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

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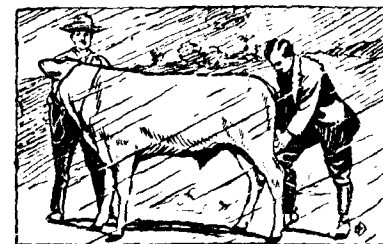
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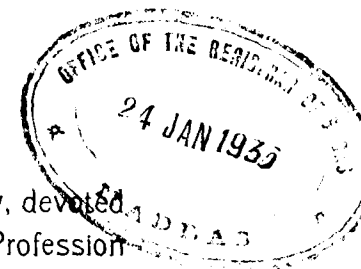
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THE INDIAN VETERINARY JOURNAL

(The Journal of the All-India Veterinary Association)

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— PUBLISHED QUARTERLY —

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[No. 4]

Editorial.

THE MADRAS CONFERENCE

The Madras Branch of the All-India Veterinary Association once described as the 'strongest limb' of that body, has somehow been not functioning properly for some time past now. The management thought that they have not been receiving sufficient encouragement and co-operation from the rank and file of the profession, while the latter in their turn blamed the management for not continuing to give them the necessary lead as of old. Well, it is not our intention to fix the blame one way or the other. But this state of suspended activities gave room for busy bodies to lay the flattering unction to their soul, that the Association was dead. It was therefore decided to hold a Conference and find out if the profession still continued to be with the Association or not. With what result, the proceedings published elsewhere will reveal. The magic of Madras lies in the fact that she rises to occasions beyond all expectations. She is like a torch, shake her however much you like with the intention of putting her out, she burns more brightly.

No less than 59 members even from far off places came running to the Conference to indicate their desire in favour of continuing the Association. It was one of the best attended of Provincial Conferences held in recent years. The Reception Committee did everything in its power to make the Conference a great success. Its Chairman, Mr. Anant Narayan Rao, welcomed the Delegates in a very thoughtful address and his co-operation and lead at this Conference were highly appreciated.

That great veteran and founder of the Madras Branch, Mr. A. Ramalinga Mudaliar, presided on the occasion and as is to be expected gave utterance to an illuminating address, which we commend to every member of the profession to be carefully read and acted upon.

As we sat listening to his address, we felt we heard the clarion call of the sages of old coming through ages, exhorting each individual to do his *Dharma* unmindful of all consequences, to face the life's problems boldly and squarely, to weather the storm and not to run away from it. It is the same old advice which galvanised into action many a quivering heart at times of crisis under all climes and at all times! His advice has not come a day too early to every section of the profession. Some expected his past sufferings to colour the fairness of his comments. But Mr. Mudaliar is too noble for that. Free from all rancour and bitterness, his address is a burning appeal for an all round progress. How right was the choice for the Presidential Chair must now be self-evident.

One regrettable feature of the Conference cannot go unrecorded and it was the conspicuous absence of some of the officers of the Department in the city, including the Director. We do not pretend to know their reasons. Whatever they may be, it is highly to be deplored that an occasion such as this, which ought to be eagerly availed of for the well-being of the profession as a whole and for the mutual benefit of the high and the low in the profession, has been missed.

The ordinary courtesy of either responding to an invitation or even writing to the Reception Committee regretting their inability to attend the Conference has not been extended to it! Such a treatment from the members of our own profession! Let the Government, the public and the profession make a note of this attitude of non-cooperation and let not the profession at large be accused if Nemesis, that zealous Goddess, starts getting busy, as she is bound to be.

We congratulate Madras on the success of the Conference and she has every reason to be proud of it. Long Live Madras!

Original Articles.

A GUIDE TO THE STUDY OF A CHEMICAL TEST

BY

D. C. MATHESON, F. R. C. V. S., D. V. S. M., (VIC.)

*From the Department of Pathology, Bacteriology and Meat Inspection.
The Royal (Dick) Veterinary College, Edinburgh, Scotland.*

The following questions are designed to assist the student in the arrangement of the available information in connection with the chemical tests which are employed in pathological investigations; but it is obvious that the questions have a wider significance and may be applied to many chemical tests, and if a test be studied with

Sarcolobus Globosus Poisoning in Cattle

269

the aid of these questions, in conjunction with its repeated practical performance, an understanding of it may be attained.

Which is this test?

What is the test designed to demonstrate?

What apparatus and reagents are required before the test can be made?

How is the test to be performed?

How is the result of the test to be interpreted?

What fallacies have to be considered in the interpretation of the result of the test?

How may we guard against such sources of error when making the test?

What are the principles involved in the test and how do authorities account for the reactions which occur?

SARCOLOBUS GLOBOSUS POISONING IN CATTLE

BY

R. S. NARAYANAN, G. M. V. C.,

Alor Star, Kedah, (Malay States).

Sarcolobus globosus, Wall—"Akar batu poliar kambing" or "Telor peliar kambing" in Malay language—is a creeper found luxuriantly growing locally along river banks.

The two cattle under report, found nothing else to eat in the vicinity where they were tethered and they had evidently eaten these plants in the absence of other fodder.



*Sarcolobus
Globosus.*

Visible symptoms.—Profound prostration, muscular trembling beginning in the posterior muscles, dilated pupils, grinding of the teeth, blanched mucous membranes, temperature 101.2° F, rapid pulse.

neck stretched, elbows out, laboured breathing, loss of sensibility and faeces and urine scanty.

Post-mortem lesions.—Slight inflammation of the abomasum and small intestines. Presence of large quantity of partly digested and undigested leaves and stems in the stomach. Bladder fully distended.

Remarks.—Visible symptoms were first noticed about 8 hours after the animals had eaten the plant, followed by death 24 hours later.

The general effects of the poison are, probably, on the medullary vagus centre producing cardiac depression, fall of blood pressure, slow breathing, paralysis of the alimentary system, arrested digestion and death by asphyxia.

My thanks are due to Mr. Sands, Principal Agricultural Officer, Kedah, for the English name of the plant.

A NOTE ON 'BABESIA MOTASI,' WENYON (1926) IN SHEEP IN MYSORE STATE

BY

S. D. ACHAR, G. B. V. C., P. G., (Punjab)

Superintendent,

AND

G. N. SRIKANTIAH, G. M. V. C.,

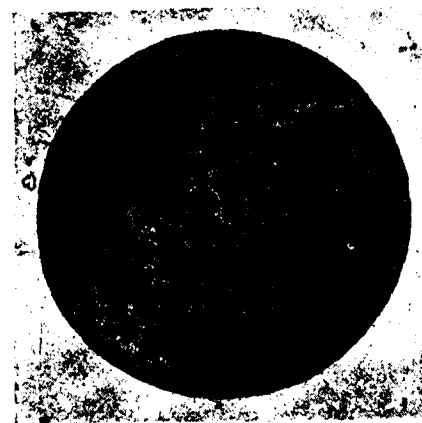
Veterinary Inspector, Mysore Serum Institute, Hebbal, Bangalore.

Piroplasmosis of sheep and goat has been described by many workers in different countries and it would appear that there is no literature as far as we are aware, regarding that disease in sheep and goats in South India.

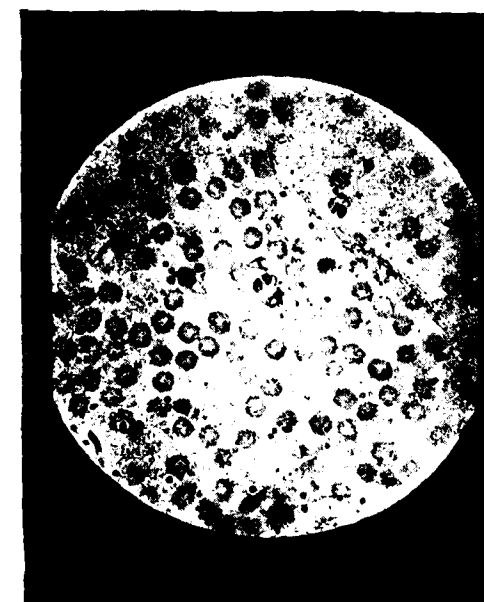
Babes (1892) first described the organism in the blood of sheep suffering from piroplasmosis and Starcovici (1893) named this organism *Babesia Ovis*.

According to Wenyon (1926) *Babesia ovis* is the same as *P. hirci* found in the goat. Motas (1903) first described a large piroplasm in the blood of sheep which he thought was morphologically identical with *P. bigeminum* of cattle and that organism has been named *Babesia motasi* by Wenyon (1925), since no other name was available for these large forms of piroplasms in sheep.

Lestoquard (1925) says that this piroplasm also occurs in goats and can readily be inoculated from animal to animal. This large piroplasm (*Babesia motasi*) was recently found in the blood of sheep at this institute during the course of experiments with goat—adapted Rinderpest Virus as an immunising vaccine for sheep against Rinder-

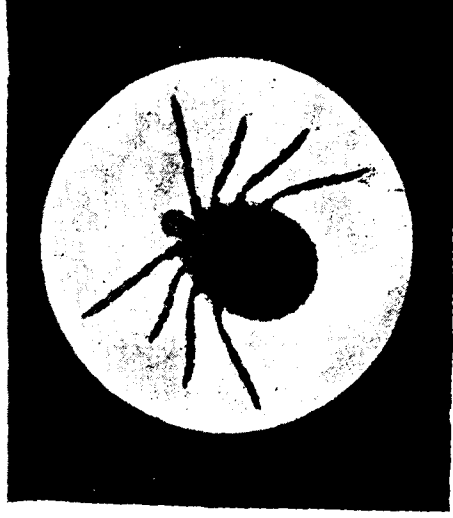


B. Motasi, from Sheep No. 13.
A. A group of R. B. Corpuscles affected.
B. Double in one R. B. C.



B. Motasi from Sheep No. 5.





H. Bispinosa (Ventral view.)



H. Bispinosa (Dorsal view.)

CHART No. 1.

No. 5

DETHS

AGE 2 YRS. INFECTION R. P.

[illegible]

MYSORE SERUM INSTITUTE

No. 13 CHART OF TEMPERATURE, etc.

ANIMAL SHEEP AGE 2 YRS. INFECTION UNDER OBSERVATION.

F. W. = Feeds Well. N. = Normal.

pest. For this purpose some sheep were inoculated each with 5 c. c. of goat virus on 10-12-33. On the 4th day after inoculation sheep Nos. 5 and 6 showed a high rise in temperature (*vide* chart). Blood smears from sheep No. 5 showed organisms similar to *Babesia mutans* of cattle. Blood smears from sheep No. 6 did not show anything. The next day blood smears of both the sheep were examined and found to contain pearshaped piroplasms, many of which were in pairs and uniting generally at an acute angle and resembling *P. bigemina*. These organisms were found to be a little smaller than *P. bigemina* and to differ from that organism in having a double chromatin mass in most of them.

As far as we are aware *Babesia motasi* in sheep has not been reported from India, at any rate, from this State and we take this opportunity of recording our finding.

Infection by inoculation. Blood from sheep No. 5 in which there were a large number of these organisms, was injected intravenously to sheep, goat, cow, calf, rabbits and buffalo-calves. Excepting sheep (Nos. 7 and 8) which showed these organisms on the 4th and 5th days respectively after infection, no other animals got infected. The calf on the other hand, showed *P. bigemina* the next day after the injection of blood from sheep No. 5. Two healthy sheep (Nos. 9 and 10) were kept in close contact with the affected ones, and sheep No. 10 showed the parasites in its blood on the 9th day. To ascertain, whether or not *B. motasi* is common among sheep in this State, three more sheep were purchased from different places and kept under observation in isolated places. Their blood was examined daily and it was found that these did harbour the parasites without showing any symptoms. All these sheep had ticks of the species *Haemaphysalis bispinosa* on them.

Insect vectors.—Motas (1903) observed that the tick '*Rhipicephalus bursa*' was the transmitting agent of *Babesia motasi*. It is of interest to note that all sheep which showed these organisms had on their bodies *Hemaphysalis bispinosa*. These ticks are found mostly clinging to the ears of the sheep. It is likely therefore that this species of ticks is the vector in transmitting *Babesia motasi* in sheep.

Summary:—(i) The finding of a large piroplasm, *Babesia motasi*, in sheep is recorded.

(ii) Attempts to transmit these organisms into a goat or other animal, excepting sheep by intravenous inoculation of infective blood were unsuccessful.

(iii) These parasites are found normally in some sheep and seem to flare up when the animal is affected with any intercurrent disease like Rinderpest.

Acknowledgments:—We wish to record our thanks to Mr. M. Anant Narayan Rao, Lecturer in Parasitology, Madras Veterinary College, for very kindly examining for us the samples of smears (from sheep No. 5 and calf) and ticks and for going through this paper. Our thanks are also due to Messrs. Ranganayakalu Naidu, Artist, M. J. Narsimham, Mycologist, T. V. Subramania Iyer and S. V. Venkatarayan of the Department of Agriculture in Mysore, for their valuable assistance.

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General Articles.

OSTEO-MALACIA; OSTEO-POROSIS

BY

JOHN RUTHERFORD ANDERSON, D. V. S.,

Macon, Georgia, U. S. A.

These are two compound words which are really descriptive terms which have been used in the past for names of a bone disease due to a deficiency of Vitamin D.

This article deals with the disease as it occurs in the horse and his kin only and we will avoid the use of technicalities as much as possible in it. The earliest symptom perhaps is the decreasing quantity of water which the animal drinks, which in most cases is overlooked by the attendant.

The next noticeable symptom is lameness, shifting without any local manifestations. Then a tucking contraction of the abdominal muscles with a stilty short gait. At about this stage of the disease an experienced practitioner can detect a peculiar rounding, thickening of the lower jaw bones at the point of insertion of the teeth. Next is the enlargement of the superior maxilla. The cancellated tissue of bones is more affected than compact tissue, that is why we have the enlargement of heads of bones and also that of the upper and lower jaw. This fact also accounts for the shifting lameness.

The final outcome of these cases—if not properly treated—is a tearing away of muscles, tendons and ligaments, from their bony attachments. The bones themselves rarely ever fracture first. When the tearing away of the tendons from the bone occurs during violent exercise—secondarily the bone fractures before the animal can stop. These tendonous ruptures may happen suddenly or gradually. The writer has seen these ruptures occur in horses while racing, pulling loads, walking along quietly or in the effort to rise after resting on the ground.

I do call to my mind a case where the animal was turned to pasture, rather a dry pasture—on account of lameness—rheumatism supposedly—and in a few days the gradual tearing loose of the two serratus magnus muscles from their scapular attachments was completed and the horse's sternum swung to his knees supported by the pectoral group of muscles—he was a queer looking horse. This horse did not show facial enlargement but did show enlargement of both branches of lower jaw.

As the cause of this bone disease is positively a lack of Vitamin D and the source of Vitamin D for the horses is in chlorophyll, it therefore does not need long drawn out arguments to point out the prophylactic and curative agent for the disease.

In the days of horse-drawn street cars, horse-drawn express wagons, mule-drawn cars in coal mines, fire department horses, army horses, race horses, before trainers learned for the better a different method of training and feeding the race horse this bone disease was a bane to horse flesh. Today in the army horse where he is never allowed to, or the surroundings are such that he cannot get green grass, or its equivalent, the disease in question is very common, and from the fact that the horse in the army is discarded as soon as his lameness becomes persistent the army veterinarian rarely sees the terminus of a case. The changes which take place in the bone are never wholly repaired when the chlorophyll is supplied, but if there has been no rupturing of tendonous attachments, the patients will become useful to serve in some capacity, provided they are kept supplied with Vitamin D.

Many years ago it was my good fortune to observe this disease in one horse for twenty years. I have since learned by experience why this horse survived without ruptures of tendons for so many years, yet at times manifested the presence of the ailment.

During his holidays in summer on pastures green, the progress of the disease was checked, but during the seven months stay in the city home he was fed on nothing but oats, corn and timothy hay. Again the diseased state was re-established, but before any great

change took place in the bones he was back on the green pastures. He was used to a buggy only, by a man fifty years of age when I first saw the case. His owner was as much in love with him as it was possible for man to love a horse. The horse died at the age of twenty seven years of the complications of old age. It may be of interest to the reader to learn that the case just cited attracted my attention in 1879. I entered the veterinary profession in 1887. This bone disease is more responsible for my entering the veterinary profession than any other factor. Nothing was really positively known about the disease at that time. But few recognised it when they came in contact with it—usually they classified it as rheumatism.

George H. Dadd who practised in Chicago, Illinois, U. S. A., about 1850 and later, wrote on this subject under the name Osteoporosis, and he believed it to be dietetic, due to eating Indian maize. Others of the old writers mentioned the disease differing in their opinions as to the cause.

At one time so forceful and numerous was the evidence that I was almost convinced that it belonged to the class of contagious diseases.

It was a grey mare used for racing purposes, forty years ago, Valentine was her name, sired by the great American trotting stud—George Wilkes—whose case rescued me from error and proved conclusively the cause, prophylaxis and treatment for the disease.

