking the members of the Association for giving him this responsibility, in the course of his speech welcomed the delegates and spoke in feeling terms the want of proper interest showed by the members towards the building up of the Association and impressed the absolute necessity of oneness. He paid special compliments and expressed his deep debt of gratitude, to Khan Bahadur Sheikh Niaz Mohammad, Saiyed Mohamad Raza Husain, Sardar Udey Singh, present Secretary of the Association and Mr. Abdul Wahab Hameed, the Editor, U. P. Veterinary Magazine for their valuable services. Proceeding he dwelt at length on the various grievances of the subordinate veterinary services and the means of effecting their redress. Finally he laid special emphasis on the scale of pay and allowances of the Veterinary Assistant Surgeons in these provinces as compared with those of the other provinces and sister departments of these provinces.

When he had finished, Captain Hickey assured the members that as soon as the re-organisation of the department was taken in hand the question of increase of pay will receive the foremost consideration.

After this, the secretary proposed Khan Bahadur Sheikh Niaz Mohammad, G. P. V. C., to the Chair and in befitting words eulogised his services to the Association. He was unanimously elected and took the Chair amidst loud cheers. The Secretary at this stage announced that the following gentlemen had sent letters regretting their inability to attend and wishing the Conference success: Major W. H. Priston, Mr. T. S. Davies, Khan Sahib Ch. Ghulam Qadir, Mr. Mohammed Tahir Mirza, Sirdar Harnam Singh, B. Bhanwar Singh, Mr. Junaid Abbasi and M. Ghulam Ghaus.

The President in delivering his address thanked the members for the honour they had bestowed upon him but at the same time deplored their lethargy in the matters of the Association and its only Organ at this stage when the question of improvement was the target of the day. He laid great emphasis on the necessity of strengthening our co-ordination

with the district officers and the public, and of acquiring sufficient knowledge in the diseases and treatment of animals other than horses and cattle, such as dogs, birds etc. Finally, he hoped that all the members without a single exception will rally round the Association Flag.

The evening Session was taken up in reading professional papers some of which aroused keen discussion. The following papers were read and discussed :—

1. Rinderpest and Serum-Simultaneous Inoculation, in Urdu, by M. Abdul Wahab Hameed.
2. Method of Serum-Simultaneous Inoculation, in Urdu, by Sr. Udham Singh.
3. Castration of cattle, in Urdu, by Mr. Fazal Karim, read by S. Udey Singh.
4. Diseases of the cow's womb, in English, by Mr. R.K. Nath.
5. History of 3 cases (Clinical), in English, by Pt. Amar Nath Sudan.
6. History of 3 cases (Clinical), in English by Mr. P.L. Sharma, read by Mr. Ambe Prasad.
7. An essay on milk, in Urdu, by Mr. Ram Sarup, read by S. Udey Singh.
8. A few cases of Surra in bovines, in Urdu, by Mr. Barkat Ram.
9. Immunity and Immunisation, in English, by Mr. B. N. Tripathi.

Sirdar Hazura Singh, Farm Overseer, in his usual humorous style spoke candidly on the various obstacles in the work of the Veterinary Assistant Surgeons which was much appreciated and highly enjoyed.

NOTE.—We shall publish the English papers gradually as space permits. For Urdu articles the reader is referred to the Urdu portion of the Magazine.

The day's meeting then adjourned till next day.

Almost the whole of the next day was occupied in the election of office-bearers and the consideration of resolutions.

The following office-bearers were elected for the ensuing year :—

1. Khan Bahadur Sheikh Niaz Mohammad G. P. V. C. Superintendent, C. V. D., U. P. ... President
2. M. Mohd. Moin Khan, Dy. Supdt. C. V. D., U. P. Vice-President.
3. Sirdar Udey Singh, V. I., Lucknow, General Secretary.
4. S. M. Raza Husain, Divisional Superintendent, Cattle Breeding Department, U.P. Muttra, Joint-Secretary.
5. Mr. Abdul Wahab Hameed, G.P.V.C., Editor U. P. Veterinary Magazine.
6. Mr. Rai Kidar Nath, G. B. V. C., Editor, U. P. Veterinary Magazine, English Portion.
7. Mr. Mohd. Ishaque Khan, Deputy Superintendent, C. V. D., Financial Secretary and Treasurer.

Members of the Executive Committee.

1. Mr. Chuni Lal, V. I. Agra.
2. Mr. B. N. Tripathi, V. A. S., Deoria, (Gorakhpur).
3. Mr. Abdul Razzaque, V. A. S., Cawnpore.
4. Mr. Mushtaque Husain, V. A. S., Colonelganj (Gonda.)
5. Mr. Ghafurur Rahman Khan, V. A. S., Sitapur.
6. Sirdar Udham Singh, V. A. S. Agra.
7. Mr. K. C. Sen Gupta, V. A. S. Partabgarh.
8. Mr. Imdad Husain, V. I. Cawnpore,
9. Mr. Mohd. Mahmood Ansari, V. A. S., Bara Banki.
10. Mr. S. Rahat Husain, V. I. Shahjahanpur.
11. Mr. Mohd. Yusuf Ali Khan, V. A.S. Iglas (Aligarh.)
12. Mr. Khairuddin, Farm Overseer, 1/C Government Stallion Depot., Moradabad.

Members Ex-Officio.

1. Haji Mirza Nasib Beg, Retired V. I., U. P., P. O. Sohna, Gurgaon, (Punjab.)
2. Sayyad Mohammad Shah, Retired Dy. Superintendent, C.V.D., U. P. Rampur State.

At this stage Mr. Barkat Ram, V. A. S., Robertsganj, Mirzapur, announced that he will make a donation of

Rs. 2/ per month to the Association for at least three years or as long as the financial condition of the Association is not satisfactory. This was accepted with gratitude. Mr. Ram Saroop, officiating V. I., Ballia also donated Rs. 2.

Resolutions were then taken up one by one and unanimously passed. It is remarkable that there was not one dissentient voice in the whole house.

Then the General Secretary and the Editor, U. P. Veterinary Magazine read their respective reports and dwelt upon the accounts of the Association. After the closing speech of the President and a vote of thanks to the Chair the Conference dispersed amidst cheers. Our sincerest thanks are due to the President, Khan Bahadur Sahib whose good humour, patience and unfailing courtesy can never be effaced from our memory.