At that time we knew nothing of vitamins, but I discovered in this Valentine case that Chlorophyll, the green coloring matter in plants and grasses, contained a prophylactic and curative agent for this bone trouble.

It is of far more interest and instructive to the reader to summarize the subject than it would be to give in detail the reports on hundreds of cases.

Summary:—A bone disease due to lack of Vitamin D. The earliest symptoms are a diminution in the amount of water drunk (in some cases will not amount to a gallon in twenty four hours, winter or summer, work or idle).

Shifting lameness without local manifestation, tucking up, contraction of the abdominal muscles, short stilty gait when in motion, and enlargement of both branches of lower jaw and of the face. (superior maxilla).

Rupturing of muscular or tendonous attachments from bone, these are the noticeable changes during life.

As a matter of fact, every bone in the body becomes involved, if disease is allowed to progress and the more cancellated tissue they contain the more they are affected.

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Vitamin D is the agent lacking and cause of trouble.

It is not always easy and cheap to supply Vitamin D with green grass—the horse's natural source of supply as simple as it may seem.

Vitamin D is abundant in *cotton seed meal*.

Horses do not object to eating it when mixed with oats, bran and corn.

The meal is cheap in U. S. A., fifteen to thirty dollars a ton of two thousand pounds.

One to two ounces per day with oats, corn and bran is usually sufficient to prevent the disease from developing.

You can use one pound (sixteen ounces) a day in cases where changes have already taken place in the bone.

Do this until improvement begins, then cut quantity in accordance with the judgment of practitioner.

By all means and at all times give your horse all the green grasses he will eat, you will then never have a case of vitamin D deficiency develop.

After death the bones are heavier than normal but when allowed to quickly dry out they are very light in weight showing lime deficiency.

However phosphate or carbonate of lime fed in feed without the vitamin D will avail nothing in prevention or cure of the disease.

If the Army veterinarians will use cotton seed meal where it is not practical to get green grasses the cases of obscure lameness will almost disappear.

A SUMMARY OF THE OUTBREAK OF RABIES AND ITS CONTROL IN PENANG

BY

M. V. PILLAI, G.B.V.C.,

Penang.

From the point of view of the safety of the public, rabies is one of the most dreadful diseases of dogs communicable to human beings and other animals, and its control is, therefore, a very important Public Health problem.

It is admitted that only by strict legislation can an outbreak of rabies be controlled or eradicated successfully in any country. The measures adopted, at present, in countries affected with rabies are, destruction of stray dogs, compulsory registration of muzzling order, quarantine restrictions and protective inoculation. To attain succe-

ssful results, it is necessary that the above measures be strictly and energetically enforced.

The object of this article is to bring to the notice of our Indian readers, through the medium of this valuable *journal*, how this little Island lying close to the Malay Peninsula, and with a cosmopolitan population, faced a sporadic outbreak of rabies for over two years, and what measures were adopted to stamp it out. Thanks to the insular position and strict control over exportations and importations of animals, this place has been exceptionally lucky in excluding rabies for the past twenty years or more. Unfortunately, one outbreak in a well-bred Fox Terrier dog belonging to a well-known medical practitioner—a Chinese gentleman—appeared for the first time in the beginning of January 1931. This was brought timely to the notice of the authorities by the doctor himself who thus rendered a great service to the community by his commendable action. How this case happened and where it came from, nobody knows even up till now. It was a typical furious type of rabies, the animal dying after three days. The brain was sent to the Institute for Medical Research at Kuala Lumpur, where it was confirmed as rabies. This case of rabies, the first of its kind after a long absence, came as a shock to the people and opened the eyes of the Veterinary Departments, both Municipal and Government, to take immediate measures to prevent an outbreak of rabies. Notices and pamphlets printed in English, Chinese, Malay and Tamil were distributed throughout the Island, notifications in the Government Gazette and in all the local papers appeared daily, posters were placed in prominent places and in schools showing the seriousness of the disease to human beings, and owners of dogs were prohibited from taking any dogs into or out of this Island.

Having carried out these preliminary measures, muzzling order was brought into force by which no dog was allowed to be out-of-doors unless it has had a proper leather muzzle or it was let on a chain or leash. Any dog found out-of-doors in contravention of this order could be destroyed by anybody and in addition the owner was liable to a fine not exceeding \$ 50 for infringing these rules. This enabled the Veterinary Department and the Police to institute a number of prosecutions against careless owners. The Officers of the Municipal Veterinary Department who are responsible for the town area, prosecuted nearly 207 persons of all castes and creeds at the Police Court and \$ 1,550 (Rs. 2,325) were realised as fines.

Destruction of stray dogs and unregistered dogs was the next item on the programme and was tackled most vigorously by authorities. For this purpose temporary dog shooters were engaged—to assist the permanent ones—by the Municipal Veterinary Department for the

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town area and they carried out a merciless shooting campaign under the supervision of the Municipal Veterinary Surgeon and Assistant Veterinary Surgeon. It is estimated, nearly 5847 dogs were destroyed during the period of two years, thus ridding the place of stray dogs which are a potent source of spread of rabies. Even during normal times, registration of dogs in the town area is compulsory and is strictly enforced, but during the rabies period, stricter methods were adopted by house to house visits in search of unregistered dogs.

In the meanwhile, all suspected dogs that had bitten people, were arrested by the Police and kept under observation for ten days at the Cattle Quarantine Station. The number of suspected cases brought in in this way totalled 46.

In the beginning of 1933, another new regulation was brought into force by which all dogs in the Settlement of Penang were compulsorily submitted to Anti-Rabic vaccination at or immediately before registration. For the convenience of the people, vaccination, followed by registration of all town dogs, was done at the Animal Infirmary and the dogs of the rural area were inoculated by the Government Veterinary Department. The number of town dogs vaccinated during 1933 was 1389. Owners who failed to produce their dogs were also severely dealt with especially in the town. House to house inspections for checking dogs and to detect unvaccinated dogs was carried out by the Municipal Veterinary Department.

The vaccine that we used was prepared by the Director of the Medical Research Institute, Kuala Lumpur. Dogs of the size of a Fox Terrier received 5 c. c. and big ones 6 to 8 c. c. of the vaccine. The most suitable site for injection was in the loose skin behind the elbow. The use of this single-dose vaccine as a prophylactic, has been found very satisfactory. Out of the 1389 dogs, a few developed abscesses at the seat of injection which perhaps was due to faulty sterilization of the syringe and needle, while doing a large number of vaccinations. Another owner who keeps a dozen Pekinese dogs complained that his bitches aborted after injection. No case of death was reported except one Cairn Terrier dog which died 13 days after the injection; the brain of this dog was sent to the Medical Research Institute and was confirmed for rabies. The animal perhaps was in the incubation period of the disease at the time of vaccination. On the whole, for practical control of rabies, the protective inoculation proved very effective when combined with the other measures described above. The total number of outbreaks for two years was 19 and as there was no more outbreak for 6 months, the restriction orders were removed and Island was declared free from rabies.

Now the problem is, whether in a big country like India, notorious for its stray dogs and rabies, is it possible to adopt such measures to eradicate this disease from dogs and thereby save human suffering? Nothing is impossible. "Where there is a will there is a way."

HOW SHEEP POX VACCINATION IS CONDUCTED BY A QUACK

BY

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During last year I visited a village where a village quack had conducted vaccination against sheep pox. I was told that he had immunised the flock as follows:—

He asked the owner of the flock to enclose the sheep in a fenced fold and then vaccinated the healthy animals with the material taken directly from the pustules of affected animals. He rubbed the material on the inner side of the ear after scarifying the skin with a knife. He gave instructions to the owner to keep the vaccinated as well as naturally infected animals all in the enclosure for ten days. It would appear he chanted some prayers and scattered some grains round the enclosure to ward off the evil influences of the village deity. Even men, excepting the care taker were not allowed to go near the enclosure. Though the methods of propitiation to the deity has had no meaning, yet the desired effect of isolating the flock was there. I was told that mortality among the vaccinated animals was about five per cent.

SURGERY OF SOME OF THE HEAD SINUSES IN THE EQUINE AND THE BOVINE

BY

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Veterinarians are very frequently required to surgically invade the head sinuses in the domesticated animals. This is especially true in the equine and the bovine. As in all other surgical conditions, the results obtained depend very largely upon the operator's knowledge of the rather complicated anatomy of these parts, and the

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relationship that they bear to structures of more than ordinary importance. A knowledge of surgical technique is admitted. In view of the fact that, from the surgeon's standpoint there is, anatomically, but little similarity between the head sinuses in the equine and in the bovine, they will be considered separately.

I

IN THE EQUINE.

(A) *Anatomy.*—In the equine the two sinuses of greatest surgical importance are the frontal and the maxillary. They are most frequently involved in the disease process.

According to Sisson, the frontal sinus in the horse consists of two portions, namely, the frontal part and the turbinate parts, so designated because the former is largely bounded by the frontal bone while the latter is located within the dorsal turbinate bone. The frontal part—with the head held in the horizontal position—extends as far forward as a line drawn from the medial canthus of one eye to that of the opposite eye. It is separated from the sinus of the opposite side by a complete bony septum.

The turbinate part of the frontal sinus is located in the posterior part of the dorsal turbinate. Its anterior limit may best be gauged by passing the separated ends of the thumb and index finger backward along the nasal bones, and at the point where the two fingers mentioned start to deviate from each other will be found the anterior limit of the turbinate part of the frontal sinus. An important surgical point to bear in mind is that this turbinate part is separate from the nasal cavity by the thin tissue of the dorsal turbinate.

The frontal and maxillary sinuses in the horse communicate freely through the very large oval fronto-maxillary opening, which is situated ventral to the origin of the osseous lacrimal canal. The frontal sinus in the equine has no direct communication with the nasal cavity.

The maxillary sinus occupies a large portion of the region immediately anterior to the orbital cavity, and even under this space, its anterior limit corresponds quite generally to a line drawn from the anterior extremity of the facial crest to the infraorbital foramen. Medially, the maxillary sinus is in contact with the ventral turbinate.

The maxillary sinus of the horse is divided into an anterior and posterior compartment, the former constituting the inferior maxillary sinus and the latter the superior maxillary sinus of the older anatomists. The complete bony septum in the equine between the anterior and posterior parts is about two inches from the anterior

end of the facial crest, and from here it is directed inward, backward and upward.

The posterior compartment of the maxillary sinus has passing through it, the bony infraorbital canal which serves for the passage of the large sensory infraorbital nerve. This compartment communicates with the nasal cavity through a very narrow slit located at the posterior part of the middle meatus.

The anterior compartment of the maxillary sinus is partially divided by the bony partition which arises from its floor, and which serves to carry along its upper border the infraorbital canal, into a lateral or maxillary part, and a medial or turbinate part. The turbinate part communicates with the nasal cavity by means of a narrow slit in the middle meatus. The roots of the last four cheek teeth project into the maxillary sinus—that is, the third partially in the anterior compartment, the fourth entirely so, fifth on the dividing line between the anterior and posterior compartment, and the sixth in the posterior compartment. They are separated from the cavity of the sinus by a thin plate of bone.

(B) *Anaesthesia*.—If no more extensive surgical operation is to be performed than trephining the sinuses and establishing drainage, satisfactory anaesthesia may be produced by the subcutaneous injection of a local anaesthetic directly over the operative area.

If extensive surgical steps are necessary, including certain dental manipulations, a much more thorough anaesthesia should be established by "blocking" the maxillary nerve. This nerve is one of the principal divisions of the fifth cranial nerve, it is purely sensory, and when properly "blocked" will result in anaesthetization of practically all of the region anterior to a line drawn between the medial canthi, and situated on the same side of the head as the nerve which has been blocked.

For blocking purposes the nerve is most accessible at a point where it traverses the pterygo-palatine fossa alongside the orbit and just before it enters the infraorbital canal.

The needle, about 16 gauge and having a shank at least three inches in length, is introduced at a point about one inch below the lateral orbital canthus—this is immediately below the facial crest and above the transverse facial vein it descends along and in contact with the maxillary tuberosity until it reaches the maxillary foramen, this also being the point of entry of the maxillary nerve into the infraorbital canal, and here the anaesthetic solution is deposited. When the needle establishes contact with the nerve, the animal jerks the

head suddenly. If blood flows from the needle the internal maxillary artery has been wounded, and the needle should be redirected a little higher up.

A good practical method of testing the thoroughness of the anaesthesia is to prick the upper lip of the same side when complete insensibility should exist.

The oral administration of a therapeutic dose of chloral hydrate is also helpful.

(C) *Indications*.—There are two outstanding indications for surgical invasion of the head sinuses, namely, all diseases of the last four cheek teeth, which can be rectified only by an approach through the sinuses and empyema of these cavities.

(D) *Cheek Teeth Affections*.—It is assumed that the operator has a good knowledge of the normal size, position, and relation of the teeth, and that he is able to recognize variation from normal, both by sight and by the sense of touch.

Neither must the operator forget that when a dental condition is present, necessitating removal of the teeth, he should exhaust all methods to accomplish the desired result without invading the sinuses. Whenever a tooth can be extracted, it is surgically criminal to resort to repulsion—that is, in those cases where the roots of the teeth project into the sinuses—because the act of repulsion will convert what may have been a surgically healthy cavity into an infected one, and a subsequent involvement of all neighboring tissues. The operator having decided that the only logical method of attack is by repulsion through the sinuses, he should then use certain well established guides.

The most important of these is the so-called *base line*. This is an imaginary line extending from the medial canthus of the eye—the head being horizontal—to a point just superior to the infraorbital foramen, and continued on from here in the general direction past the roots of the first tooth. This base line is just inferior to, and corresponds to the general direction of the osseous lachrymal duct. Under no circumstances should a trephine opening for repulsion of the teeth be placed higher than this base line. To do so would result in the destruction of the very important osseous lachrymal canal. In young horses the trephine opening should be just below the base line, though in old horses they may be somewhat lower down.

In repelling teeth it is very essential that the punch shall be on a straight line with the general direction of the long axis of the tooth to be removed. This may be accomplished by having the trephine opening bear the proper relationship to the base line as indicated in the preceding paragraph, and furthermore, it should bear the proper

relationship to the tooth to be removed. For the first superior cheek tooth the trephine opening should be just below the base line and directly above the center of the table surface of the tooth. For the second, third, fourth and fifth cheek teeth the trephine opening should be above the posterior border of the table surface of the tooth to be removed. For the sixth cheek tooth—which fortunately seldom requires removal—we should trephine the frontal sinus on a line drawn between the medial canthi of the eyes and about one and one-half inches distant from the middle line. Then by means of a curved or bayonet-shaped punch passed into the frontal sinus, then through the fronto-maxillary opening into the posterior compartment of the maxillary sinus, over the infraorbital canal, and directly on to the root of the sixth tooth. In older horses this method works quite satisfactorily, though in younger animals, because of the extreme backward curvature of the tooth, the method many times fails and results in serious damage to the infraorbital canal, with subsequent exposure of its very highly sensory nerve.

Trephine openings for the repulsion of teeth, made in accordance with the general principles laid down in the preceding paragraphs, will result in the application of a maximum of effort and a minimum of danger to surrounding tissues.

(E) *Empyema of the Sinuses*.—Due to a variety of conditions, infection frequently gains entrance to the frontal sinus of the horse, and because of the large fronto-maxillary opening, the posterior compartment of the maxillary sinus becomes involved. Due to the rather numerous septa, compartments, etc., it is difficult to obtain adequate drainage from these sinuses unless certain guides are borne in mind.

Considering the frontal sinus as a whole—bear in mind that it has a frontal portion and a turbinate portion—the latter directly continuous of the former, and in turn separated from the nasal cavity only by the thin wall of the dorsal turbinate—it is evident that the logical route for the outflow of cavity material is through the nose, accomplished by making an artificial opening through the medial wall of the dorsal turbinate at a point corresponding to the anterior limit of the turbinate portion of the frontal sinus.

It has already been indicated that to locate the anterior limit of the turbinate portion of the frontal sinus, the operator should pass the thumb and index finger backward along the nasal bones, and where these begin to diverge there is located the anterior limit of the cavity we are seeking to drain.

First make a trephine opening two inches posterior to the anterior limit of the turbinate portion of the frontal sinus as indicated by the thumb and index finger. This trephine opening should be

about one inch from the middle line, pass the index finger of the left hand, through this trephine opening, in a forward direction into the cavity of the turbinate portion of the frontal bone and press it against its medial wall so that the end of a female catheter, passed with the right hand into the nasal cavity, may be distinctly felt. The point of the female catheter is then forced from the nasal cavity into the turbinate portion of the frontal sinus by breaking down the relatively thin partition separating the two. In order to keep the opening thus made from closing, a piece of twisted gauze should be passed through it and it should be long enough so that one end will emerge from the nostril and the other from the trephine opening. Tie the two ends over the outside of the face. If hemorrhage is too profuse, the nasal cavity may be tamponaded with gauze impregnated with some styptic agent such as tannic acid.

Though the foregoing step will permit of free drainage from the frontal sinus, it does not drain the communicating posterior compartment of the maxillary sinus. This compartment should therefore be drained just posterior to the septum dividing it from the anterior compartment, but as the position of this septum is variable, we cannot always determine the exact place to trephine in relation to it. The best plan therefore is to make a trephine opening into the posterior compartment of the maxillary sinus at some point anterior to the rim of the orbital cavity and about midway between the facial crest and the position of the osseous lacrimal canal. The finger may be introduced into this trephine opening and by palpation we may determine the exact location of the anterior limit of the posterior compartment of the maxillary sinus, so that a second trephine opening may be made for effective drainage. This compartment of the maxillary sinus also has a very shallow depression medial to the infraorbital canal, but it seldom or never requires a separate drainage opening. Furthermore, in many instances, if the fifth or sixth cheek teeth have been removed, the passageway thus created will provide an excellent drainage opening.

To obtain drainage from the anterior compartment of the maxillary sinus demands steps independent from those taken for the frontal sinus and the posterior compartment of the maxillary sinus. In fact, the anterior compartment of the maxillary sinus is seldom involved in an infection of the other sinuses. It is usually an independent empyema. To drain it, the operator must remember that it is partially divided into a lateral or maxillary portion, and a turbinate portion by the bony septum that carries along its superior border the infraorbital canal. Each of these cavities requires separate drainage. The lateral or maxillary portion is effectively drained by making a trephine opening in the angle formed by the

anterior extremity of the facial crest and an imaginary line drawn from it to the infraorbital foramen. In old horses—because the roots of the teeth are not very long—we may then break through the bony septum which carries the infraorbital canal and thus establish good drainage from the turbinate portion. In young horses the roots of the teeth prevent this, and therefore by means of a grooved instrument passed through the trephine opening first made over the infraorbital canal, thus entering the turbinate portion of the anterior compartment of the maxillary sinus and forcing the tip of the instrument through the medial wall of the ventral turbinate into the nasal cavity. The opening thus made should also be kept open by means of a piece of twisted gauze passed through it and the ends tied on the outside of the animal's face.

II

IN THE BOVINE.

A. Anatomy.—The frontal sinus of the ox is very different from that of the horse. It corresponds to the anterior surface of the cranium and also extends into the horns, when the latter are present. The anterior limit of the frontal sinus corresponds to an imaginary line passed through the middle of the orbits. Medially it is separated from the sinus of the opposite side by a complete septum. Posteriorly this sinus extends to the region of the poll and laterally to a point just anterior to the external ear. The outstanding difference between the frontal sinus of the horse and of the ox is that in the latter it is divided by many bony septa, which make drainage almost impossible. As in the horse, the frontal sinus of the ox also has a turbinate portion but it is separated from it by a complete septum so that this does not have the same surgical significance as in the horse. It is well to bear in mind, however, that the frontal sinus of the ox communicates normally with the nasal cavity through the ethmoid cells, though these openings are very small, or, in case the mucous membrane lining them is at all swollen, they are virtually closed. Another anatomical point to bear in mind is that one of the numerous compartments of the frontal sinus is virtually back of the orbital cavity. It is known as the post-orbital diverticulum and it is separated from the temporal fossa by only a very thin plate of bone, so that when this breaks down infection readily involves the region back of the eye.

(B) Anaesthesia.—The frontal sinus of the ox may be trephined without serious discomfort to the animal by the use of a local anæsthetic injected at the site of the proposed trephine openings.

(C) Indications.—Infection of the frontal sinus in the ox is very common following dehorning operations, especially when this operation is performed in animals so mature that there is a distinct cornual diverticulum that extends from the frontal sinus into the horn core.

(D) Empyema.—In order to obtain drainage from the frontal sinus it is necessary to make openings outwardly so that the various compartments, diverticuli, etc., will readily discharge their contents. Necessarily, such openings should be made only where the frontal sinus has its deepest cavities. Possibly no more practical method of determining just where to trephine has been laid down than that described by the late Dr. H. E. Bemis. He states as follows: "If a horse-shoe having wide-webbed branches and a narrow toe should be placed upon the head of an ox, so that the end of the upper branch would rest upon the median line in the region of the poll, and the toe of the shoe rested upon the lateral portion of the frontal region—that is, just posterior to the temporal fossa—then the lower branch of the shoe will rest over the second most free portion of the sinus, and any point covered by the shoe would be a safe point for trephining the sinus, though we should avoid the frontal vein which lies in the dish of the forehead to enter the supraorbital foramen".

Over this imaginary horseshoe there are three preferred places to trephine. The first of the three places is just below the poll and midway between the median line and horn core. The second preferred place is just medial to the bony ridge which marks the lateral limit of the frontal sinus, or in other words, it is approximately from one to one and one-half inches directly posterior to the orbital cavity of the head in the horizontal position. Stated in another way, it is in the region of the toe of the imaginary horseshoe used as a guide. The third place to make a trephine opening is directly posterior to a line passing through the center of the orbits and about one and one-half inches from the middle line. From this latter trephine opening we may, by means of a grooved instrument passed from above to below and directed slightly between the median line, make a drainage opening from the frontal sinus into the nasal cavity. If an abscess develops in the temporal fossa as a result of the breaking down of the thin plate of bone limiting the post-orbital diverticulum, then the best that can be done is to make an incision through the skin at the most prominent part of the swelling establishing fair, though imperfect drainage, through this incision. Usually this latter gives only relief until the animal can be marketed.

Occasionally operators trephine the compartment of the frontal sinus found posterior to the poll, but this serves only little practical purpose.

By careful attention to the anatomical relationships in both the equine and the bovine, surprisingly good results can be obtained from surgical interference in these regions, and surprisingly poor results can be obtained following a disregard of topographical anatomy.

A PRELIMINARY NOTE ON THE SELECTION OF HORSES AND THE INFLUENCE OF COAT COLOUR IN THE MECHANISM OF ANTI-BODY FORMATION.

BY

M. R. SEN, G.B. V.C. *Calcutta.*

At the present time horses, especially Bay and Brown coloured ones are usually selected for serum making purpose. I have endeavoured in the following lines to place my own explanation with a few references and statements in support of the above, (with the hope that it will serve to stimulate further interest on this subject,) as no satisfactory explanation has yet been offered on this rather exclusive phenomenon.

ORIGIN AND SUBSEQUENT WORK ON SERUM THERAPY.

It is due to the researches of Emil Von Behring, the founder of Serum Therapy, that we owe the basis of knowledge about Immunity. Behring in 1890, first prepared Diphtheria Antitoxic Serum from Sheep. Subsequently, with the co-operation of the Japanese worker Kitsato, he discovered Tetanus Antitoxic Serum. In 1894, Roux and Martin were the first to employ horse for the preparation of Antitoxic sera. Behring with his colleagues and subsequently other workers experimented with various domestic animals (sheep, goat, cattle etc.) for their susceptibility and power of producing antibodies and found most of them more or less equal in responding to immunisation.

It is the horse which is now universally employed for the production of Anti-toxic sera for the following reasons.

- (1) With this animal it is easier to carry out the process.
- (2) Large quantity of sera can be obtained with less effort.
- (3) Though the animal is highly susceptible to some toxins or bacteria it can stand a larger dose of toxin when administered gradually, and when compared with other animals, it usually gives a higher titre of Anti-toxin with almost all toxins or bacteria.
- (4) The animal has a greater power of resistance to infection.

Behring and others have also experimented with different kinds of horses for their power of producing Anti-toxins and found that all

Horses do not equally respond to immunisation, and there are certain points to be observed with regard to selection of the animal. The whole process of immunisation is now carried out by different workers with the methods initiated by this pioneer scientist.

SELECTION OF HORSES:

The animal must be absolutely healthy, young but fully matured, vigorous, quiet, steady and capable of hard work, preferably dark coloured and of local breed. Indian horses are generally very hard working and well suited to the climate, and respond to immunisation more readily than the imported ones.

Some workers claim that older horses respond to immunisation, particularly against Tetanus, more quickly than younger ones, while others do not. Probably the reason is that the older horses generally possess a certain degree of acquired immunity which is helpful. However, it is a fact that the older ones cannot be used for a longer time and kept in health than a younger one.

In India Dr. H. Ghose (the former Director of the Biological department of B. C. P. W. Ltd.) is the first worker in the line who experimented with different kinds of horses and found that Bay and Brown horses are the best producers of Anti-toxins; Grey horses respond less and Chestnuts and Albinos are the worst for the purpose especially in Indian climate. The view is now of general acceptance.

The actual reason for this has not yet been satisfactorily explained and the available literature on the subject gives very meagre or no information. Perhaps few are really interested in the problem.

Salomansen and Madsen (1898) state that the power of forming Anti-toxin varies not only in different species of animals but even different individuals of the same species, but majority of horses can be induced to yield a serum of high Anti-toxic titre. Some individuals again prove refractory.

The two following points are likely to throw some light on the problem.

1. Chestnut and Albino horses are generally not fit for hard work and have less power of resistance and capacity for production of antibodies. Smith says:—"The connection between body colour and constitution is a physiological problem to which unfortunately no solution can be given: colour and temperament may go hand in hand. Chestnut horses are frequently excitable, nervous and irritable. All horses of light colour, no matter what it may be, are as a rule wanting in stamina and constitution. Albino horses are worthless for hard work". Dr. H. Gosh from his personal experience in the line states that the light coloured animals are less resistant to

toxin. He experimented in 1925, with a group of four horses of almost equal standard for the production of Tetanus Anti-Toxin: two of those were White and the other two were Bay. After the first dose of Toxin both the White horses developed severe toxic symptoms and died in a few days in spite of large doses of Anti-toxin administered immediately, while one of the Bay horses showed slight symptoms which disappeared within a day or two but the other showed none.

2. These horses being light coloured or non-pigmented are less resistant to the action of light. The cutaneous tissue probably takes a very important part in the mechanism of anti-body formation, which is more or less interfered with by easy refraction and penetration of light through the epidermal layer of the lightly pigmented skin. There is very little experimental work regarding this view; and the following references and statements may be of some interest.

In Ultra-Violet Ray therapy, regarding the influence of light on different individuals, Pachini (Outline of Ultra Violet Therapy—1923) states "Speaking generally, light people respond more promptly than the dark ones....." (i.e. penetration is easier in light coloured people).

In the action of Ultra-Violet light on bacteria and their products Norton states "In addition to the death of bacterial cell Ultra Violet light may exert a destructive action on products of bacterial metabolism, such as toxins and enzymes, and on the various groups of so called antibodies produced in the animal body as a result of injections of bacteria or their products—such as Anti-toxins, Agglutinins and Lytic substances or on the lytic materials known as Bacteriophage....."

Friedberger and Seimone (Immunatatsf, 1922) have stated that the decrease in amoebocyte is observed when haemolytic serum is exposed to Ultra-Violet rays. Trypanosomes lose infectivity much sooner than motility on irradiation. Wassermann serum and similar positive serum of man and rabbits, on illumination by Ultra-Violet light become negative.

Hekton observed that exposures of dogs and rabbits to X-rays at about the same time as the antigen was introduced, might markedly or completely inhibit the production of antibodies.

There is no conclusive evidence that any particular organ or tissue is responsible for the production of antibody, it seems quite possible from the following findings that cutaneous tissue takes an important part in the mechanism of antibody formation.

Rivers, Gay and others have claimed that intracutaneous vaccination protects against erysipelas more effectively than any other method. Bstedkda explained that protection against Strepto and staphylococci can be obtained by placing a compress soaked in the bacterial filtrate (Antivirus) over the skin area. Regarding the immunisation against Anthrax he stated that he was able to produce a solid immunity in Guinea pigs by rubbing attenuated vaccine of Anthrax on skin or by injecting intradermally, which were almost impossible to immunise by other routes.

There is no better method obtaining even now to produce active immunity in man against Small-pox other than vaccination by sarifying the epidermis.

Several years ago some worker, in the Pasteur Institute, Paris showed that in any series of horses injected, one or two of the animals spontaneously produced a marked increase in the Anti-toxic power of the serum, the increase being closely related to the occurrence of an abscess at a point where one of the doses of the antigen had been injected. The use of certain non-specific substances such as Alum, Calcium, Chloride etc. in combination with the antigen is more or less based on this simple finding. The general view is that the local inflammatory reaction with one or two abscess formations at the site of injection, slow absorption etc., have a marked influence on the production of antibodies. In addition to the view stated above, it may be inferred that the local irritating effect of the skin due to injection of antigen is transmitted to the cutaneous tissue and cells throughout the body and acts as a further stimulus to antibody formation.

Ramon and Lametayer Method for increasing and prolonging the production of Anti-toxin in horses (*Journal of Immunology*, Feb. 1932).

It has been observed in our Laboratory where a number of experiments have been carried out under Dr. A. K. Sen, Director of Biological Research and Experimental therapy, (B. C. P. W. Ltd.), that horses generally give serum of a higher titre following a marked local reaction consisting of oedema and abscesses variable in size, resulting in damage of the cutaneous tissue at the site of injection. So it can be assumed that the cutaneous tissue and cells stimulated by the local irritating effect, have a definite influence on the antibody response.

The above statements clearly show that antibodies, toxins, and bacteria are more or less highly sensitive to light, and the cutaneous tissue takes a very active part in the mechanism of antibody forma-

on. This is why the animals in course of immunisation are kept undisturbed and away from light as far as practicable, particularly after a dose of toxin injection. Probably the effects of light on the cutaneous tissue, if the animal is lightly pigmented or non-pigmented, have a retarding influence on the mechanism of the production of antibodies.

SUMMARY AND CONCLUSION.

Although from the external appearance it is difficult to judge whether or not the animal will respond to high anti-toxic titre, there are certain points to be observed in the matter of selection. Light-coloured horses, particularly Albino and Chestnut group, are not fit for immunisation. Exact explanation of this is really wanting. The most probable reasons as stated above, are that they are wanting in stamina and constitution and are not generally fit for hard work, and they cannot resist heat or light well. The Ultra Violet ray derived from the sun light may refract and penetrate more easily through their skin than that of the dark pigmented ones and thus more or less hinders the formation of antibody.

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Anatomical Section.

No. 16. INTERNAL AND EXTERNAL THORACIC ARTERIES.

By

H. N. CHELVA IYENGAR, G.M.V.C.,

Lecturer in Anatomy, Madras Veterinary College.

(Continued from page 229, Vol. X, No. 3.)

(a). *Internal and external thoracic arteries.*—The *internal thoracic artery* is usually said to come off as an intra-thoracic branch of the axillary artery before the latter emerges out of the thoracic cavity and the *external thoracic artery* is usually said to come off as an extra-thoracic branch of the axillary artery just as the latter winds round the anterior border of the first rib at the same level as the *inferior cervical artery* but from the posterior face of the vessel (axillary artery).

But in the subject (horse) I had for dissection on 15-10-30, the external thoracic of the left axillary artery was altogether absent. Instead, two large branches from the internal thoracic artery at different levels of its course took the place of the usual external thoracic artery. Of these two branches,—one—the *Anterior* sprang from the internal thoracic about an inch after its origin from the axillary artery, left the thoracic cavity winding round the anterior border of the first rib, placing itself behind the axillary artery, gained the posterior deep pectoral muscle and after detaching branches to this muscle, broke up into smaller branches which supplied other pectoral muscles. (Plate XVI).

Sisson, in the course of his description of this vessel observes, "The external thoracic artery varies in its origin and size. Not rarely, it arises from the internal thoracic or from the Brachial (Axillary) outside the thorax. In other cases, it arises by a common trunk with the inferior cervical artery. It may be very small or even absent in which case the perforating branches of the internal thoracic compensate."

During 1929, I had a subject—a horse—in which the internal and external thoracics of the axillary artery did not arise as intra and extra-thoracic branches, respectively from the axillary artery. Instead, a large vessel was found arising from the axillary within the thoracic cavity and this large branch was found dividing into two—one of which took the place of the internal thoracic and the other—

Plate No. XVI.



Internal and External Thoracic Arteries.

the external thoracic arteries. (*Plate XII-B-Right View-Variation*). *Vide-Indian Veterinary Journal*, Vol. IX, No. 4, April 1933).

(b). *Inferior or descending branch of the inferior cervical artery*:—Of the left axillary artery of this subject (15—10—30) was found supplying not only the anterior superficial pectoral and the mastoido-humeralis (brachio-cephalicus) but was also found detaching branches to the anterior and posterior deep pectoral muscles. (*Plate XVI*). Its supply to the anterior and posterior deep pectorals is not generally noted.

In another subject—a pony—mare which I had for dissection on 10-10-29 (*Plate XII-B*), *vide*, (*Indian Veterinary Journal*, Vol. IX, No. 4, April 1933), the inferior cervical artery besides presenting the usual ascending or superior (S. B.) and descending or inferior branches (I. B.), was found detaching a third branch as large as the other two and this third (middle) branch (M. B.) when traced was found entering and spending itself in the anterior deep pectoral.