In the evening an 'At Home' was given to the delegates on the grounds of the C. V. D. Office under the management of Mr. S. K. Mukerjee, Head Assistant and members of his staff and was heartily enjoyed. We are highly indebted to these gentlemen for their trouble. Khan Bahadur Sheikh Niaz Mohammed, President, presented a golden wristlet for the best discourse on professional matters and it was awarded to M. Abdul Wahab Hameed by Mrs. Hickey.

Credit is due to Sirdar Udey Singh, Secretary and Mr. Abdul Wahab Hameed for their untiring zeal in respectively keeping the Association and its only mouthpiece, the Magazine, going, in spite of adverse circumstances, and we have nothing but sincere admiration for them.

**Patron's Opening Speech on the occasion of the 10th
U. P. Veterinary Conference.**

MR. PRESIDENT & MEMBERS OF THE U. P. VET. ASSN.,

It gives me much pleasure to have been asked to open the 10th session of your Association Conference. These sessions are held annually with the following objects:—

- (1) To read and discuss technical and professional papers which improve and keep our knowledge up-to-date and
- (2) to try and devise means and methods whereby these benefits can be brought to the notice of the animal-owning population in these provinces.

Before I open the conference I should like to give you a word or two of advice. One is, on the increase of castration of animals among the rural population. When comparing figures with this and other provinces, I was greatly struck by the advancement made in this direction by other provinces. Early and up-to-date method of castration means early maturity and bigger animals for plough and draft purposes. Therefore it behoves us to preach in and out of season the benefits of early and painless method of castration. It should be the endeavour of every one in this department during ensuing year to see that a material increase is effected in this branch of work. The other point is the introduction of the Serum Simultaneous Method of inoculation against Rinderpest. I think, on the whole, the cultivator is beginning to appreciate the benefits derived by ordinary inoculation against Rinderpest, and I now think, it is time when all our endeavours should be fixed on showing him the greater advantage he will derive from having Serum Simultaneous Method.

I know that at present not enough people will come forward at one time to enable us to start camps for this method of inoculation, but I think, that by diligently and intelligently explaining the benefits derived, we may be able in the near future to erect in certain localities of the province standing camps where at certain seasons in the year the Serum Simultaneous Method may be carried out on a large scale. It must be understood that our task is at present an uphill one and the general public will have first of all to be educated in the benefits of Veterinary Science. This can only be done by every body putting his shoulder to the wheel and trying, in every possible way, to do his best for the advancement of Veterinary Science in these provinces.

I will not detain you any longer and with these few words I declare the conference open.

**THE MYSORE VETERINARY MEDICAL ASSOCIATION,
BANGALORE.**

The second annual general body meeting of this Association was held at 8 A.M. on the 29th May, 1930, at "Mashie Lodge", Lalbagh Road, Bangalore, under the distinguished Chairmanship of Dr. L. C. Coleman, Ph. D., D., Director of Agriculture.

Mysore. Almost all the members from all parts of the province had assembled and great enthusiasm prevailed. Among the visitors mention may be made of Dr. P. Srinivasa Rao, G. M. V. C., the Editor of the Indian Veterinary Journal, Madras, representing the All-India Veterinary Association.

The function began with the taking of a photo of all the members present with Dr. Coleman and Major Simpson in the centre. Photo over, the gathering adjourned to the tastefully decorated hall. Dr. Coleman, who was duly elected to the Chair took his seat, and Major Simpson, Superintendent, Civil Veterinary Department, Mysore and ex-officio President of the Association, welcomed the members and visitors in a neat speech which gives an insight into the progress in the working of the department. (Appendix A).

The Secretary of the Association Mr. K. Ranganatha Rao, G. M. V. C., Assistant Superintendent, Civil Veterinary Department, Mysore, read the report on the working of the Association during the previous year, which showed an all round improvement i.e., in members and finance, etc. (The report appears later on).

The resolutions were then taken up, and the following are among them, which were all duly carried unanimously :—

(1) That this Association urges the award of the Damodor Doss Scholarships, also to the members of the Mysore Civil Veterinary Department for the purpose of higher studies in foreign countries."

The mover, Mr. K. R. Ramachandra Rao, said that though many branches of science and learning have been favoured with the grant of these scholarships in the past, in this state, Veterinary Science has not received its due share of recognition for the award of these foreign scholarships. In British India some young men are being sent out with scholarships from the Government of India, in recent years to qualify themselves for M. R. C. V. S. Our men in this province, who have already qualified themselves in the Indian Veterinary Colleges and who have been doing their work with credit to the department and who are in a position to derive full benefit of a post graduate course in foreign countries by virtue of the experience gained by them here, may be awarded these

scholarships and sent for higher studies and post graduate courses in such branches of Veterinary Science, which require immediate attention in our province.

This was duly seconded by Mr. G. Narayanamoorthi.

Dr. Coleman remarked that he had nothing to do in recent years with the selection for the award of Damodor Doss foreign scholarships and he would be glad if his attention was invited to any notification about it, that might appear this year. Since it would take five years for one to qualify oneself for M. R. C. V. S., and that is a long period, for which period these scholarships would not be available, he was of opinion that it would be advisable to have a man sent for specialising in Parasitology or Pathology. He said, there was surely sufficient scope for study in the Veterinary profession and it is possible they should have in the course of next few years a combined institute in the State for Public Health and Animal Diseases, the animal disease branch in addition to the preparation of sera and vaccines would take up the study of animal diseases and they would require trained men for all that. Personally he could see no reason why a highly qualified Veterinary Officer should not be the head of the Institution.

(2) "That this Association proposes that there should be an interchange of Veterinary Officers between Serum Institute and the Civil Veterinary Department as circumstances allow."

This resolution in its original form before it took this modified form, evoked a keen discussion, from all parts of the hall. The objects of the mover, seconder and of all those for it, were of opinion that all the officers in the department who had aptitude for these different kinds of work, should have a chance to learn them and become proficient so that in time of need they may be drafted to all suitable work when they will not be strangers to the work if suddenly called upon. The present system will keep a square man in a round hole indefinitely for long periods. Further if there be a large number of men in the department, who know all kinds of work having practically worked in different branches, they would be in a better position to do their work in a more intelligent way and thus create greater enthusiasm and regard among the ryots with a superior knowledge of many kinds of work pertaining to the profession. The experience gathered

in the field and hospital will be of great use in the serum institute and laboratory and vice versa, even though in exceptional cases a few people with greater aptitude for a certain kind of work may be allowed to become specialists. In such work, on all these grounds an interchange was desirable. Finally at the suggestion of the Chairman, the resolution in its form was agreed upon and carried unanimously.