Note:—The internal and external thoracics and the inferior cervical artery of the right axillary of this subject of 15-10-30, were found to be normal.

Note to the Plate:—The axillary has been drawn out of the thoracic cavity to show clearly the origin of the internal thoracic artery from the axillary artery as well as the origins of 3 and 4 from the internal thoracic artery.

Clinical Articles

AN OUTBREAK OF SURRA IN A PACK OF FOX HOUNDS

BY

R. SWAMINATHAN, B.A., G.M.V.C.,

Ootacamund, Madras.

The following outbreak of Surra in a pack of Fox Hounds may be found interesting to those engaged in canine practice and incidentally to the different Hunt Clubs in the various parts of this country.

Ootacamund is practically the only place in the whole of India, where Fox Hounds are bred and brought up successfully. The average strength of the Ootacamund Hunt is about 45 couples, the majority of which are locally bred. These compare very favourably both in their build and hunting capacity with the imported hounds a few of which are drafted every year from well known Kennels in

England. The usual feed of these hounds consists of rice, ragi, meat and vegetables. Latterly, oat-meal obtained from England has been added to the ration with very satisfactory results. Meat is generally Beef and is given, as a rule, cooked; occasionally, when it is of first class quality, it is given raw. Horse flesh, if and when available, is also given and is always cooked. Hunting is done 3 days in a week from about the middle of April to October. The pack is a healthy one and although there have been occasional outbreaks of diseases, they have rarely interfered with the hunting. This is the first incidence of Surra in this pack.

In October 1932, the Superintendent of Kennels reported that three hounds, Gallant, Gamecock and Pincher—which had been imported a fortnight back, were not improving as well as they ought to and, although they were feeding well, they were not picking up in condition. On this report, one of the hounds, Gamecock, was taken into the Hospital on 19-10-32, for observation and treatment. While at the Hospital, the temperature was found to be normal, the appetite good and the dog in no way appeared to be sickly. On 22-10-32, the temperature of the dog was found to be 103°. Thereupon, a drop of blood was examined under cover-glass, when numerous Trypanosomes were found. Immediately, the other two hounds were examined. 'Gallant' had a temperature of 101.4° and no constitutional disturbance. Blood examination revealed plenty of Trypanosomes. 'Pincher' was definitely showing signs of illness. His temperature was 103°, mucous membranes were pale and yellowish, appetite poor, abdomen pendulous and general condition poor. Blood examination showed Trypanosomes in plenty. Fortunately, there was a stock of "Naganol" (Bayer 205) on hand and the three hounds were at once injected with 7 grs. of the drug in 7 c.c. of water intravenously, and the Trypanosomes disappeared with this one injection.

A systematic examination of the blood of the whole of the pack was immediately undertaken, when a good number of them were found to be infected. Majority of these positive cases had no rise of temperature at all, there were no constitutional symptoms and were hunting quite well. Only 3 animals showed real constitutional disturbance. 'Wuz'—the terrier—and 'Dormor'—Fox Hound—had both temperatures of over 104° and both had corneal opacities which cleared after the injection of Naganol. 'Welldone' showed pneumonic symptoms one morning and died within 12 hours—the only one fatal case in the whole outbreak. Even this hound would not have died, if we had not run short of Naganol then.

It was thought wise to inject the whole pack with Naganol, both as a curative and preventive measure, and this was done at once. Each hound got 8 grs. of Naganol in 5 c.c. of water intravenously.

The outbreak subsided immediately. A number of hounds were in advanced stages of pregnancy but no ill effects were noticed from the injection.

The chief point in recording this outbreak is to draw attention to the source of infection. It is generally believed that outbreaks of Surra amongst Fox Hounds are due either to the "breaking up" of an infected jackal at the time of a "kill," or to the ingestion of raw meat from infected cattle or horse. (Flies are said to act only as mechanical transmitters of this disease). In this outbreak, none of the two causes can be said to have prevailed. If the "breaking up" of a jack had been the source of infection, then the first case would have been noticed in the "Hunting Pack." This was not the case. Nor could the meat be blamed as the probable cause, because the meat at that time was being given cooked. A still stronger reason for negating this probable source of infection is the fact that at the time of the outbreak, before and after, there were a few bitches which were in whelp and which, in consequence, were allowed to roam about in the compound. They had free access to the fresh blood in the slaughter house, where the meat was prepared. If infected meat had been the source of infection, then, these bitches would have been the first to get the disease. The fact that they remained healthy right through the whole period of the outbreak, is clear proof of the wholesome nature of the meat.

What, then, is the source of infection? Undoubtedly, the three hounds which had been imported. The whole pack was singularly free from this disease until the arrival of these three hounds at the end of September 1932. These hounds, in the words of the Kennel Superintendent, did not at all do well ever since they arrived. Although they were healthy to all appearances, they were kept segregated and not allowed to mix with the pack—the usual precautionary measure adopted in the case of every fresh animal. Even in the Hospital where "Gamecock" was kept under close observation, he did not show any signs of illness until the casual examination of his blood which revealed the Trypanosomes. It is, therefore, quite plain that these 3 hounds arrived in the Kennels in an already infected condition and formed the definite "source of infection" from which, it is presumed, the flies disseminated the disease. How and where these hounds got the infection, it is difficult to say. It is not at all possible they would have been infected before they sailed. If it were so, they would either have died on board the ship or arrived here in a miserable condition—neither of which was the case. They arrived in a fairly good condition. They must, therefore, have been infected either on board the ship or in the train between Madras and Ootacamund through the agency of some insect vector.

AURAL ACARIASIS IN A HORSE

BY

R. SWAMINATHAN, B.A., G.M.V.C.,

Ootacamund, Madras.

The subject of this case was a medium sized Chestnut English Gelding, aged about 6 years. Two years ago, the horse was brought to India as a race horse; but, as he did not do well at the races—he was said to be a "bolter"—he was taken off the racing field and was bought by the present owner about February 1933, to be used as a Hunter. A fortnight after purchase, the horse was noticed to be unsteady in his gait and became quite dangerous to ride. A Veterinary Practitioner was called in to see the horse, who, after examination, declared it to be a case of "Brain Tumour" and recommended destruction of the animal. The animal was, however, not destroyed but was brought up to Ootacamund about the beginning of April 1933, and admitted into this Hospital on 6-4-33.

On examination, the animal was found to be extremely nervous; the slightest excitement was enough to make the animal go round and round on the left side in circles and fall down. The recumbent posture was only for a while and the animal would be up without any difficulty. There was no *unconsciousness* at that time. While walking, there was distinct in-co-ordination in the movement of the animal. When observed closely for a time, one could notice a frequent shaking of the head, as though the animal was trying to drive off some disturbing agent in that portion. Some ear trouble was, therefore, suspected and with great difficulty, a small quantity of wax from inside the left ear was removed and examined. A number of parasites were found and these, when sent to the Principal of the Madras Veterinary College, were identified as "Psoroptes Var Equine."

Diagnosis:—Aural Acariasis caused by Psoroptes Var Equine.

Treatment:—The animal was cast and both the ears were cleaned out and very thoroughly dressed with a mixture of Spts. Rectificatus, Ether and Boro-Iodoform. A very definite improvement set in even after the first dressing and, in consequence, the subsequent dressings were done with the animal standing and with a twitch round his nose. Later on, a dose of physic was given and this was followed by a course of Iodides and Arsenic.

Result:—The animal turned out to be a very good hunter and carried its owner—weighing about 14 stones—very well over the Downs. In September 1933, he was entered for the Peter Pan

Cup in the Hunt Point to Point Races, a distance of nearly 4 miles of hunting country. He was ridden by the owner himself and finished first (or to be accurate, a dead heat between the first and second).

UTERINE INERTIA

By

R. S. NARAYANAN, G.M.V.C.,
Alor Star, Kedah, Malay States.

The owner, in sending a bitch for treatment, wrote as follows to the State Veterinary Surgeon, Kedah:—

"I am sending up to your infirmary my golden labrador bitch 'Judy.' She is a valuable pedigree.

She has been having a milky discharge from the vagina on and off for about 10 days and refuses any solid food.

I have given her one dose of castor oil and fed her on egg and milk. She has been treated with a few warm disinfectant douches.

I have had no reason to suppose that she mated last month, when she was on heat, as her own mate, a labrador, was killed by snake-bite a week before she came on heat and was kept secluded during the period. It is possible though, that she may have been visited by a dog without our knowledge."

There was a slight rise in her temperature and bloodstreaked creamy discharge from the vagina. The uterus was felt to contain some fluid matter. By raising the forelegs and forcing the animal to stand on its hind legs, it was possible to get about 8 ounces of discharge from the uterus. The retention of the fluid was evidently due to the inability of the uterus and vagina to contract and thus expel the fluid used for douching.

Mr. J. J. Fleury, M. R. C. V. S., State Veterinary Surgeon, Kedah, very kindly suggested to try intramuscular injection of Pituitrin. An injection of 1 c.c. of Pituitrin (P. D. & Co. brand) was given and this was repeated twice at intervals of one day. One per cent Protargol was used for douching the uterus. Recovery was complete.

Three weeks after the bitch was discharged the owner wrote thus . . . "I am glad to say that 'Judy' is quite well again now and putting on weight rapidly."

PASTEURELLOSIS IN PIGEON

By

R. S. NARAYANAN, G.M.V.C.,
Alor Star, Kedah, (Malay States).

In forwarding a dead pigeon for examination, a pigeon fancier wrote thus:—

"Three of my pigeons have died in the last week, all healthy birds.

Course of disease—The bird looks off colour one day and avoids its companions. If approached, it will fly but is not strong on the wing. The next day a whitish dysenteric discharge is present followed by death about the 3rd day. The second case had a good deal of discharge and its anus was much enlarged and swollen."

Pasteurella was readily found in the blood smears.

Inoculated (subcutaneously) all the contacts, numbering 23 pigeons, with 1 cc. of bovine hæmorrhagic septicæmia protective serum (Muktesar serum—the only available product at the time) and also one pigeon, apparently dull, with 3 cc. of the serum.

The disease ceased to exist among the flock and the one apparently sick also recovered.

Muktesar bovine hæmorrhagic septicæmia serum was found to produce very satisfactory results in Pasteurellosis in fowls, ducks and turkeys.

TWO CASES OF SURRA IN EQUINES: TREATMENT WITH "BAYER 205"

By

G. A. AJWANI, M.Sc., D.V.M., D.V.H.,
District Veterinary Officer, Madura.

Two country bred ponies, Nos. 2395 and 2401, entire, weighing 400 to 500 pounds, aged 5 years, belonging to one Jutka driver of Cocanada, were brought to the Veterinary Hospital, Cocanada, for treatment on the 25th and 26th February 1933, respectively.

They had swelling of the dependent parts, petechiae of the mucous membrane of the eye, discharge from the eyes, condition fair, temperature 103.2°F. in 2395 and 102.6°F. in 2401. The blood smears examined from both the cases revealed trypanosomes indistinguishable from *Trypanosoma Evansi*. They appeared to be early cases of surra. Three injections of 10 per cent solution of "Bayer 205" (Naganol) in doses of 50 c.c., 30 c.c. and 50 c.c. were given

intravenously on the 28th February, 15th and 27th March 1933 respectively. There was reaction in both the ponies following the first and the third injection with swellings on sheath and muzzle and loose dung, for four or five days, probably due to the big dose of "Bayer 205." The temperature and general condition of the ponies became normal from the time of the first injection of "Bayer 205". The blood smears from both the cases were examined regularly up to the 7th July, 1933 and no trypanosomes could be detected. Though ponies are considered to have been cured, they will be kept under observation and should any relapse occur, a further note will be published. The ponies were discharged from the Veterinary Hospital on the 13th April, 1933 and the owner is working them as usual. Nothing untoward has been reported by the owner, up to the time of writing this paper.

In conclusion, it would appear that "Bayer 205" in three intravenous injections alone, in the early stage of the disease, has a curative effect in cases of surra in equines.

ANTHRAX OUTBREAK AMONG ELEPHANTS OF TIRUMALAI TIRUPATI DEVASTHANAM

By

V. KRISHNASAWMI, G.M.V.C.,
Tirupati, Madras.

In September last, while I was on tour, a wire was received asking me to attend on the elephants of Tirupati Devasthanam. Immediately I proceeded to Tirupati and found two young elephants dead. One was reported to have died the previous evening all on a sudden, and the other, the next morning. The second one also died suddenly and showed no symptoms.

The abdomen of the carcasses was considerably swollen and there was escape of blood-tinged discharges from the trunk, slight eversion of the anus and escape of sanguineous fluid from it. The history of the sudden collapse of the elephants without the exhibition of any appreciable symptoms together with the highly tympanitic condition of the carcasses and the oozing of blood-stained discharges from the trunk and the anus left no doubt as to the cause of death. Smears, however, from the discharges and specimens of pieces of skin from the extremity of the trunk and the eyelids were submitted to the Madras Veterinary College Laboratory for microscopic examination. Anthrax Baccilli were reported to be present in all the specimens sent.

Precautionary measures and preventive Inoculation :—

Necessary precautions, by way of segregation of the other elephants and animals in the stable and thorough disinfection of the stables, were taken. The carcasses were ordered to be buried deep far out of the town along with the fodder and other refuse.

The remaining elephants and other animals in the stable were duly inoculated with protective doses of anti-anthrax serum. There was no further mortality.

RAT BITE FEVER IN A DOG

By

V. KRISHNASAWMI, G.M.V.C.,
Tirupati, Madras.
Case No. 386 of 33.

*History :—*A terrier belonging to a merchant was brought to me on 28-6-33, while in camp at Tiruttani with the history that it was bitten on its neck by a bandicoot a fortnight back while the dog was attacking it.

*Observations :—*On scrutiny a cicatrized wound was observed on its neck, which the owner reported to be the seat of bite. Its temperature recorded 104.8°F. The animal looked listless, dull, unthrifty with accelerated pulse and respirations. It had little or no inclination to take anything and its general condition was weak. An icteric condition of the mucous membrane was observed but not so well marked as in Piropolasmosis. Blood smears from the auricular vein were submitted for microscopic examination and no organisms were reported to have been present.

*Treatment :—*An opening dose of oil was given with some powders containing Quinine Sulphas and Salol. The owner was asked to give the powders twice a day and to put the dog on milk and egg diet.

Three injections of Sodium Cacodylate were given on 4-7-33, 6-7-33 and 10-7-33. The powders were also repeated.

*Result :—*The temperature came down and its appetite returned to normal. It was put on a course of tonics containing Ferri et ammoni citras and Tr. Nucis Vomicae. When I had the opportunity to see the dog, after an interval of a fortnight, it looked cheerful and lively.

A CASE OF MULTIPLE ABSCESSSES IN THE LIVER OF A MULE

By

A. R. VENKATACHALA IYER, G.M.V.C.,
Veterinary Assistant Surgeon, Hosur Cattle Farm.

Subject:—Mule, No. 175, (gelding).

History:—This animal was admitted on 19-5-33, for diarrhoea and was discharged on 26-5-33. It was admitted again for the same complaint for diarrhoea on 31-5-33. It was suspected for worms. Faeces were examined by me and verified by the District Veterinary Officer, Vellore, and confirmed by the Principal, Madras Veterinary College, that no ova of any parasite were present in the samples examined under the microscope. However it was treated for worms with no improvement. Other lines of treatment were tried and the animal showed no improvement. All the time it was feeling well and yet it was getting emaciated rapidly and it died on 25-8-33.

Post-mortem examination revealed a good number of abscesses like lesions of different sizes varying from a black gram to a walnut on both sides of the liver. The spleen had some red spots along its border and the heart and right lobe of the lung presented small white patches. General anaemia was present. Sections of these were also submitted to the Veterinary College, Madras, for examination. There was nothing abnormal about the other organs. The examinations of the lesions at the Veterinary College revealed round celled Sarcoma.

PERFORATION OF THE BOWEL BY AN ENTEROLITE

By

S. NURUDDIN, G. M. V. C.,
Veterinarian, Palace Stables, Mysore.

Subject:—An Australian Chestnut mare 'Damodani,' aged 13 years, of His Highness the Maharaja of Mysore's Palace Stables.

History:—On the morning of 15-1-34, the mare was detailed for work and returned to the Stables profusely sweating and exhausted. On enquiry it was reported that the animal had diarrhoea on her way back. After she had cooled down she was examined and

Perforation of the Bowel by an Enterolite

nothing abnormal could be noticed except that she passed faeces of a semi-solid consistency. The following medicines were given:—

R-

Creta Preparata	... oz.	II
Chlorodyne	... dr.	II
Brandy	... oz.	VI
Rice Gruel	... oz.	XII

Mft. Haust. Sig. to be given at once.

In the evening she had her usual walking exercise and her temperature and faeces found to be normal. She had her feed as usual.