(3) "That this Association invites the attention of the members to the importance of reporting interesting and valuable cases to the Veterinary and other journals in India".

Regarding this resolution, Mr. B. V. Venkatachar, the mover, said that his idea was to bring in a resolution which would make it obligatory on the part of every member to contribute annually at least 3 papers to the *Indian Veterinary Journal* and the *Agricultural Union Journal*, in the latter of which, space had been set apart specially for them, but in deference to the wishes of Mr. K. Srikantiah and Dr. Coleman (the Chairman) he modified his resolution to its present form as there was objection that no professional man should be compelled to write articles on clinical or other cases, however laudable was the idea of recording the experiences and observations for the benefit of the profession. He narrated that the Editor of the *Indian Veterinary Journal*, who was there in their midst had complained that there was paucity of articles from their side. He was of opinion that they being the members of the profession should co-operate with the energetic editor and help him and the colleagues in British India in making the journal a still greater success than now. Sometimes, it is through indifference and at others through pressure of work that they have not been contributing articles, but not that they were incapable of writing and recording observations. Therefore, he moved the resolution for the acceptance of members.

This was duly seconded by Mr. K. Ranganatha Rao.

Before putting the resolution, the Chairman, Dr. Coleman, observed that since he is in agreement with the idea that no one should be compelled to write and contribute articles, he welcomed the resolution in its form. He also observed that he can hardly agree that professional men will as a matter of course report all interesting cases and important observa-

tions and his own experience was that during the past twenty years he made many important observations of great scientific interest, which through forgetfulness or pressure of work, have never been published and this must be the experience of many. Therefore he welcomed a resolution of this kind.

All agreeing to this, it was carried.

(4) "That this Association requests the Director of Agriculture in Mysore to kindly obtain the sanction of Government to invite the "All-India Veterinary Association" to hold its next session of the Conference during the Christmas week at Bangalore and to recommend for a liberal contribution of not less than Rs. 1000 towards the expenses as it will greatly benefit this Association and enlarge its usefulness to the State".

Mr. K. Krishna Iyengar, a senior member of the profession and an Assistant Superintendent, Civil Veterinary Department in Mysore moving this important resolution said that this resolution by itself was sufficiently explicit, the advantages of holding the Conference at a place like this are great and by so doing they will have an opportunity of exchanging ideas with their *confreres* in British India and other Indian States and this will have highly educative value. Independently, they were not in a position to invite the Conference without the aid of the State contributions as the expenses will be enormous and their own number in Mysore was small to yield large funds from members. Therefore he included in his resolution a request first for the grant of permission to hold the session in Bangalore, and secondly for the grant of a liberal contribution.

This resolution was duly seconded by Mr. K. Ranganatha Rao.

Dr. Coleman (Chairman) observed, whether inviting the Conference to their midst depended on getting the grant from the State funds and as regards the permission it will be readily granted if no contribution is asked. He further was not certain if the funds can be spared from the budget allotment as the estimates for the ensuing year had already left his hands and the Supplementary grants will have to go to the Legislative Council for sanction. He doubted if funds could be found from the budget of the Civil Veterinary

Department. He also wished to know if the All-India Veterinary Conference had not fixed its place of next session at the last sittings. When he was assured by the mover that he was present at the last Conference at Madras and no province has yet invited the Conference for the next session, the Chairman hoped that their invitation would be accepted.

Major Simpson, Superintendent, Civil Veterinary Department, Mysore, said that he might be able to find the necessary funds in his budget sometime in September, when he would be able to see the final budget.

The resolution was carried unanimously amidst great enthusiasm.

After the resolutions were passed, the Editor of the *Indian Veterinary Journal*, Madras, Mr. P. Srinivasa Rao was requested to address a few words, which he did (Appendix C.) and this was received well by the audience. As a result of his appeal for help and co-operation, there was ready response and about forty members among those present, who are not yet subscribers became subscribers to the Journal at once on the spot.

The Secretary then read out the messages and letters from members and sympathisers, who wrote regretting their inability to attend but wished the function every success. One of these messages and letters was from the *Secretary* All-India Veterinary Association, Madras Branch (Mr. M. S. Sastry) conveying the fraternal greetings from the members in British India.

With the concluding speech from the Chairman, the morning function came to an end. (The Chairman's speech appears as Appendix B).

The afternoon function began at 2 P.M. when business portion of the meeting such as election of office bearers, etc., was carried on first. Under the rules, the Superintendent, Civil Veterinary Department is the ex-officio President, so Major Simpson continues to be the President. Mr. K. Ranganatha Rao, was re-elected Secretary for another year. With certain alterations in the remaining office bearers such as Vice-President and Committee members, the work was regularly gone through.

This being over, reading of professional papers were taken up. The discussion on this was keen, interesting and

instructive. One of the most important and interesting paper was "*Electrocution of Dogs*" by Mr. M. R. Chengeri, Superintendent, the Tasker Veterinary Institute, C. & M., Station, Bangalore. A sketch of the electrocution cage and photoes were also shown. The author promised to show this in actual work if any visitor went to his hospital. Many members took advantage of this promise and visited the Institute and found that the dog doomed to death sentence, died within half a second under this method, and the visitors expressed satisfaction, thanked Mr. Chengeri for the work he took and finally departed with the feeling that such of the Municipalities which had electric supply to the towns should adopt this humane method of killing dogs.

The credit entirely goes to Dr. Chengeri for his novel and useful idea and its execution in Mysore State.

With the Chairman's concluding remarks, thanking the members and a hearty vote of cheers to H. H. the Maharaja of Mysore and to the Chair, the eventful function came to a close.

"By a correspondent"

APPENDIX A.

THE WELCOME SPEECH

BY

MAJOR R. W. SIMPSON, G. B. V. C., M. C.

Civil Veterinary Department, Mysore, and President, Mysore Veterinary Medical Association, at its Annual Meeting, held at Bangalore on the 29th May, 1930.

GENTLEMEN,

It gives me great pleasure to welcome you to the second annual meeting of the Mysore Veterinary Medical Association. It is customary for the President to review the work of the Association, since its last meeting, and to state what it set forth to do, and what it has accomplished, but two years is too short a period to expect any tangible results. The Association has however been fortunate in securing the recognition of Government, and a patron in the person of Dr. Coleman.

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We are gathered here, firstly, to read papers on professional subjects, and to discuss them, which enables us to exchange views for our mutual benefit; secondly, to debate at leisure how we can best benefit the country itself, as also the profession at large.

In these days of mechanisation, though the horse is being displaced in other parts of the world gradually, there is no fear of the bullock being displaced in India for many years to come, as it is far too useful in agriculture, and especially in a country like India, where the holdings are small. It is our work in a cattle rearing and agricultural country like Mysore to solve the many problems connected with the live stock, the diseases, breeding, poultry farming, cattle fairs, etc.,

I do not think it will be out of place here to review briefly the work done by the Veterinary Department in Mysore during the last decade, and to summarise how far it has made itself an essential part of the State, and earned its due share of recognition from the agriculturist.

In 1920 the administrative charge of the Department was transferred from the Revenue Commissioner in Mysore to the Director of Agriculture, and from that year it began to develop and to be a real source of help to the ryot. There were at that time only 20 Veterinary Institutions in the State and these were very poorly equipped, the Veterinary Officers in charge paying more attention to the animals brought to their institutions by the townspeople than to dealing with outbreaks, and to giving aid to the people in villages.

Since then conditions have greatly changed. Institutions are now much better equipped, and outbreaks of rinderpest are being dealt with effectively, and as promptly as possible, and other contagious diseases get their due share of attention as far as the staff can possibly deal with them. Villages are now visited, and it is no exaggeration to say, that 75 per cent of the villages in the State have been visited by the staff, and aid in some shape given to the people. Large numbers of scrub cattle have been castrated, and steps have been taken to induce the ryots to maintain good breeding cattle, and bulls. The good work done by the staff is greatly appreciated by the people as evinced by their cry for more veterinary institutions, and demands for their services by telegrams and letters.

There are at present 57 Veterinary Institutions in the State with prospects of five more next year, besides these, there are 14 touring billets. It is hoped that every Taluk in the State will in the near future have an institution of its own, and isolated hobbie a rural dispensary.

Till September 1925, the Serum alone method was the method adopted against rinderpest, but as this mode of protection was found useless and most costly, when numbers of villages were affected, it was decided to introduce the S.S. method, which as you know, has been so very successful, and has become in consequence very popular.

On account of the very large demand for anti-rinderpest serum, it was found necessary and more economical to prepare the serum locally. This was begun towards the end of 1927. You will be interested to know that about five hundred thousand animals have been protected against rinderpest by this method, and this with a mortality of less than half per cent.

Two officers were deputed to the Imperial Institute of Veterinary Research, Muktesar for a period of three years. On their return a scientific section was sanctioned, and research into some of the diseases peculiar to the State were taken up.

Government have accepted the principle of sending six fresh students annually to the different veterinary colleges in India. It is hoped that in time there will be a sufficient number of qualified men to fill vacancies in the State.

Formerly the Salustries and Compounders received no systematic training, but with the opening of a Training Class of six months duration, for fourteen men at a time, it is now possible to give this class of officials some knowledge of their work, and it is hoped in time to have them all trained.

I am glad to tell you that the proceedings of this Association, and the subjects discussed have been the subject of enquiry from the sister associations in British India, and the co-opted member of the Central Research Council. At this time when great things are expected as a result of the recommendations of the Royal Commission on Agriculture, this Association must strive to maintain its efficiency in order that it may develop on right lines and show that Mysore is fully qualified to lead.

I am sure, gentlemen, that you will join us in being delighted to hear that a member of the profession has been elected to fill the important appointment of Expert Adviser in Animal Husbandry, to the Government of India, in the person of Colonel Arthur Olver, C. B.; C. M. G., F. R. C. V. S. We in Mysore will be glad to co-operate in the big problems of animal disease.

Gentlemen, I crave your indulgence for having detained you so long. I now propose Dr. Coleman to take the Chair.

APPENDIX B

THE OPENING ADDRESS

BY

DR. L. C. COLEMAN,

Director of Agricultural Department Mysore, at the Second Annual Meeting of the Mysore Veterinary Medical Association, held at Bangalore on.

29th May, 1930.

When I tell you that I received a copy of your Secretary's report and one of the speech which Major Simpson has just delivered, at half past eleven last night you will realise that I have had no time to prepare an elaborate presidential address.

In the first place I should like to thank Major Simpson for the very tactful manner in which he has referred to my connection with the Mysore Civil Veterinary Department. He has indicated in his speech that the marked improvement in the Department commenced with my taking over administrative charge. Major Simpson has however, with his usual modesty neglected to remind you that the increase in size and efficiency of the Department really had its beginning with his appointment to the post of the Superintendent, Civil Veterinary Department. My function from the start has been to represent to Government the needs of the State as regards Veterinary aid and as far as lay in my power to see that, that aid reached the people who most urgently require it—the great agricultural population. Along with this I have endeavoured as far as possible to coordinate the work of the Veterinary Department with that of the Agricultural Department.

Undoubtedly there has been a very great change in the outlook of the Mysore Civil Veterinary Department during the past 8 or 9 years. My inspections have shown me clearly that the Veterinary Institutions themselves are serving the needs of the Agriculturist more and more while the very great deal of touring and inoculation work that is being done is almost entirely for the benefit of the agriculturist. The insistent demand for the opening of more Veterinary Dispensaries and the employment of more Veterinary Officers is a clear indication of the way in which the service rendered, is being appreciated. I think therefore we can safely say that the transfer of control from the Revenue Commissioner to the Director of Agriculture has been advantageous.

I regret that present financial considerations prevent that rapid expansion of Veterinary Service in the State which is required, but you must remember that there are other large needs of the agricultural population which have to be met. As a matter of fact if we add together the budget allotments of the Civil Veterinary Department and the Serum Institute we find that the total is little less than the whole allotment for agricultural development in the State. I believe I am safe in saying that we are spending as much per head of population or per head of live stock on Veterinary aid as the most progressive provinces in British India.

As regards the special needs of the State Veterinary Service I may assure you that I shall do what I can to further your real interests. Some of your resolutions have to do with the provision of facilities for higher technical training and as such they appeal to me very much. I can personally see no reason why a Veterinary Officer should not be chosen as a Damodor Doss Scholar for foreign training and I shall certainly bring this matter to the attention of Government.

I should like to congratulate you on your extraordinary self control. When I came here this morning I fully expected a resolution or at least a representation on the question of pay. There has been, I regret to say, very serious delay in obtaining orders on the allocation statement sent up a good many months ago. I may tell you that only two days ago the whole question was referred back to me by Government. I shall do my best to expedite the matter. In conclusion I wish to assure you that I shall always be glad to support all reasonable proposals of the Department and to assist in the development of your Association in any way that I can.