The next morning (16-1-34) at 9-30, she went off her feed and a quarter of an hour later she, in her stall, exhibited symptoms of pawing, walking round and round. Immediately she was admitted in the Sick Lines. She looked much depressed and evinced pain on palpation of the left flank and the abdomen. Rectal exploration showed that the rectum contained 5 pellets of faeces, coated over with mucus and blood. A dose of sedative drench was administered.

R-

Chloral Hydras	... oz.	I
Ext. Belladonna	... dr.	I
Tr. Camphor Co.	... oz.	
Linseed oil	... oz.	XII

Mft. Haust. Sig. to be given at once.

At 11-30 A.M., the respiration was accelerated, pulse 60 to 80, visible mucous membrane normal, temperature dropped to 98°. Cessation of defaecation, refusal to eat and drink, dullness and prostration well marked, rigors of the shoulder muscles, head carried low, gait unsteady, coldness of the extremities and patchy sweatings under the abdomen and flanks.

At 12 noon the animal began showing symptoms of slight colicky pains as she was frequently looking at both flanks but never attempted to lie down. She was walking round and round the stall and some times standing with her haunches resting against the walls. Her pulse became thready, her ears turned cold, lips assumed a drooping condition and head resting upon the feeding trough with occasional twisting of the tail. After an injection of morphia the animal stood motionless for an hour. She passed about 8 ounces of thick and highly coloured urine. The animal stood quiet and her respiration slightly improved. Hot fomentation to abdominal region was given owing to the slight tympany. Abdominal muscles turned stiff and rigid and petechial markings of the mucous membrane of the eyes were noticed and the pulse found almost imperceptible.

Adrenaline Chloride Solution with normal saline was given subcutaneously and Normal Saline 200 c. c. was given intravenously but no improvement. The animal started again looking at the flanks and cautiously assumed a recumbent position for 10 minutes and got up again.

At 6 P.M., rigors started severely again. Chloral Hydras was repeated. The animal showed an anxious expression of the face with eyes deeply injected, had an unsteady gait, and often stood leaning against the wall preventing herself from falling down. At 9-10 P.M., rigors became more progressive and the animal fell down with the fore legs and neck stretched, struggled for five minutes and died.

Post-mortem lesions:—A Post-mortem examination was held on the carcass, the next morning. Subcutaneous fascia was found full of haemorrhagic patches and on opening the abdominal cavity it was seen that all the internal organs and the peritonium were highly congested and a large amount of peritoneal fluid was mixed with particles of ingesta. Towards the left of the caecum in the umbilical region a large calculus was found weighing about 15 ounces covered with mucus and particles of ingesta. A careful examination of the intestines revealed that the animal had developed an acute type of enteritis complicated with peritonitis owing to the perforation of the large colon at the pelvic flexure caused by the exit of the calculus. The perforation was crescentic in shape. Flabby pouches with thin walls at different parts of the large colon were found.

The calculus measured $3\frac{1}{2}$ inches in diameter, yellowish brown in colour, with markings resembling a net work. A certain portion of it was flat without markings. It was hard and heavy.

It is concluded that the flabby dilations found in the several parts of the wall of the large colon were due to the calculus shifting its place from time to time and finally the bowel was perforated.

TETANUS IN A MONKEY

BY

M. V. PILLAI, G.B.V.C. PENANG.

On the 25th July 1933, while I was out on inspection duty in connection with P.C.A. work at the "Central Market" (a place where birds, fowls and other small wild animals are collected for sale), my attention was drawn to a black monkey lying very sick in a basket kept in an open place outside the market. I made a close examination and found that the animal was unable to move freely and when

forced to do so, the hind legs appeared to be stiff. There was also an extensive sore throughout the length of the tail, with considerable damage to the tissue and exposing the coccygeal bones in certain places. The tail had been in contact with contaminated floor of the market for 3 or 4 days and therefore it can naturally be supposed that infection had taken place through the sore of the tail. The spasms were mainly confined to the hind limbs and half of the body. Mastication was found to be done slowly and deglutition performed with difficulty. The pupils were also dilated. As the case seemed to be hopeless and as the owner of the animal, a Chinese animal dealer of the same market, was presumed to be guilty of an offence under S. 3 (1)(e) of Ordinance 10 of 1930, the animal was taken under the custody of P. C. A. Inspector who was with me. It was then taken to the Infirmary where it was destroyed and the owner was summoned to appear before the Police Magistrate for committing an offence of cruelty to animals. The Magistrate, after hearing the writer's explanation regarding the nature of cruelty, its causes and duration, found the owner guilty and imposed a fine \$7 and costs, *i.e.* nearly Rupees 10 Annas 8. The Magistrate remarked that the man would not have been found guilty if he had taken the trouble of treating the animal early at the Infirmary instead of allowing it to suffer like that.

INTRAVENOUS INJECTION OF ANTIMONIUM TARTARATUM IN A CASE OF NASAL GRANULOMA IN CATTLE

BY

K. S. PILLAI, G.B.V.C.,
Mysore.

It is a very unpleasant experience to have a case collapsing and dying after an intravenous injection of Antimonium Tartaratum in cases of Nasal Granuloma in cattle. It also shakes the reputation of an institution especially when it occurs in a rural veterinary dispensary where such news spread like wild fire. Many a veterinary surgeon who had to deal with cases of Nasal Granuloma has faced such a predicament. Yet Antimonium Tartaratum is the cheapest and the best drug we have, at our command, for curing cases of Nasal Granuloma in cattle.

My experience tells me that one can avoid such mortality in cases injected with Tartar Emetic if the injections are done very slowly. I briefly describe below what has to be observed if Tartar Emetic is to be given intravenously.

At the outset see whether the animal looks healthy. If the animal looks very weak avoid giving Antimony intravenously till the

patient gets improved in general condition. Avoid giving an injection of that drug if an animal has a rise in temperature.

If both the conditions mentioned above are satisfied proceed as follows:—Take 10 to 20 grains of Antimonium Tartaratum according to the size of the animal and dissolve it in water or saline. Draw the solution, which must as far as possible be of body temperature, into a well sterilised syringe after the animal is cast and secured and the seat of injection is sterilised with Tr. Iodine. It is better to pass the needle on the flame of a spirit lamp before injection.

After this is done, introduce the needle into the jugular vein and then ascertain whether the needle is well within the vein by drawing out the piston slightly which causes the blood to rush into the syringe if the needle is in the vein. I mention this because sometimes the needle may penetrate the opposite wall of the vein and the injection of the fluid there will cause much inflammation and sometimes sloughing of the part. Proceed to inject the solution as slowly as possible, so the solution gets mixed up with blood before it reaches the heart and comes in contact with the Myocardium. If the solution is not well diluted with the blood, it is my belief that a solution of a greater concentration produces a shock when it comes in contact with the Myocardium. To inject the 15 or 20 c. c. of the solution it is to be considered that five minutes is the minimum time required.

But when the animal is kept in the same position for over 5 minutes with the needle into the vein, the animal might struggle and cause the needle to escape out of the vein or penetrate its opposite wall, which ofcourse one has to guard against each time the animal struggles. After the drug is injected, it is better to finish off with about 20 c. c. of Normal Saline solution preferably at body temperature. This much of precaution and care, has to be taken if mortality is to be avoided. I have been adopting this method and I am glad to say that there has not been even a single death among the large number of cases I have treated.

IDIOCY OR WHAT ?

BY

K. S. PILLAI, G.B.V.C.,
Mysore.

Sometime ago a case with very interesting symptoms was brought to the dispensary for treatment.

This was a very young bullock apparently in excellent condition and looked absolutely healthy except for the following symptoms. Unmindful of all the obstructions on the way such as wall, tree, person or ditch, it used to simply walk up if it chose and took little

notice of the consequent accidents or if it chose to stand, stood simply for hours together like an idiot. It was not taking its fodder or water unless actually taken to the mouth but when taken it could digest as best as any healthy animal. The sight of the animal was perfectly normal and also the rest of the organs, but the animal always had a very stupid look about it. I wished very much to follow up the case but unfortunately the owner disposed it off to some one outside the taluk.

I record this case, because it is an uncommon case.

Hotchpotch

Olitsky and associates of the Rockefeller Institute for Medical Research, have found that mice can be infected with vesicular stomatitis (of horses) when minute amounts of virus are dropped into the nostrils. They conclude it is probable that the disease can be spread by the same route in the field and likely that the near related foot-and-mouth disease of ruminants can be spread in the same way.—*Vet. Med. Sept. 1933.*

Pantothenic acid is the name proposed for a growth stimulating acid which has been found in many different kinds of plants and animals. This acid has a close relationship to vitamin G and according to Williams and Lyman of the Oregon State College, is probably more widely distributed in nature than any other physiologically potent substance. When placed in a solution in which yeast is growing it may increase the rate of multiplication 10 to 20 thousand fold in 18 hours. *Science :78 2021. Vet. Med. Oct. 1933.*

According to Insfran of Ascencion, Paraguay, the use of Carbon-tetrachloride is not contraindicated in pregnant women. It is presumed that this same principle applies in pregnancy in domestic animals. *Jour. A. M. A. Vol. 86, No. 11. Vet. Med. Dec. 1933.*

The difference between success and failure is only ten cents. The business man who takes in a dollar and spends only 95 cents is on the road to financial independence, but the fellow who spends 1'05 when he's got only a dollar is headed for the rocks. *Vet. Med. Feb. 1934.*

The gastric juice is an antiseptic; the pancreatic juice is not.—*Vet. Med. Feb. 1934.*

Professor J. B. S. Haldane, noted British Scientist, has advanced the theory that the four blood groups indicate four different points of origin of the human race.—*Vet. Med. Feb. 1934.*

The common brown or Norway rat, now abundant in nearly all parts of the globe inhabited by man, survives because he is so much like man. He can live in the same quarters, thrive on the same food and survive practically any climate that man can endure. He seems to think in about the same terms as man and can unpuzzle almost any trap of man's invention. He breeds so rapidly that in spite of man and his poisons, machines, dogs, cats, ferrets and house-snakes, still holds his own.—*Vet. Med. Feb. 1934.*

A hypertonic glucose solution is said to be useful in the arrest of haemorrhage according to Eason (*Lancet* 223,1272). A 50% solution in water, according to this authority, is very effective when applied locally on gauze to bleeding areas such as in epistaxis, bleeding gums and taken internally in hematemesis.—*North Amer. Vet. Jan. 1934.*

The exact function of the parathyroid glands is still an unsettled question. There is according to Ivy of the North Western University, a relationship between the parathyroid glands and the large colon. Parathyroidectomy is a possibility when done in conjunction with colectomy according to Ivy. *Science*, 1624.—*Vet. Med. Dec. 1933.*

The Treatment of Undulant Fever in Man:—General Practitioners of Veterinary Medicine might do well to keep informed regarding progress that is being made in the treatment of undulant fever. Whether it will prove to be rational therapy or not, we do not profess to know, but some attention is being given to what is termed Miller's protein shock therapy in undulant fever. In the *Journal of A.M.A.* (Oct. 7th, '33, p. 1193) the statement is made that: "The result of treatment had been uniformly good, while in three of the patients its effects was dramatic and the illness was brought to an abrupt termination by only one injection. There have been no recurrences."—*North Amer. Vet. Nov. 1933.*

In the *Manchester Guardian* of Nov. 15, 1933, a correspondent describes the work of Mr. John Harger, of the department of Metallurgy in the University of Liverpool, who has discovered a catalyst by means of which the oxidation of carbon-monoxide takes place so fast that it is completed before the gas leaves the exhaust pipe. No expensive alterations or modification of machinery are involved. All that is needed is the fitting of a new exhaust box containing the

catalyst agent—bauxite—a hydrated oxide of aluminium. *Vet. Rec. 16th Dec. 1933.*

Those who practice "unorthodox medicine" are not practising "medicine" at all. They are as competent to do so as a student would be who spoke in terms of higher mathematics having no acquaintances with the elementary practice of arithmetic. Lord Moynihan. *Vet. Rec. 18th Nov. 1933.*

Synchronising with the reports from many centres of the Australian Commonwealth that the horse is coming back, is the good news that there has been a marked recovery of the Indian remount trade. During September, 1,450 of this particular type were shipped to India, the largest consignment that has left Australia for some time. *Vet. Rec. 2nd Dec. 1933.*

Sodium Morrhuate (Ulmer) 7 per cent. solution.—The use of Sodium Morrhuate Solution as an effective sclerosing agent is now well established. Thousands of injections have decisively proved its effectiveness for the sclerosis of all types of varices. It is the nearest ideal solution for this purpose, because when properly injected it produced neither cramps nor discomfort and necrosis is unlikely to occur in event of slight accident perivenous injection.

Furthermore, it is practically non-toxic when the correct posology is employed, and systemic reactions are extremely rare following its use. In a few minutes following injection, the vein begins to harden and the sclerosing usually extends from two to four inches below the site of injection depending upon the size of the vein and its response. After 24 hours the vein becomes hard and firm. *Medical Times* 61: 10. *Vet. Med. Dec. 1933.*

Moon blindness:—Indiana practitioners are reporting good results in treating some rather stubborn cases of Periodic Ophthalmia with subcutaneous injections of increasing doses of Sterile Milk, which is recognised as almost specific in the treatment of various eye infections, combined with the use of 1% atropine ointment locally and a combination of iodides with sodium cacodylate by mouth.

Jen-sal Jour.-Dec. Jan. 1932-33.

Caffine Sodio-Benzate solution is being found very effective as a heart stimulant for dogs and more satisfactory than camphorated oil or strychnine. The dosage employed is $\frac{1}{4}$ to $\frac{1}{2}$ c. c. repeated as often as indicated.

Jen-sal Jour. Feb.-Mar. 1933.

Canine typhus:—Encouraging clinical results have been reported in the treatment of Canine Typhus by rectal injections of solution composed of 50 c. c. of 5% sterile Glucose solution and 1000 c. c. of Normal Saline Solution. Liberal quantities of this solution are used and the administration continued at intervals until the result of dehydration of the system are overcome.

Jen-sal Jour. Feb.-Mar. 1933.

Notes.

We have pleasure in inviting the attention of our readers to the article on "Surgery of some of the head sinuses in the Equine and the Bovine" by Dr. R. R. Dykstra, D. V. M., Dean, Division of Veterinary Medicine, Kansas State College, Manhattan, U. S. A. The article is published in this issue and it is important because it is very practical and clear.

We feel glad to note that Mr. John Rutherford Anderson, D.V.S., Macon, Georgia, U. S. A., has been pleased to contribute a few articles, off and on, to this *Journal* and the one that has appeared in this issue of the *Journal* needs special mention for obvious reasons.

Contributions of this kind from Members of the profession from U.S.A., is a matter of satisfaction to the Editor and to the well-wishers of this *Journal*. It means that our brethren of the United States have appreciated the usefulness of this *Journal* and have enlisted themselves as its supporters towards its progress. We hope more of such papers will follow and it is assured that space will be found for them in the pages of this *Journal*.

We request the members of the Veterinary Profession of various countries to write out for us, for publication, all about the Veterinary Colleges and also about the work of the Veterinary Departments in their countries.

The Veterinary Profession in India will be glad to learn that the Madras Veterinary College has been affiliated to the University of Madras. This will be the first Veterinary College in India to come under the wings of a University.

A Board of Studies consisting of twelve members has been appointed by the University, which we are told will meet early in July.

It is understood that the University Course will extend over three years simultaneously with the Diploma Course with some extra lectures over and above the syllabus for the Diploma Course, but only those students who have passed the Intermediate Examination of the University in Natural Science and who have also passed the professional examination conducted by the Board each year, are permitted to appear for the B. Sc. (Veterinary) Examinations. The first year examination is to be held in the summer of 1935.

It is hoped that in future the admission of students to the Madras Veterinary College will be restricted to those that have passed the Intermediate Examination of the University for obvious reasons. It is suggested that steps will be taken in hand early to give effect to this during the admissions next July.

We are glad to note that the Goat-Virus work is gaining pace in the presidency of Madras. Over 2000 animals have already been protected by this method in Madras circle alone and the other District Veterinary Officers have been asked to take up this work. Hence we expect that much useful record will soon be available on this subject. Animals protected by this method have been tested with Bull-Virus 3 months, 6 months and 10 months respectively after protection and the immunity set up was found to be quite satisfactory.

We are glad to inform our readers that Messrs. J. D. David, P. S. Kuppuswamy Iyer, and Muhammad Rahimuddin, who had gone abroad for post graduate courses have returned and are posted in charge of Veterinary Hospitals at Coonoor, Coimbatore and Salem respectively.

Association News.

THE ALL-INDIA VETERINARY ASSOCIATION, MADRAS BRANCH. THE PROVINCIAL VETERINARY CONFERENCE, MADRAS, 1934.

Proceedings.

First day:—1-4-1934.

Before the actual Conference began, a Group Photo was taken. The members assembled then in the Veterinary College Hall, Vepery, Madras.

Present :

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| 1. Dr. A. Ramalinga Mudaliar | 27. Dr. A. R. Mathusuthanan |
| 2. „ Rao Sahib H. C. Sam- | 28. „ Thandavarayan |
| path Iyengar | 29. „ M. P. Kannayya Naidu |
| 3. „ K. Kylasamier | 30. „ K. Sundaram |
| 4. „ R. Narasinga Rao | 31. „ A. Nagabushanam |
| 5. „ M. Anant Narayan Rao | 32. „ K. Lakshminarayanan |
| 6. „ M. S. Sastry | 33. „ K. P. Doraisawmy |
| 7. „ P. Srinivasa Rao | 34. „ C. V. Vasudeva Rao |
| 8. „ T. Vinayaka Mudaliar | 35. „ R. Swaminathan |
| 9. „ V. Janakirama Ayyar | 36. „ T. R. Rajagopal Rao |
| 10. „ T. Raghavan | 37. „ A. Ramaswami Ayyar |
| 11. „ P. A. Parthasarathy | 38. „ V. Periyasawmy Iyer |
| Naidu | 39. „ R. N. Govindasawmy |
| 12. „ S. Vaidynatha Mudaliar | 40. „ Sundarachary |
| 13. „ R. Venkatraman | 41. „ H. Visvanatha Sastry |
| 14. „ P. M. Thillanayakam | 42. „ P. V. Kunhiraman |
| 15. „ M. Ramakrishna Pillai | 43. „ N. Venkatratnam |
| 16. „ A. N. Venkoba Rao | 44. „ A. V. Ramachandra Rao |
| 17. „ M. R. Subramania Sastry | 45. „ R. Subramaniam |
| 18. „ L. Adinarayana Sarma | 46. „ B. V. Chellapathiraidu |
| 19. „ S. Vancheswara Ayyar | 47. „ J. Govindarajalu |
| 20. „ R. Samuel | 48. „ Syed Habibulla |
| 21. „ G. Theophilus | 49. „ A. Ganapathisundaram |
| 22. „ K. S. Gopalakrishnan | 50. „ Y. Shivappa Rai |
| 23. „ D. Nilakanta Ayyar | 51. „ B. Seetaramayya |
| 24. „ A. Raja Rao Naidu | 52. „ Abdul Kareem Khan |
| 25. „ M.A. Rangasawmy Ayyar | 53. „ Thulasi Ram Singh |
| 26. „ A. K. Mitra | 54. „ Pate |

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| 55. Dr. V. J. Balasundara Das | 58. Dr. P. R. Thiyagarajan |
| 56. „ S. M. Thangavelu Nadar | 59. „ Chandrasekhara Mudaliar |
| 57. „ R. Srinivasarangan | |

Messrs. P. P. Aippuru, Personal Assistant to the Director of Veterinary Services, Madras, C. Velayutha Mudaliar, Mirasidar, Karikalavakkam, and C. D. Nayagam, Retired Deputy Registrar of Co-operative Societies, were among the visitors who attended the Conference.

Dr. M. Anant Narayan Rao, Chairman of the Reception Committee and Lecturer in Parasitology, Madras Veterinary College, welcomed the Delegates and Visitors and delivered the Welcome Address, (published elsewhere).

Dr. K. Kylasamier, formally proposing Dr. A. Ramalinga Mudaliar to be the President of the Conference, said that he knew the President-elect now for nearly 30 years and as such he has great pleasure in proposing the President-elect to preside over the deliberations of this Conference as he comes out of one of the richest agricultural families of Thondamandalam Mudaliars of Tinnevely District. He further said Dr. Mudaliar who has put in several years of service in the department in different parts of the presidency knew the veterinary and agricultural needs and as such he is best fitted for the Presidentship of this Conference. He has therefore great pleasure in proposing Dr. Mudaliar for the Presidentship.

Dr. P. A. Parthasarathy Naidu, Assistant Lecturer, Madras Veterinary College in seconding the proposal said that he had the privilege of knowing Dr. Mudaliar very intimately for over a long number of years and as such he was able to appreciate the several qualities of head and heart of Dr. Mudaliar; he felt sure that everybody who knew him similarly had highest respect and regard for Dr. Mudaliar and his great services rendered to the profession at a time when it was badly in need of a leader in this part of the country. It is well-known that Dr. Mudaliar not only organised an *Association* in this presidency, but toured all over India for the formation of an *All-India Veterinary Association*, thus rendering help to the profession outside the presidency also. It is also a well-known fact that he has made great sacrifices in the cause of the profession. His sterling character and high sense of duty have endeared him to all those who came in contact with him. In recognition of his great services to the profession, the members assembled here, honour him to-day with the highest position which is in their power.

The proposal was carried unanimously amidst applause.

The President was then conducted to the Chair and garlanded by the Chairman of the Reception Committee.

The President then delivered his address (published elsewhere).

The next item of the programme being the election of the members for the Subjects Committee, the following were duly proposed, seconded and unanimously elected :—

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| 1. The President of the Conference. | 8. Dr. P. A. Parthasarathy Naidu. |
| 2. The Chairman of the Reception Committee. | 9. „ H. Visvanatha Sastry. |
| 3. The Secretary of the Reception Committee. | 10. „ P. M. Thillanayakam. |
| 4. The President of the Madras Branch. | 11. „ T. R. Rajagopal Rao. |
| 5. The Joint Secretary and Treasurer, Madras Branch. | 12. „ R. N. Govindasawmy. |
| 6. Dr. T. Vinayaka Mudaliar. | 13. „ K. P. Doraisawmy. |
| 7. „ M. S. Sastry. | 14. „ L. Adinarayana Sarma. |
| | 15. „ S. Vaidyanatha Mudaliar. |
| | 16. „ V. Periyasawmy Ayyar. |
| | 17. „ R. Swaminatha Ayyar. |
| | 18. „ K. Kylasamier. |

The Secretary then read out the list of persons who had sent telegrams and letters, expressing their inability to attend the Conference and wishing it every success:

1. Col. A. Olver, Animal Husbandry Expert, New Delhi.
2. Dr. B. K. Badami, Director of Veterinary Department, Hyderabad-Deccan.
3. Dr. R. K. Ram, Secretary, The Bihar and Orissa Veterinary Association.
4. Dr. P. G. Date, Hon. Secretary, The Bombay Veterinary Medical Association.
5. Dr. S. D. Achar, Superintendent, Mysore Serum Institute, and Hon. Secretary, The Mysore Veterinary Medical Association.
6. Dr. A. Ramachandra Ayyar, D.V.O., Madanapalle.
7. Mr. S. Satyamurthy, B.A., B.L., M.L.C.
8. Rao Bahadur M. R. Ramasawmy Sivan, Retired Principal, Agricultural College, Coimbatore.
9. Dr. S. S. Thitharappa Mudaliar, Vellore.
10. Dr. K. Duraisawmy Naidu.
11. Dr. P. V. Govinda Rao and others.

Mr. C. Velayutha Mudaliar, Mirasidar, Karikulavakkam, next addressed the Conference narrating the veterinary needs of the agriculturists and appreciating the services of Veterinary Surgeons in the country parts. He wondered the absence of the highest officers of the State from the Conference even though it met in the metropolitan City. He felt that such gatherings of Veterinary Surgeons should be attended by the highest Government Officers as that was the opportunity to know from the Veterinary Surgeons from the field the conditions prevailing in the rural areas. He narrated the difficulties of the Veterinary Surgeons in the country parts as he happened to see them under those difficult conditions. He expressed his desire that the Revenue Officers should be asked to learn and pass an examination in elementary principles of Agricultural and Veterinary Science to enable them to appreciate the ryots' difficulties in the matter of stocks and cattle. He pleaded for the opening of greater number of hospitals and touring billets to save the ryots from the great economic loss due to deaths among animals from preventable diseases.

Dr. V. Janakiram Ayyar, Joint Secretary, All-India Veterinary Association, Madras Branch, and Assistant Lecturer, Madras Veterinary College, while proposing a hearty vote of thanks to the Delegates and Visitors, said that it was his pleasant duty to perform this function and he wished that many enthusiastic Mirasidars like Mr. Velayutha Mudaliar attended the Conference in large numbers and he also wished for the existence of such enthusiastic and appreciating Mirasidars at least 10 in each District, when the task of the Veterinary Surgeon would be very much lightened.

The vote of thanks was heartily responded with great enthusiasm by the whole audience. The morning session then adjourned to assemble again at 3 P.M.

EVENING SESSION, 3 P.M.

The Conference met again at 3 P. M., and took up the following papers, which were read and discussed :—

- (1) Nasal Granuloma in Cattle—By Dr. K. P. Doraisawmy, G.M.V.C., Tiruvannamalai.
- (2) Convulsion or Fits in Bullocks—By Dr. S. Seshadhri Iyengar, G.M.V.C., Chidambaram.
- (3) Bovine Dysentery or What is it?—By Dr. S. Seshadhri Iyengar, G.M.V.C., Chidambaram.
- (4) Warts: Pappillomata—By Dr. V. Parameswara Menon G.M.V.C., Puttur.

- (5) Agalactia—By Dr. V. Parameswara Menon, G.M.V.C., Puttur.

The session adjourned at 5 P.M., to meet again at 11 A.M., on the next day.

Second Day, 2—4—1934.

The session commenced punctually at 11 A.M., when the discussion on "Pappillomata" and "Agalactia" read at the session of the 1st evening took place. After this, the President thanked the authors of the papers, particularly Dr. K. P. Doraisawmy for his excellent paper on "Nasal Granuloma" with illustrations specially prepared for the occasion, which provoked useful discussion.

The President next called upon Dr. M. S. Sastry, G.B.V.C., Special Veterinary Surgeon, Rural Development Scheme, Trivellore, and General Secretary, A.I.V.A., to deliver a short speech on "Rural Development Scheme at Trivellore" and "the work of the Veterinary Surgeon in it."

Dr. M. S. Sastry delivered a short speech accordingly.

Afterwards the President in bringing the morning session to a close said "there was a time when we had to beg of the members to come forward with professional papers and that too not with much success. I am glad to note that the times have changed now so far as to make our members not only to come forward boldly with their professional papers but to take part in large numbers in the discussions that follow. I request you all now to adjourn to the Clinical Laboratory to have a look at the various Microscopical demonstration of the research made into the "Nasal Granuloma" by Dr. M. Anant Narayan Rao."

The Delegates were then taken to the Laboratory, where the demonstration was held. Then the Conference adjourned to meet again at 3 P.M.

The evening session began with the reading of the Annual Report of the Madras Branch of All-India Veterinary Association, which was moved for adoption and accepted. (Published elsewhere)

Then it was resolved that in view of the heavy arrears of subscription, the annual subscription be reduced from Rs. 3 to Rs. 2 and to write off the old arrears. This over, the following Office-bearers for the current year were elected :—

Dr. A. Ramalinga Mudaliar	... <i>President.</i>
" P. A. Parthasarathy Naidu	... <i>Secretary.</i>
" P. M. Thillanayakam	... <i>Joint Secretary & Treasurer.</i>

Members of the Executive Committee.

Dr. P. Srinivasa Rao,	Dr. A. N. Venkoba Rao,
" V. Janakiraman,	" K. Sundaram;
" T. Raghavan,	" R. Swaminathan,
" S. Vaidyanatha Mudaliar,	" A. Raja Rao Naidu,
" M. S. Sastry,	" M. R. Subramania Sastry,
" T. Vinayaka Mudaliar,	" R. Samuel,
" L. Adinarayana Sarma,	" H. Visvanatha Sastry,
" M. P. Kannayya Naidu.	

The following members were elected for the Managing Committee of the All-India Veterinary Association :—

1. Dr. T. Vinayaka Mudaliar.
2. " P. A. Parthasarathy Naidu.
3. " M. Anant Narayan Rao.
4. " V. Janakirama Ayyar.
5. " A. Ramalinga Mudaliar.

Then the following resolutions were moved and carried.

1. *This Conference places on record its deep sense of sorrow at the sad demise of Lt. Col. W. D. Gunn and Drs. P. Chidumbara Nadar, P. Thiagarajan, D. Kamayya and C. V. Venkateswara Ayyar.*

(Moved from the Chair and carried unanimously, all standing.)

2. *This Conference requests the Government to take early steps for further expansion of the Civil Veterinary Department, Madras, until each Taluk gets a Veterinary Institution and a Touring Billet in order to check the heavy economic loss of live-stock from preventible diseases.*

In moving this resolution Dr. T. Raghavan spoke as follows :—

GENTLEMEN,

We are not asking for anything new in this resolution, except what has from time to time been demanded on the floor of the Legislative Council by the representatives of the people. It is but meet that the profession should take cognisance of the growing demand for Veterinary Services in the country from day to day. Further it is also in line with a scheme that has been submitted sometime ago by a previous Director of Veterinary Services to the Government after a study of the needs of this vast Presidency. The plea till now on the

part of the Government was that there was a dearth of hands. That plea can no longer be sustained. If our prayer is granted, it will also incidentally solve the problem of unemployment, that is getting acute in this Presidency, amongst the Veterinary Surgeons. Hence, I commend this resolution for the acceptance of this Conference.

(Seconded by Dr. S. Vaidyanatha Mudaliar, carried unanimously.)

3. *This Conference requests the Government to reconsider the question of pay and prospects of the Subordinate Service of the Civil Veterinary Department, Madras, to bring it on a par with what obtains in the allied Agricultural Department.*

In moving this resolution Dr. T. Vinayaka Mudaliar spoke as follows:—

GENTLEMEN,

I shall not add insult to injury already implied in this resolution by attempting a speech in defence of the necessity of such a resolution. The toad under the harrow knows where each pick goes. No other scientific profession with a training such as the one we are having is treated in this manner. I shall not take up much of your time in reiterating the arguments that have been said from time to time at several Conferences. It is our duty to keep the Government constantly reminded of our precarious existence, as often as possible. Hence, I move this resolution for your acceptance.

(Seconded by Dr. M. R. Subramania Sastry, carried unanimously.)

4. *This Conference notes with great concern that 25% of the cadre of the Veterinary Assistant Surgeons is recruited on temporary basis and requests the Government to kindly go back to the original method of recruitment, so that such of those seniors eligible to Selection Grade may get it in the usual course, as it would otherwise be impossible for them to reach it.*

In moving this resolution Dr. S. Vaidyanatha Mudaliar spoke as follows:—

GENTLEMEN,

Till recently there was nothing like a temporary section in our infant Department. We could understand this basis of temporary recruitment in a over-filled Department. But, the Government probably wanted this method to be applied even to our Department as a

temporary expedient to balance their Budget, at a time when the financial outlook of the presidency was not at all too rosy. Now that the Madras Budget is well balanced or may I venture to say a little prosperous even, that it is but just that this basis of recruitment should no longer be applied to our growing Department. The hardship on account of this novel method of recruitment is perhaps not fully realised by the powers-that-be. This 25% of the cadre is not counted towards promotion to the Selection Grade, which is a real hardship to many of the hard worked seniors. It may also be not known that there are men on Rs. 120 for the last 7 years and over, without being able to add a pie more to their salary. The continuance of this basis of recruitment deprives them even the opportunity of living in hopes.

Gentlemen, in short, it undermines the enthusiasm and zeal of the workers. I request the Conference to accept this resolution.

(Seconded by Dr. P. A. Parthasarathy Naidu, carried unanimously.)

5. *This Conference requests the Government not to construe short sojourns in Great Britain and other foreign countries as a Post-Graduate course or a qualification or a claim sufficient or necessary for the Subordinate of the Civil Veterinary Department for purposes of promotions; the minimum period of about 9 months prescribed for any Post-Graduate course for specialising in any one subject may be considered sufficient, for such promotions, provided that the candidate has at least put in 10 years of service in the Department.*

In moving this resolution, Dr. M. Ramakrishna Pillai spoke as follows:—

GENTLEMEN,

This resolution itself is self-explanatory. It is in the general interest of the efficiency of the Department that I have come forward to move this resolution for your acceptance.

(Seconded by Dr. S. Vaidyanatha Mudaliar, carried unanimously.)

6. *This Conference requests the Government to insist at least on the major Municipalities in the presidency to appoint Veterinary Surgeons as whole-time servants for the inspection of Slaughter Houses, Meat Markets, Lethal Chambers and the supervision and care of conservancy*

bulls, prevention and control of the contagious diseases among animals and diseases communicable from animals to human beings.

In moving this resolution, Dr. P. M. Thillanayakam spoke as follows :—

GENTLEMEN,

It is a pity, the vital importance of this question has not been fully realised even by most of the enlightened Local Bodies. The place of a Veterinary Surgeon in relation to Public Health is very vital indeed. Diseases that spread through Meat and Milk are so many that it is high time that the Government at least insists through legislative measures on some of the major Municipalities to start with, to appoint whole-time Veterinary Surgeon for this task. If infant mortality is very high, if Tuberculosis is on the increase, if Rabies is still not controlled, if Parasitic diseases both ecto and endo are also spreading amongst human beings, is it not time for us to get to the root cause and see things are rectified? As members of a responsible profession, we owe a duty to the public to draw their attention to the vital question. Hence my resolution.