APPENDIX C.

SPEECH DELIVERED

BY

MR. P. SRINIVASA RAO, G.M.V.C.,

Editor, The Indian Veterinary Journal, at The Second Annual Meeting of the Mysore Veterinary Medical Association.

MR. PRESIDENT AND GENTLEMEN,

Let me first of all thank your Association for inviting me to this meeting and for having given me a hearty reception here today. I see you have got a crowded programme before you to go through in this one day's meeting. Therefore, I do not propose to take up much of your precious time. It is

my proud privilege today to convey to you the warm and fraternal greetings of your confreres in British India, wishing you a successful and useful session.

While speaking in a meeting of your Association, it is rather difficult for me to think of it as quite separate from the Mysore, C.V.D., as the interests and achievements of both are rightly inter-twined and inter-dependent. It is highly gratifying to me coming from British India to see here that the supreme head of the department and all the officers of the Civil Veterinary Department are taking keen interest in the growth of the Association advancing the interests of the members, which in its turn contributes to the high and efficient work of the department to the advantage of the ryot population. This is an ideal, which I can heartily commend to my friends in British India, and other Indian States. In this connection, it tempts me to quote a passage from your President's speech at the inaugural meeting of your Association in 1928. The passage is "The more clear ideas you get as to what you are required to do regarding your profession, and the more you discuss things pertaining to your profession the more you realise the importance of the profession and the greater will be the benefit derived by the State and also the greater will be your personal greatness." These words deserve to be remembered by every member of the profession whether in State service or outside it, encourage the growth of such meetings and conferences for the mutual benefit of the State and the profession. I would therefore ask every member of the profession in India to see for himself, how far he has lived up to the standard set in the above passage, and discharged his duty by the State and the profession.

Again, I cannot resist the temptation of quoting at length the following passage from the speech of your worthy President made at the above mentioned meeting, which runs as follows:—"When I came to India, I felt that in Indian State, no European would have a proper function to do unless he devoted his life to the building of a department manned by Indians. This attitude, I have accepted throughout the time I have been in India. I think, most men realise the fact, if India is going to be served at all, it must be served by her own people. But we outsiders who have been in India are here only to lay a foundation, and if I do not do that, I do not think we will be doing our work properly". This meeting needs no apology from me for quoting this worthy passage at length. I would again commend these noble sentiments to all the European Officers in the Veterinary Department throughout India and request them to measure their services by the standard set above and see for themselves how far they have come up to that standard.

There is, no doubt a lot of discontentment in the rank and file of the Veterinary Services in India-regarding the pay and status, but that should be no reason to slacken the efforts of individual members of the profession to raise the standard of the profession by steady work. "It must be your attitude that whatever work you get into, you must do your best in that work". I can assure the worthy President that we are all following this sound advice of his, and I am also sure, we as a profession, will soon occupy a worthy place in the community.

Your President who is also the administrative head of your department here has been "very keen on giving every man all the facilities that can be given to him to keep him up-to-date regarding his profession". I am sure you all have been equally keen in utilising the help promised by him. This meeting with its programme is earnest proof of your keenness in the matter.

I was pleased to listen to the interesting report of the Secretary, which indicates an all round progress, during the short period this Association has been in existence. The Mysore Civil Veterinary Department, under the able and sympathetic guidance of Major R. W. Simpson has again stolen an easy march over other Civil Veterinary Departments in India, by the recent introduction of the necessary rules and regulations to control the movements of animals and contagious diseases among them. In this connection, I simply admire the business-like methods adopted by the Committee appointed for the purpose, and the prompt and quick despatch of work done by it unlike the similar Commissions and Committees in other parts of India. The responsibilities cast upon you by those rules are really great as emphasised by your worthy President in his speech last year at your meeting. I have no doubt that you all will carry out your portion of duties in this connection, that you will not only win laurels to the noble and humane profession, but will encourage other parts of India to adopt similar measures for their benefit.

I am glad to know that Major Simpson, the guiding star of your profession here, has been graciously given by the Government of His Highness the Maharaja of Mysore, an extension of his office by a year. This will give him an additional opportunity to further consolidate the great and useful work done by him, during the period he has been the head of the Mysore Civil Veterinary Department. The Department has made a remarkable progress during his time and it has earned an enviable name for itself, among the Veteri-

nary departments in the world, by its far seeing progressive policy.

Before I conclude, I should like to suggest that this Association should consider the subject of inviting the next session of the ALL-INDIA VETERINARY CONFERENCE to be held in Bangalore, so that this Association may feel proud that it was able to arrange and hold a successful session of the All-India Veterinary Conference, under the able guidance of its first President—namely Major R. W. Simpson, before he leaves Mysore. Therefore, I heartily recommend this subject for your consideration.

It is my pleasure to express my heartfelt thanks to you all on behalf of the profession for the ready response you showed to my appeal to become subscribers to our INDIAN VETERINARY JOURNAL, when I met you last, during your first meeting, two years ago. But I am regretfully surprised at your apathy shown towards the journal during the last year. Number of subscribers fell down by 50%. No professional articles were contributed to the journal. Do you think it creditable on your part to have shown such a step-motherly affection to your journal, which is the only English Veterinary Journal in India and which is appreciated much by our *confreres* in foreign countries? Everybody assembled here knows how the journal has been championing the cause of the profession, but I can assure you, that, all that was due to the hearty co-operation received by the profession and to continue the journal's good work keep going on, I appeal to you all professional brethren to strengthen my hands by subscribing for the journal and contributing professional articles.

Once again, I thank you heartily for the cordial reception and the patient hearing given to me.

ANNUAL REPORT

OF THE PUNJAB VETERINARY COLLEGE STUDENTS' DEBATING ASSOCIATION, LAHORE.

This Association is in the 6th year of its existence, and through the sympathetic and kind patronage of W. Taylor Esq., I. V. S. our worthy Principal, the Association had made a steady headway in fulfilling the noble ambition with which it took its birth. In the discharge of its onerous task, this pioneer Association, the first of its kind in India, has successfully maintained its reputation in the estimation of the members of the staff and the student-members through all these years.