(Seconded by Dr. M. Ramakrishna Pillai, carried unanimously.)

7. *This Conference requests the Government to issue instructions to the Police Officers to utilise the services of Veterinary Surgeons for the inspection of animals before issuing licences for Hackney Carriages.*

In moving this resolution, Dr. T. Raghavan spoke as follows :—

GENTLEMEN,

Those who have seen the amount of cruelty that is being perpetrated on the Hackney animals, need no word of commendation from me for this resolution. The best person or persons moving this resolution would have been, I should think, the Animals themselves. If God could have endowed them with powers of speech their heart rending tales would long ago have rectified matters. If we are to call ourselves a civilised nation, or even true sons of the great sages, who have preached to us Humanity and Ahimsa, it is high time that we move the Government to insist on Veterinary Certificates being obtained as to the fitness of animals intended for Hackney purposes.

I request you to accept this resolution.

(Seconded by Dr. K. Sundaram, carried unanimously.)

8. *This Conference requests the Director of Veterinary Services, Madras, to arrange for the compulsory service, if necessary, of the Subordinates in particular areas in the early part of their service only.*

In moving this resolution, Dr. K. Lakshminarayanan spoke as follows :—

GENTLEMEN,

The hardship involved when a Senior Veterinary Assistant Surgeon with a large family is transferred either from a Tamil area to a Telugu area or *vice versa*, is very great, as it necessitates a change in the second language of the studies of his children, which is detrimental to them. To avoid that, he is forced to run sometimes two establishments in two different places, which make him run into debts. There is a similar rule in the Medical Department that compulsory Agency service for the Sub-Assistant Surgeons must be completed in the early part of their service. Also as they advance in age and proceed towards the retiring stage, I learn there is a G. O. permitting such men being posted in the Districts which the subordinates wish to serve in, of course, at the discretion of the Departmental Head. If it be so, it will be most welcome, if judiciously applied to our department. It is our duty to represent our practical difficulties to the Head of our Department. Hence, I request you to accept this resolution.

(Seconded by Dr. A. N. Venkoba Rao, carried unanimously.)

9. *This Conference requests the Director of Veterinary Services, Madras, not to keep any Officer in any particular station, either in the City or in the mofussil for more than 5 years.*

In moving this resolution, Dr. M. S. Sastry spoke as follows :—

GENTLEMEN,

I am merely voicing the feelings of most of the Veterinary Assistant Surgeons in the Department. This is not a new request, I remember, that even a few years ago a similar request was made to the Departmental Head. It is merely to provide an opportunity to one and all to serve in different parts of the presidency and gain experience of the different conditions obtaining in this presidency. It is bound to contribute ultimately to the general efficiency of the profession as a whole. Further such a rotation will not make either individuals or officers to think of particular individuals as absolutely indispensable for particular posts or stations. If all the members are trained in different branches of the activities of our Department, there

can be no difficulty to find suitable men for particular jobs. There is a rule in the Medical Department, which insists on the Civil Assistant Surgeons being transferred outside a district after 5 years of service in the district.

(Seconded by Dr. M. Ramakrishna Pillai, carried unanimously.)

10. *This Conference requests the Government to adopt necessary measures to control the movement of cattle with a view to prevent spread of contagious diseases in the country.*

In moving this resolution, Dr. M. S. Sastry spoke as follows :—

GENTLEMEN,

As a friend of mine has just now suggested, I am not asking for the stoppage of all movement of cattle in this presidency, which would surely amount to an absurd request. What I want is merely a measure to control the movement of cattle with a view to prevent the spread of contagious diseases. Some such measure is in view of the Agricultural Research Council also. Regulations of this nature are already in force in the enlightened State of Mysore. Bombay and Central Provinces have already moved in this matter. It may involve an addition to the staff of the Civil Veterinary Department, Madras. But it is worth it as we will be nipping in the bud most of the contagious diseases, before it takes a stage of conflagration.

(Seconded by Dr. K. P. Doraisawmy, carried unanimously.)

11. *This Conference requests the Government to effect the transfer of live-stock improvement work to the Civil Veterinary Department at an early date.*

In moving this resolution, Dr. V. Janakirama Ayyar spoke as follows :—

GENTLEMEN,

Much has already appeared in the lay press and our professional journals on this important subject. We feel, we are better fitted in every way to have this work in our hands. Even as things stand now, it is a matter of common knowledge that much of the work on a live-stock farm is done by the Veterinary Assistant Surgeon. The example of Punjab is enough to convince anyone of the aptitude of Veterinarians to manage this work with great success. I only wish all those who are concerned with the decision with regard to this matter are actuated with the best of motives to the interest of the country. I am sure, they are going to do that very soon. Till now, probably,

the fault was also ours in not pressing forward our claims in the matter. I hope this will be an accomplished fact in the near future.

(Seconded by Dr. V. Periyasawmy Ayyar, carried unanimously.)

12. *This Conference requests the Director of Veterinary Services, Madras, for recommending to Government a uniform allowance of at least Rs. 50 for all Veterinary Assistant Surgeons working in the City of Madras in any capacity, in view of the life being costly in the City.*

In moving this resolution, Dr. M. R. Subramania Sastry spoke as follows :—

GENTLEMEN,

You are all aware of the costly living in Madras. People from the mofussil, especially with a large family when transferred to the City, have to pay a heavy house rent and also incur heavy expenditure towards maintenance, education of children and medical attendance. To meet the above expenses, it is essential that an allowance of Rs. 50 be given, as otherwise it is not possible to remain in Madras without running into debts with the present meagre pay and the nominal house rent allowance of Rs. 6-8-0.

I therefore commend this resolution for your acceptance.

(Seconded by Dr. M. Ramakrishna Pillai, carried unanimously.)

13. *This Conference conveys its thanks to the Principal, Madras Veterinary College, for his having kindly placed the College and the Hostel for its use, and also its thanks to the volunteers and others who have helped in the successful termination of this Conference.*

(Moved from the Chair, and carried unanimously.)

The President in bringing the Conference to a close spoke as follows :—

GENTLEMEN,

We have come to the end of our Session. Personally, I think, it was a great success. I make that statement, with an experience of over 15 years of Conferences and Meetings. Delegates from such far off places as Koilkuntla, Palacole, Masulipatam, Rajahmundry Ootacamund, Mt. Stuart and other places, have attended this sessions. I am glad to note that the profession continues to be alive

to the usefulness of such gatherings, as of old. I go back with a happy impression of this Conference and full of hope for the future. Gentlemen, I cannot close my remarks without reference to Dr. M. Anant Narayan Rao and his Reception Committee. They have done everything in their power to make our stay here happy, pleasant and useful. A profession which has persons like Dr. M. Anant Narayan Rao, Rao Sahib H. C. Sampath Iyengar, Dr. K. Kylasamier and Dr. R. Narasingha Rao, to identify themselves with the general interest and progress of the profession, need not despair in the least of the future.

GENTLEMEN,

I thank you all once again for the great honour you have done me and I hope you will put down all my short-comings to the infirmity of age and not to any wilfulness.

Dr. M. Anant Narayan Rao, Chairman of the Reception Committee, then thanked the President for having so kindly accepted the Presidential Chair and for having conducted the session with such success. He also thanked the Delegates for so generously responding to his invitation and in doing so he suggested that the members of the profession, particularly the touring staff, could help a good deal in getting up a sort of Veterinary History of the various localities they work in, by keeping an accurate record of the incidence, extent and degree of various contagious diseases prevalent in those areas at different seasons of the year. This he said would be helpful for further investigation into diseases at a future date.

Dr. K. Lakshminarayanan thanked the Chairman and members of the Reception Committee on behalf of the Delegates for the excellent arrangements made to make their stay in Madras happy and useful.

With three cheers to the President proposed by Dr. P. Srinivasa Rao, which was lustily responded to, the Conference came to a close.

There was a grand dinner party at 8 P.M., the same day, which was attended by all the Delegates and several members of the profession residing in Madras.

Report of the Managing Committee of the All-India Veterinary Association, Madras Branch, for the years 1-4-31 to 31-3-34.

We beg to present this report on the working of the All-India Veterinary Association, Madras Branch, during the period from 1-4-31 to 31-3-34.

The Committee regret that no meetings could be held during the period for various reasons and therefore the unusual procedure of presenting a report for three years has arisen.

There were 185 members on the roll on 1-4-31. 6 members died two resigned and one rejoined after a lapse of 2 years. Thus, there are 178 members nominally on the roll.

Meetings:—Four Committee Meetings were held during the period, when the question of holding the Conference was discussed and finally settled. At one of the Meetings, it was decided to contribute Rs. 10 from the funds of the Association to the Viceroy's Bihar Earthquake Fund.

Delegation:—Messrs. V. Janakirama Ayyar and P. M. Thillanayakam were elected as Delegates to the proposed All-India Veterinary Conference at Lucknow this year, but unfortunately the Conference had to be postponed, owing to the disastrous earthquake in Bihar and Orissa and the surroundings.

The Indian Veterinary Journal:—This Branch continued to help the *Journal* materially in its useful career. The President of this Branch is the Editor of the *Journal*. The *Journal* completed its Ninth Year of existence and is now on its Tenth Year.

The Association through its President and a few other members has been successfully carrying its silent propaganda work on all possible occasions.

Finance:—The statement of Receipt and Expenditure is attached to this report. The response from the members to various calls for paying the arrears has been very poor, so much so there is a lot of arrears to be collected. It is for this Meeting to decide as to the steps to be taken for the collection of arrears.

Remarks:—The President in his capacity as Editor of the I.V.J. has been attending the Annual Conferences of the Mysore Veterinary Medical Association every year. The large amount of arrears and the absence of Annual General Body Meetings or Conferences all

these years indicate either the indifference and apathy of the Members or the economic depression or both. It is hoped that this Meeting will suggest ways and means for the successful running of the Association in the future.

(Sd.) P. SRINIVASA RAO,
President.

2-4-1934.

The All-India Veterinary Association, Madras Branch
Statement of Receipts and Expenditure as it stood on 1-4-1934.

<i>Receipts.</i>			<i>Expenditure.</i>		
	RS.	A. P.		RS.	A. P.
Balance on 1-4-1931	... 398	5 5	Mr. Sastry's trip to Bangalore and back	... 10	0 0
Interest on S. B. deposit for 1929-30	... 9	12 11	Mr. Sastry's trip to Madras and back	... 16	0 0
.. 1930-31	... 6	10 1	Postage	... 16	0 0
.. 1931-32	... 9	1 5	Subscription to Viceroy's Bihar relief fund	... 10	0 0
.. 1932-33	... 9	5 9	Stationery	... 0	4 0
By subscriptions	... 32	9 0	Refreshments, etc., in 2 committee meetings	... 0	8
			Cash with President	... 20	0 0
			Cash with Joint Secretary Treasurer	... 37	1 6
			In Savings Bank	... 351	15 1
Total	... 465	12 7	Total	... 465	12 7

2-4-1934.

(Sd.) V. JANAKIRAMAN,
Jt. Secy. & Treasurer.

WELCOME ADDRESS

BY

DR. M. ANANT NARAYAN RAO, G.M.V.C.,

*Chairman, Reception Committee,
Provincial Veterinary Conference, Madras.*

1-4-1934.

GENTLEMEN,

On behalf of the Reception Committee of this Session of the Madras Branch of the All-India Veterinary Association, I accord you a hearty welcome and thank you all for your presence here to-day. Conferences of this sort, as you are aware, have always done great good in not only promoting feelings of good-will, but also in stimulating the desire to learn, from others, matters of Veterinary interest. The contact with our confreres and discussions on subjects of Veterinary interest awaken, in the members, a sense of responsibility, which spurs us on to gather more knowledge and at the same time infuses in us the feeling of a high sense of duty.

It is not my desire to go into the details of all the achievements of this Association, since its inception eighteen years ago, because you all know about those things already. At the moment the one thing that stands most prominent is the success in raising the standard of Veterinary Education in this Presidency. The curriculum of studies has been revised and is now on a par with what obtains in the Veterinary Colleges in progressive countries and the affiliation of the Madras Veterinary College to the University of Madras is nearly an accomplished fact, though the length of the course is still the same. In order to obtain the maximum result from the revised curriculum, the course of studies should be extended to at least four years.

From the Annual Reports of the Veterinary Departments, it is seen that the Madras Veterinary Department stands practically foremost, in combating Rinderpest by the Serum-virus method of inoculation, in addition to other activities pertaining to the Department. It has its own Serum Institute for manufacturing Anti-Rinderpest Serum, Rinderpest Virus &c., and one can foresee that in the near future it will be in a position to prepare all the kinds of sera and vaccines necessary for Veterinary needs. In the field of research, the College Laboratory has done and is still continuing to do some good work. Hence, the Director of Veterinary Services, Madras, the Principal, Madras Veterinary College and all the other Officers that co-operate with them should rightly congratulate themselves for

all the good that has been and is being done to the public by their work.

During the past few years the Association has been striving to drive home the necessity of employing more of our graduates who are as yet unemployed, but owing to financial difficulties the Government found that it was not possible to employ them all, as it used to be some time ago. The Madras Veterinary Department is still young and one wishes that this Department is manned in the same way as the sister Medical Department or allied Agricultural Department, since this Department is one of those which contribute towards public good. Live-stock industry is now the concern of the Agricultural Department, but it has been the bone of contention for a long time now. The example of the Punjab is so well-known that no further proof is necessary as to the fitness of Veterinarians to be in charge of the Department dealing with the improvement of Live-stock. If this is done, most of our unemployed men will be employed. There is scope for the employment of Veterinary graduates in other spheres also. Time has now arrived to approach and convince the Municipalities and other Local Bodies on the usefulness of Veterinary Surgeons to be in charge of their cattle, slaughter houses &c. They could find enough work for them if they are employed. Such Veterinary Surgeons, as are employed by them can be given training in Sanitary Science as well and after such training they should prove more useful to the employers and the public, than what is obtaining at present, for obvious reasons. Milk is one of our chief articles of diet from our infancy, and it should be the duty of all Municipalities &c., to get the cows in their jurisdiction registered to facilitate periodical examination by a Veterinary Surgeon. The paramount importance of Meat and Milk inspection has been admitted on all hands, yet it would appear that adequate measures have not been adopted for carrying out this work excepting by a few of the major Municipalities and Local Bodies. These points and many others will prove that there is enough work for a Veterinary Surgeon when employed by Municipalities—further he is in a position to look after and save many of their cattle from disease and death and thus save much money of his employers and indirectly to the public who are the tax-payers.

Gentlemen, I have no doubt that I am voicing the feelings of the members of this Association when I say how happy one feels to have Mr. A. Ramalinga Mudaliyar in our midst to-day to preside over this Conference. He is well-known to all of you and to those who do not know I may say here, that he is one of the founders of the Veterinary Graduates' Association, which, started at Vellore and

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through the help of which, he and a few others toured in India to successfully establish an All-India Association under whose auspices we meet here to-day as its Branch.

PRESIDENTIAL ADDRESS

BY

DR. A. RAMALINGA MUDALIAR, G.M.V.C.,

Delivered at the Provincial Veterinary Conference, Madras.

1—4—1931.

Dr. Anant Narayan Rao, Members of the Reception Committee and Gentlemen,

It is not the language of mere convention that I indulge in, when I tell you how deeply conscious I am of the great honour you have done me, in asking me to preside over the deliberations of this Conference. When your mandate came to me over the wires through the President of your Association, not all the placid atmosphere of my rural abode and its surroundings can help me to keep cool and collected and not feel agitated over what appeared to me to be a very wrong choice. My first impulse was to decline the great honour with as much grace as possible, but the "still small voice" held me back with the word 'Duty.' It is to discharge that 'Duty' at the call of my profession to the best of my abilities, I finally accepted this great honour and I am thankful to you, Gentlemen, for this token of your great love even unto a colleague lost in the obscurity of a retired life.

EARLY HISTORY.

The Genesis of our profession in this part of our country is all contemporary history, well within the memory of most of you all. I do not propose therefore to go into our early history in any detail. Looking over that period, one cannot but admire the little band of Britishers, who toiled hard to lay the foundations of our profession with such fore-thought and devotion. The names of Mills, Gunn, Dawson, Aitchison and Ware will continue to shine untarnished in the pages of Veterinary history of our land. The phenomenal success of our profession in rural India, is not a little due to their sagacity, devotion, sincerity of purpose and administrative ability. I dare say, the superstructure is going to be much more imposing, much more valuable and useful than what they had planned. It cannot be denied that all that success of theirs would not have been possible, but for

the loyal support they had received from the members of the subordinate Service, who are after all the real agency 'to deliver the goods.' Rural India, admittedly highly conservative, has responded to the beneficial activities of our profession in a manner which is at once our pride and our best reward. All honour to our pioneers who have given us such a good start!

OUR ALMA MATER.