The year under review is marked with activities full of immense potentialities, and in the annals of this Association is unparalleled, one of the chief features being the splendid manner in which debates were conducted and the choice of subjects made thereto. Two debates were conducted during the session; the first one being "Is man justified in the subjugation of animals?" and the second "Is animal food essential for mankind?" The latter debate was conducted on parliamentary procedure with the modification that special judges were appointed and that the house was not to vote. Both the debates were exceedingly interesting and the noteworthy feature which marked the steady progress of the members was that they spoke *ex-tempore* and the speeches delivered were of fairly high standard. The prominent amongst them being those delivered by Messrs. B. Christopher B.A., Ram Lal Ghulati, Krishna Rao B.A., Sri Ram, Mohd. Ali, and S. B. Vasudeva Rao.

It must certainly be observed with sensation of great pleasure that members of this Association participated in the Declamation Contest, organised by the "Students' Union" and "Mahavir Jain Association." It will be a pleasant surprise to know that out of four competitors in the Inter-collegiate Declamation contest held in the F. C. College Hall, two were Messrs. J. D. Sampath Kumaran and B. Christopher from this Institution.

The Essays read and defended during the year under review were fifteen in all, their notable feature being their professional interest. The success achieved so far in this direction, inspite of some draw backs bespeaks of a hopeful augury for the future.

The following essays of professional interest and value were entertaining and instructive.

"Sero-Vaccine Therapy", "Animal—The Devine Machinery", "Treatment of Wounds", by Mr. C. Puttaswamy.

"Evolution of the Horse", and "Safe-guarding Nature's Diet", by Mr. Mohd. Ali.

"The Importance of Meat Inspection" by Mr. Harikrishan.

"Parasiticism" and "Is Total Destruction of Micro-organisms beneficial" By Ram Lal Gulati.

"Auto-intoxication as the main Cause of Diseases" By Mr. S. B. Vasudeva Rao.

"Biography of a Scientist", By Mr. Prem Nath Kak.

"The Scalpel-point" By Mr. S. R. Nadgir.

and "Evolution" By Mr. N. S. Krishna Rao, B.A.

The number of monthly meetings held during the session was seven, and all these meetings were attended by a very good majority of members. This is due to the fact that this Association affords to them recreation as well as study; it involves the veterinary science as well as the art of speaking and writing. Eminence in writing can only be achieved by its sedulous cultivation and this end the Association aims at.

As a mark of respect to Col. G. K. Walker, I. V. S., C. I. E., O. B. E., the late Principal of the P. V. College, who has rendered glorious services to the cause of Veterinary Science in India and to Khan Sahib Ghulam Rasul Khan P. V. S., late House Surgeon, P. V. College, this Association is arranging to present to this College an oil painting of the Col. and an enlarged photograph of the Khan Sahib.

Fellowship.

In accordance with Regulation No. 5 of the Association the following gentlemen were awarded the Fellowship Certificate.

1. Mohammad Ibrahim Esq., L. V. P.
2. Mohammad Davood Esq., L. V. P.
3. Mohindar Singh Esq., L. V. P.
4. Girdhari Lal Esq., L. V. P.

Prizes.

In view of Regulation No. 15 of this Association the Council is pleased to award the following prizes for the session 1929—30 :—

- 1st Prize to Mr. C. Puttaswamy, IV Year Class, for having read and defended the best paper during the year under review.
- 2nd Prize to Mr. Mohd. Ali, IV Year Class for having read and defended the 2nd best paper.
- 1st Prize to Mr. Ram Lal Gulati, IV Year Class for showing the greatest ability in discussions.
- 2nd Prize to Mr. N. S. Krishna Rao, B. A., I Year Class, for discussions.

A Special prize has been awarded to Mr. Sham Dass Akhtar for his many interesting poems.

It is a pleasure to make an honourable mention of Mr. B. Christopher, B.A., who was the leader in both the debates and represented our college in the Declamation Contests. His departure from this place has deprived our Association of one of its most promising members.

I take this opportunity to thank the following members of the staff who were kind enough to preside over the monthly meetings.

L. Durga Dass, P.V.S.

Mir Riaz-ul Hassan, P. V. S.,

Mr. C. L. Bhatia, B. Sc.

Prof. A. C. Aggarwala, B. Sc., M. R. C. V. S., and Prof. J. F. Shirlaw, M. R. C. V. S.

To J. M. Lahiri, Esq, M. R. C. V. S., F. Z. S., who presided on one occasion, I am also thankful.

It is in the fitness of things that I should mention here the names of Prof. A. C. Aggarwala the founder of the Association and Mr. Ghulam Safdar Khan the intrepid organiser. Their towering figures and influences in the interests and welfare of this Association is highly praiseworthy.

In conclusion I thank most sincerely Mr. P. M. Narainaswamy Naidu, the President of our Association for his valuable suggestions, and all the members who helped me so kindly to carry on the work entrusted to me. I finally appeal to all the members of this Association to avail themselves of the opportunities afforded to them by this Association, and thus cultivate the facility of presenting their thoughts in logical sequence so that their arguments may be cumulative and, in the sum, convincing. The art of writing, the clearness of utterance coupled with good and pleasing manners and entire self possession are some of the fruits of labour in an Association of this type.

P. V. C. LAHORE. }
26—4—'30. }

(Sd.) J. D. SAMPATH KUMARAN,
(Mysore State Scholar),
Secretary.

P. V. C. Students' Debating Association, Lahore.

Balance-Sheet as at 26th April, 1930

Income.			Expenditure.		
Rs.	A.	P.	Rs.	A.	P.
Balance from last year	222	3	0	Prizes	48 0 0
Sale of Photographs	10	0	0	Photographs	40 0 0
Subscriptions	196	0	0	Miscellaneous, including stationery, printing, etc.,	81 9 0
				Total	169 9 0
				Balance on hand	258 10 0
Grand Total	428	3	0	Grand Total	428 3 0

(Sd.) A. C. AGGARWALA, B. Sc., M. R. C. V. S., *Hon. Treasurer.***College News.****Madras Veterinary College.**

The following changes have taken place in the staff of the Madras Veterinary College, with effect from 1st July, 1930:—

- Mr. T. J. Hurley, M.R.C.V.S., I.V.S., Ag. Principal and Professor of Medicine.
 „ V. Krishnamoorthy Aiyer, I.V.S., Professor of Pathology.
 „ K. Kylasam Aiyer, G.B.V.C., Resident Veterinary Officer and Personal Assistant to the Principal, Lecturer in Hygiene.
 „ M. R. V. Panikkar, B. Sc., M.R.C.V.S., Lecturer in Pharmacology.
 „ K. S. Nair, M.R.C.V.S., Lecturer in Surgery.
 „ M. Anant Narayan Rao, G.M.V.C., Lecturer in Parasitology.

Mr. H. N. Chelva Aiyyangar, G.M.V.C., Assistant Lecturer in Anatomy.

„ G. A. Ajwani, M. Sc., D.V.M., D.V.H., G.B.V.C., Lecturer in Pathology vice

Mr. V. Krishnamurthy Aiyer granted leave.

Assistant Lecturers.

- „ M. Sundernathan, G.M.V.C.
 „ V. Janakiram Aiyer, G.M.V.C.
 „ P. A. Parthasarathy Naidu, G.M.V.C.
 „ A. Raja Rao Naidu, G.M.V.C.

Selection for Post Graduate Course for 1930—31.

The following Veterinary Assistant Surgeons from the Madras Civil Veterinary Department, have been selected for P. G., Course, for this year:—

- Mr. T. R. Rajagopala Rao. Mr. P. C. Gopalan.
 „ P. I. Chakko. „ K. V. Rahavachar.
 „ C. V. Padmanabhan. „ N. R. Rajaratnam.

Selection of Candidates into the Madras Veterinary College for 1930—31.

There were two centres for selection of candidates, one for Circars and Ceded Districts at Bezwada and the other for the rest of the Presidency at Madras.

There were 755 applications received in all for 40 seats in the College, of which 45 were from Graduates, 145 from Intermediates and 560 from S. S. L. Cs.

The following list shows the number and qualification of the candidates selected:—

Bezwada.			
Caste.	Qualification.	Number.	
Brahmin,	B. A.	...	2
„	Intermediate	...	6
„	S. S. L. C. (non stipendary)	...	1
Non Brahmin	Intermediate	...	3
„	S. S. L. C.	...	5
Mahammadan	S. S. L. C.	...	4
Indian Christian	S. S. L. C.	...	3
Backward Community	S. S. L. C.	...	1

WAITING LIST.

6

Madras.

Brahmin	...	B. A.	...	2
"	...	Intermediate	...	1
Non Brahmin	...	Part B. A.	...	1
"	...	Intermediate	...	1
"	...	Part Intermediate	...	4
		(stipendary).		
Mahammadan	...	S. S. L. C.	...	2
Depressed Class	...	S. S. L. C.	...	2
"	...	Intermediate	...	1
Indian Christian	...	Intermediate	...	2

In addition three extra non stipendary students (2 Brahmins and 1 Anglo Indian) were selected and 9 students have been recommended to be kept in the waiting list.

Bengal Veterinary College.

The following students of the Final year class of the Bengal Veterinary College, have passed the Diploma examination held in March, 1930. Their names are:—

1. H. L. Gupta.	22. M. A. Jabbar.
2. B. M. Prosad.	23. T. K. Chatterjee.
3. P. B. Mukherjee.	24. A. Madhat.
4. P. B. Dhulia.	25. M. S. Panda.
5. A. B. Varma.	26. A. K. Gupta.
6. C. R. Biswas.	27. H. R. Sen.
7. R. J. Singh.	28. H. P. Haluchand.
8. K. C. N. Nair.	29. M. G. Rahaman.
9. K. M. Mahapatra.	30. B. N. Roy.
10. K. Ahmed.	31. G. S. Bannerjee.
11. S. P. Das.	32. B. Tirkey.
12. A. Awal.	33. S. M. Dhar.
13. R. P. Singh.	34. R. P. Singh.
14. U. M. Dhar.	35. B. K. Bose.
15. C. P. Das.	36. K. M. Bose.
16. R. P. Mondal.	37. N. Mukherjee.
17. K. D. Pande.	38. D. R. Mitra.
18. S. C. Banerjee.	39. M. A. Shakur.
19. J. Das Gupta.	40. G. H. Prasad.
20. K. Tobgye.	
21. M. R. Singh.	

In class A-32 students have passed.
In class B-45 students have passed.

Reviews.

Civil Veterinary Department, Madras, 1928-29.

The report under review shows no doubt a greater advancement than those of the previous year. The department has been re-organised to a certain extent by an increase in both the gazetted and non-gazetted staff, opening of more circles, Veterinary Institutions and Touring billets, and a definite start on Research and Propaganda activities. This all round expansion is entirely due to the efforts of Mr. Ware as head of the Veterinary Department, and he fully deserves the tribute paid by Government in para 6 of their review. The review says "Government wish to place on record their high appreciation of Mr. Ware's strenuous efforts as head of the Veterinary Department in re-organising the department and popularising the veterinary institutions".

A more regrettable feature is still there that the mortality outcome of Rinderpest was very high during the year under report, and the hope of the Government "that the S.S. method of inoculation will be resorted to on a very extensive scale and the disease brought under control during the current year", expressed in their review of the report makes one feel that the Serum Institute under contemplation of the Madras Government will soon see the light of day.

The research work carried on at the Madras Veterinary College, details of which appear on p.p. 22-26 of the report are very interesting and contain very valuable information. These items, in some more detail will certainly, in our opinion, find a better place, for wider publicity amongst the profession, in any of the Veterinary Journals than in an Administration Report.

The report contain a few illustrations. There, to be instructive, must have been produced with great attention to details.

C.V.D. Mysore for 1928-29.

During the year under report, the Province passed through "a heavy wave" of Rinderpest and the mortality reached its maximum. We are told that this mortality would have been greater still had it not been for the extensive inoculation by the S.S. method. "Active immunisation (S.S. method) against Rinderpest has been almost universally adopted in the State and has given the most satisfactory results". "The percentage of mortality among the inoculated has been less than one-fifth of one percent, which is almost negligible". We are also told that by way of an experiment, a few animals protected 3 years back were tested with virus alone, and that none of these animals showed any reaction.

The Department has done a year of "strenuous work". The "lower subordinates" on whom falls the bulk of the whole work is rather ill paid and in consequence, "just as they are becoming useful assistants to the Inspectors, they resign their appointments and seek employment elsewhere, because the prospects in this Department are not alluring. The result is that untrained and inexperienced men have to be employed". This state of affairs, is not for the good of the Department and it is therefore up to the Government to improve the pay and prospects of the Subordinate staff without any delay.

C. V. D., Bengal and Bengal Veterinary College, for 1928-29.

The year under report has been a comparatively healthy one for the live-stock of the Province. Rinderpest has been very mild and the opportunity was taken to demonstrate S.S. inoculation which, we hope, has been a great success.

We think Bengal is the first province in India to sanction the employment of wholtime Propaganda officer to educate the public and the ryots on the care and treatment of animals. The participation of the Veterinary Department in the Demonstration Van of the Agricultural Department is also a step in the right direction and we are glad to learn that they are of real value to the people at large. With the education of the people, the demand for Veterinary help is bound to increase and it is a great pity that the Department is understaffed very much. "Financial reasons" have been put forward for too long a time and it is, therefore, no wonder that, for the Veterinary Adviser, "the year under report has been a discouraging one". Another "discouraging" factor has been the existence of 'Diarchy' in the Veterinary Department. The Government and local bodies have been jointly in the control of the contagious disease staff and in consequence, great difficulty has been experienced. Dual control of the staff is one of the most unsatisfactory method of running a Department and we hope that the Government would soon remedy this and put the whole Department under one Government Head.

C. V. D. Central Provinces and Berar for 1928-29.

The report is a record of good progress and Major Stirling and his staff fully deserve the tribute paid by the Government.

The year has been one of considerable strain for the department as "it coincided with a period of intense incidence in the cycle of rinderpest occurrence." The epizootic diseases also have been very active and the department undermanned as it was, was taxed to its utmost in preventive work. The ryots have begun to appreciate the benefits of preventive inoculation and it is a great pity that, at this time, Major Stirling should be handicapped by shortage of staff.

Besides preventive inoculation, good progress has been maintained in almost all the other activities of the department. Propaganda work is being given the importance it deserves and lectures are often given in "local rallies organised by co-operative societies and of Agricultural shows."

With a view to easily overcome the shortage of staff we would strongly urge on the Veterinary Adviser to Government the extreme importance of improving the pay and prospects of his subordinates.

C. V. D., Punjab for 1928-29.

As usual, the report is one of continued good work. "On July 3rd, 1928, the Veterinary work of the Province was separated from its long connection with the Department of Agriculture and entrusted to a new department under the control of a Director, Civil Veterinary Department." The separation of the Veterinary from the Agricultural Department has provided the Director with wide scope for useful activity "and" there is an air of confidence in the report under review that augurs well for the future." This is indeed, as things should be. With the rapid progress of the department, it was necessary that it must be independent and we are glad that this has been done now.

Reviews

In this province, Live-stock Breeding operations also are under the control of the Veterinary Department, and it is gratifying that, in spite of, fodder for a time, good progress is maintained in this Branch.

As in other provinces of India, Rinderpest claims its annual toll from the cattle of this Province, although, fortunately, it is not so very virulent. It is a great pity that "the Director is not yet in favour of attempting to carry out wholesale S.S. treatment of all cattle in a large scale". We are, however, glad that "the Ministry of Agriculture considers that the results obtained in Egypt and in Mysore might be studied more clearly". The Ministry rightly opines that "if Mysore can show success from its campaign of universal inoculation, the care for attempting to drive Rinderpest out of the Province by this method should be further considered".

C. V. D., Burma for 1928-29.

There is nothing striking in the report although this year's report is an improvement on last year's. "There was a considerable decrease in deaths from Rinderpest 28061 was reported during the year against 38,385 in 1927-28 and 30,610 in 1926-27. It is not possible whether this decrease is due to the efforts of the department or whether it is entirely the result of other causes." Probably, it is due to the periodical subsidence of the disease after a period of acute virulence. This is quite possible when we realise that during the past 3 or 4 years, the deaths from this disease has been appalling.

After the advent of the Research Officer, Mr. Mitchell some research work has been done with the following conclusions:—

(1) The double inoculation against Rinderpest in adults is relatively safe in Burma.

(2) That the optimum dose of serum for this class of work would be about 7 c. c. per 100 lb.

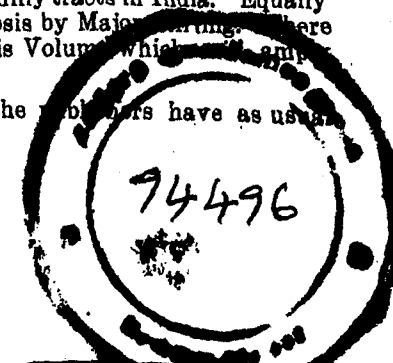
(3) That Surra may be expected to complicate inoculation as work a high percentage of cattle in Burma are chronic carriers but uncomplicated relapses to this disease appear to recover easily and without treatment.

The double inoculation has been given a fairly good trial in other parts of India with satisfactory results and we hope the Burma Government also would adopt this inoculation without further hesitation.

The Transactions of the Seventh Congress of the Far Eastern Association of Tropical Medicine 1927.

The 3rd Volume of the Transactions has been published and it completes the recording of all papers read and discussed in the Congress. In this volume papers on Veterinary and Nutritional diseases are found. Rinderpest, the main scourge of Cattle in the East, is given a good deal of attention, as could only be naturally expected. The paper on Uracystitis Haemorrhagica of Native Cattle in Fodmosa by Major Tasinobu Miyomoto is very interesting and the affection closely simulates the incidence of Chronic Haematuria in Cattle in some of the hilly tracts in India. Equally interesting is the paper on Canine Prioplasmosis by Major Stirling. There are many other rare interesting papers in this Volume which repay a close study.

The illustrations are very clear and the publishers have as usual done their part very well.



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N. D. DASAN G. B. V. C., H. E. H. The Nizam's Government.
OPINIONS.

W. TAYLOR, Esq., M.R.C.V.S., D.V.H., I.V.S. Principal, The Panjab Veterinary College, Lahore.

"In the first instance, I would like to congratulate heartily the author of this, on the trouble and pains he has taken in the compilation of the work...I have gone through the larger part of the work, and have come to the conclusion that with the few small alterations and additions mentioned above, the finished book will fill a long-felt want in the veterinary work....I would be pleased if you would convey my admiration for the work to its author."

P. T. SAUNDERS Esq., O.B.E., M.R.C.V.S., I.V.S., Ag. Director of Veterinary Services, Madras.

"In my opinion, the book referred to above meets a need which is constantly voiced not only by the general public, but also in the legislatures. I know no other compilation wherein the information is so well chosen and concisely stated."

The Indian Veterinary Journal, Madras. "Mr. N. D. Dasan deserves all praise for the production "Notes on Bazaar and Indigenous Drugs." This book comes in quite handy for an itinerating Veterinarian, who is generally handicapped for want of allopathic drugs. And for others it makes veterinary treatment fairly cheap. In a village a prescription containing indigenous drugs will be more readily taken. No other book on the subject seems available giving the necessary doses for Veterinary patients."

"We commend this book to every Veterinary Practitioner and student."

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