The wisdom of starting a Veterinary College in Madras practically with the advent of our profession in this presidency, cannot be too highly appreciated. I remember the days when classes were held under the canopy of heaven, for want of suitable buildings. From such humble beginnings, our Alma Mater has grown by stages and to-day she is what you find her to be before you, magnificent in structure, equipment and out-turn. She is easily one of the very best of such institutions in the East and from what I gather, compares very favourably with most of the institutions in the West. With her impending affiliation to the local University and the much improved curriculum of studies, our place is assured in the comity of learned professions. I am sure our *Alma Mater* is destined to play still higher part in years to come.

THE C. V. D.

In a country where independent Veterinary profession worth the name, does not exist and where the profession is entirely an agency of the Government, it is idle to expect anyone not to infringe on what are called 'Service questions'. The Civil Veterinary Department, Madras, from 1 Imperial Officer and 6 Veterinary Graduates in 1902 has steadily expanded and we find to-day as many as 3 Imperial Officers, 20 Officers on Provincial cadre and 271 men in Subordinate service. Though the expansion of the Department appears to be satisfactory on paper, it is a drop in the ocean for the needs of this vast presidency. Even with such an inadequate agency it is a matter of common knowledge now, that the Civil Veterinary Department has become so popular in rural areas that the supply is far short of the demand made. One great advance this presidency has made over other presidencies is the opening of the Serum Institute, an achievement of great credit to the present administration.

OUR FUTURE.

Having taken a rapid survey of things as they exist now, I wish to lay before you what appears to my humble mind as the lines on which progress should proceed in future years. Commencing with

the College, it would be well if we separate the Research Section from the Teaching Section. If no piece of Research of outstanding merit has resulted from the labours of past two or three decades, it is perhaps due to the fact that the dissipated energies of our over-worked Lecturers are too meagre after their day's toil to undertake any other work of serious nature. So long as Research is run as a side-show, it is bound to suffer and when there is so much on hand for immediate undertaking, one is unable to understand the delay in the matter. Provision for specialisation of particular subjects would, I believe, automatically follow the affiliation of the College to the University. It is only then we will be paving the way for men with aptitude to proceed still further and take to higher Research. We cannot be looking up to the West to be always spoon-fed. It is neither creditable to them nor honourable to us. The College must be made not merely a centre of high Veterinary culture, but an institute of sound Research. That ought to be the aim and ambition of all concerned. And I have not the least doubt that it is going to be sooner or later; I only wish it is sooner than later.

CONTAGIOUS DISEASES.

Control of contagious diseases will continue to be the main item of work of the activities of the Civil Veterinary Department and it must be said to the credit of Madras that she is well ahead of other presidencies in this direction. The progress made in the matter of S. S. inoculation against Rinderpest, the opening of the Serum Institute and the careful experiments carried on with Goat-Virus under field conditions, will all be associated with the name of Mr. P. T. Saunders, the present Director. We are thankful to him for keeping us abreast of the times. If all his efforts are to bear fruit to the immense good of the poor Indian ryot, the Government must permit him to recruit all the Graduates who pass out of the College year after year, until there is one Veterinary Graduate for each taluk and one District Veterinary Officer for each Revenue District. This scheme must be hastened; for be it remembered lakhs of cattle and other livestock are dying in this presidency, every year from preventable diseases. No one should be scared away with the plea of crippled finance. It will always be there. If we are going to wait for the day when the Government would admit they have plenty of money and call out to us "Come ye! Come all! And have whatever you want" we will have to wait till eternity. Nothing like going forward with conviction and force. I realise that the whole scheme cannot be got through immediately, but my plea is we can proceed trying the experiment in two Districts at least every year. Again, if the hands of a single Gazetted Officer at the Serum Institute are full with the pro-

duction of Anti Rinderpest Serum alone, the need for an Assistant Gazetted Officer to undertake the work of other Vaccines and Sera is urgent. There is no good of our waiting for the Times to overtake us; let us overtake the Times and thus demonstrate to the world our vitality and will to march on and on and serve our profession and country.

ANIMAL HUSBANDRY.

The mystery that surrounds the delay in arriving at a decision over the question of transfer of Live-stock improvement work to the Veterinary Department, is inexplicable. Their aptitude, special qualifications and their experience of animals in health and disease eminently befit the Veterinarians to undertake that work. It is a pity that such a vital question is allowed to be delayed and not speedily dealt with by those responsible for it.

UNEMPLOYMENT.

Unemployment will solve itself if the above proposals are given effect to and if Local and Municipal Bodies begin to realise the value of the services of Veterinarians in relation to Public Health and National Wealth. A certain amount of propaganda is necessary to educate public opinion and it is up to every Veterinary Surgeon to take up this work in his own little sphere.

THE ALL-INDIA VETERINARY ASSOCIATION.

Gentlemen, I make no secret of the fact that it is with a heavy heart I open the subject of the All-India Veterinary Association. That the Association has not been functioning as it ought to, is I am sure, a matter of extreme regret to you all. I have been thinking hard as to what could be the exact cause or causes of the present state of affairs. It strikes me that it is likely that one single organisation for such a vast country—in fact a sub-continent—is too unwieldy to be easily run. The cost involved, the time required and the energy needed to successfully run an annual Conference, with President perhaps on Mount Kailas, the Secretary at Cape Comorin and the Members of the Managing Committee dotted all over the country from the Indus to the Brahmaputra, are too great to be lightly undertaken by a poor profession like ours. But that should not prevent the Provincial Branches from functioning. Of this, I shall say more later. The other reason for the absence of the same amount of enthusiasm and zeal to meet and discuss our problems, as was exhibited in the early days is perhaps due to the fact that the Official Organ of the Association, *The Indian Veterinary Journal* is fulfilling that main aspect of

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our task in a manner, which does not appear to admit of any further help from Conferences. With such a zealous guardian to take care of the interests of the profession, The All-India Veterinary Association is evidently not keen on meeting annually. But there is nothing like personal contact, nothing like that of seeing how things are carried on in different parts of the country, of gaining a personal knowledge of the problems facing the profession in several presidencies and provinces, of witnessing demonstrations, of visiting institutions, of launching co-operation, of discussing problems in person and of setting up *esprit-de-corps* amongst the members of the profession to ultimately lead to a *virile* National Veterinary Service. All these things cannot be brought about through cold print of a Journal, however efficient it might be. So we must meet and I would therefore suggest that we should meet at least once in two or three years. It is a question which deserves the immediate attention of the All-India Veterinary Association.

THE INDIAN VETERINARY JOURNAL.

Gentlemen, I cannot allow this occasion to pass by, without giving expression to the invaluable services rendered to our profession by the *Indian Veterinary Journal*. It is a remarkable achievement of which the profession in India may well feel justly proud. I cannot do better than quote what no less a personage than the present Director of Veterinary Services, Madras, Mr. P. T. Saunders, had said about 4 years ago in this very Hall, as President of the Sixth All-India Veterinary Conference. 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. Srinivasa Rao, but to the interest and to the team-work of its Members." That it is a well deserved tribute to our able Editor,—none can dispute. I am glad to learn that the Journal is in a very prosperous condition and I hope that no member of the profession in India will be so untrue as not to support it in every possible way.

THE MADRAS BRANCH.

Gentlemen, I now come to the Local Branch of the All-India Veterinary Association. I had the good fortune and privilege to serve that Association in its early days. I have nothing but happiest of recollections of that period. It was an experience by itself, which had left me a confirmed optimist in this world. It was given to me to ask of our profession to give their very best. The response was really a revelation. The heights to

which the profession in Madras rose at the hour of need and extent of their support were, to say the least, remarkable. The record of work of the Madras Branch has throughout been in the larger interest of the profession and the country. Many of the proposals submitted by the Association in way of improvement of the profession as early as 1920 which were considered in certain quarters as not only drastic but fantastic, utopian and even as destructive, have all been given effect to one by one as years passed on. Those who can take a detached view of things and who have carefully watched the progress of our profession in this presidency, will not be slow in admitting the great part played by the Madras Branch in hastening the rate of progress. What pains me most is that an Association of such good record, should of late not have been functioning properly. I learn the question is to come up before this Conference when I hope the profession will give its considered verdict without fear or prejudice.

Gentlemen, I now conclude with an appeal to the present Officers of the Civil Veterinary Department, Madras, in whose hands is entrusted the further progress of the profession in this presidency. The part they have been called upon to play is as onerous, if not more, as that which fell to the lot of their predecessors. The task of raising the great edifice stands committed to their hands. It should stand the test of time and public scrutiny. The beauty and utility of the superstructure depend a good deal on the design they lay out. Deficiency in quality and quantity of materials used is bound to affect the strength and the grandeur of the building. Fortunately there is no dearth of suitable material in Madras. And I have not the least doubt that at the hands of the present Officers, the structure is going to be a great piece of work worthy of the high traditions of the Civil Veterinary Department, Madras and the great endeavours of the profession as a whole in this presidency.

In the great task ahead of them, I appeal to them not to forget the fact that unless they get the pay and prospects of the Service improved they are bound to be very much handicapped. The question continues to be a grave piece of injustice to a class of hard-working and really useful public servants. It is the one great reproach against the Officers of the Civil Veterinary Department, Madras, that they had not given their best to get the pay and prospects of the Service suitably improved. I dread to think of the consequences. Many of the ugly features of an underpaid Service are likely to make their appearance. But I have great faith in the good sense of my profession. Anyhow, to be forewarned is to be fore-armed. I appeal to our Officers once again not to be scared

away by the plea of financial distress. It is a well known fact that 'God has given much to many but not enough to any'. As it is, with individuals so it seems to be with Governments. Let efforts therefore not be lacking, year in and year out, to press forward the claims of the profession.

One word more and I am done. The rank and file of the profession should continue to keep up the *high level of efficiency and purity of service* that has been its proud boast all these years. A high sense of duty and responsibility is bound to bear fruit, if not in the immediate future at least in the long run. To lose that and to remain in service is the worst offence that one could commit against God, Crown and Country.

For be it remembered,

"We live in deeds, not years; in thoughts, not breaths;
In feelings, not in figures on a dial;
We should count time by heart-throbs. He most lives
Who thinks most, feels the noblest, acts the best."

Gentlemen, I thank you all for your patient hearing.

College News.

MADRAS VETERINARY COLLEGE EXAMINATION RESULTS.

List showing the names of students who graduated, in order of merit from the Madras Veterinary College in March, 1934.

- | | |
|-------------------------|------------------------------|
| I. D. Mariappa. | XIV. Madhusudhana Rao. |
| II. N. Patnaik. | XV. B. V. Chelapathirayudu. |
| III. P. V. Kunhiraman. | XVI. J. Govindarajulu. |
| IV. P. N. Mukundu. | XVII. M. Rama Rao } Same |
| V. C. S. Balakrishnan. | XVIII. Syed Khasim } rank. |
| VI. S. Sreenivasa Rao. | XIX. Lokanadha Doss. |
| VII. Kantharao Patnaik. | XX. Y. Shivappa Rai. |
| VIII. R. Subramaniam. | XXI. P. Shaw Alam Khan. |
| IX. S. Sourirajan. | XXII. A. V. Ramachandra Rao. |
| X. B. Seetharamiah. | XXIII. R. Narayana Reddi. |
| XI. P. R. Thiagarajan. | XXIV. A. Ganapathisundaram. |
| XII. N. Venkataratnam. | XXV. Syed Nural Mohteda. |
| XIII. Syed Habibullah. | XXVI. T. K. George. |

30-3-1934. }

(Sd.) T. J. HURLEY,
Principal.

BIHAR AND ORISSA VETERINARY COLLEGE, PATNA.**Examination Results.**

The undermentioned students are declared by the Board of Examiners of this College for the session 1933-34 to have passed the Diploma Examination held in March and April, 1934:—

Name.		Order of merit.
1. Brajnandan Sinha	...	1st
		Distinction in (1) Veterinary Medicine, (2) Pathology and Bacteriology and (3) Meat and Milk Inspection.
2. Md. Athar Khan	...	2nd
3. Raghunath Prasad	...	3rd
4. Sahdeo Rai Sharma	...	4th
		Distinction in Meat and Milk Inspection.
5. Robindra Nath Sircar	...	5th
6. Raghu Robert Soren	...	6th
7. Joseph Topno	...	7th
8. Bhairon Prasad Johri	...	8th
9. Ramdeni Prasad	...	9th
Patna,		
9-4-1934.		(Sd.) R. T. DAVIS, I.V.S., Principal.

BOMBAY VETERINARY COLLEGE.**Examination Results.**

The following candidates have been declared successful at the Professional Examinations held in April 1934, in order of merit.

No.	Third Professional.	Second Professional.	First Professional.
1	Kevandekar V. G.	Raman B. V.	Jagannayagam K.
2	Patel N. M.	Jagannath Sinha	Shanta W. P.
3	Natesan A. A.	Kelkar C. N.	Ganu V. V.
4	Iah H. C.	Desai D. K.	Lutfulla Y.
5	Mutrajloo N.	Dev V. S.	Desai R. N.
6	Dakshinkar P. K.	Urs G. K.	Shivaprasad P.
7	Behere B. G.	Rawal U. K.	Phanse B. R.
8	Giri G. G.	Upal D. K.	Joshi K. H.
9	Iyer R. S.	Dixit S. G.	Vaniasingham J. A.
10	Kolte N. S.	Dixit M. G.	Nadarajah S.
11	Sapre S. N.	Nagamiya M. H.	Ponnuduray K.
12	Sane C. R.	Naidu T. C.	Kulkarni P. T.
13	Davalat Sinha		

PAREL,
16-4-34.

(Sd.) V. R. PHADKE,
Principal.

BENGAL VETERINARY COLLEGE.

The following students have passed in order of merit the Diploma Examination of the Bengal Veterinary College for the session '33-34.

No. in order of merit.	Name.	No. in order of merit.	Name.
1	U. Tun Ung	18	{ L. K. Bose
2	W. S. Jibrail		{ P. B. K. Pellai
3	R. D. S. Iyengar	19	P. K. Bose
4	C. T. C. Menon	20	J. P. Sharma
5	{ T. T. Verghese	21	K. S. Ramaswami
	{ S. R. Guha	22	P. M. Cheru
6	C. G. Kurian	23	C. V. Therappan
7	D. N. Murti Rao	24	K. G. S. Rathore
	{ K. G. Pellai	25	M. M. Ali
	{ U. L. Mazumdar	26	T. B. Mukherjee
8	{ M. Farooque Ali	27	P. V. Panikar
	{ J. S. Gupta	28	V. Shahadevan
	{ F. M. Meshak	29	P. S. Nair
9	K. Srirangachar	30	B. P. Mukherjee
10	Th. Daniel	31	{ S. M. R. Naqvi
11	{ C. K. Acharia		{ Md. M. Ali
	{ R. G. Dharwadkar	32	A. V. Srinivasa Rao
12	H. A. Awkati	33	{ K. I. Alexander
13	S. M. H. Naqvi		{ B. S. Bans
	{ Y. L. N. Rao	34	{ M. N. Molashi
14	{ M. R. L. N. Iyengar		{ P. J. Itoop
	{ N. Rama Rao	35	M. Ali
15	M. S. Chatterjee		
16	A. S. Khan		
	{ J. N. Biswas		
17	{ S. B. L. Kackrania		
	{ B. R. Krishnaswami		

(Sd.) A. D. MACGREGOR, F.R.C.V.S., F.Z.S., I.V.S.,
Principal.

**Proceedings of Mr. Ware's Portrait Fund Committee Meeting
held at 4 P.M. at the Veterinary College Hall, Vepery,
on 2nd February 1934.**

Members Present:—

- | | |
|-----------------------------------|-------------------------|
| 1. Mr. T. J. Hurley in the chair. | 6. " L. A. Sarma. |
| 2. " V. Krishnamoorthi Ayyar. | 7. " M. R. V. Panikkar. |
| 3. " K. Kylasam Ayyar. | 8. " V. Janakiraman. |
| 4. " K. Mukunda Rao. | 9. " S. Vaidyanatha |
| 5. " P. P. Aippuru. | Mudaliar. |

Accounts of the portrait fund approved and passed by the members present. It was resolved unanimously that the balance of Rs. 47-0-9 available with the Committee be sent as subscription to the Viceroy's Earthquake Relief Fund—from the members of the Madras Civil Veterinary Department.

(Sd.) V. JANAKIRAMAN,
Treasurer, Mr. Ware's Portrait Fund.

(Sd.) T. J. HURLEY,
2-2-34.

BIHAR AND ORISSA VETERINARY COLLEGE, PATNA.**Notice.**

A post-graduate class will be held at the Bihar and Orissa Veterinary College as last year from 1st July, 1934, for the advance training of Veterinary graduates in (1) Pathology and Bacteriology including Parasitology and postmortem technique (2) Histology, (3) Veterinary Hygiene, Dietetics and Genetics, (4) Meat and Milk Inspection and (5) Veterinary Medicine including parasitic, contagious and inanition diseases. The course will be for six months only for which a sum of Rs. 60 will be charged as tuition fee and Rs. 10 as admission fee. Seat rent for the hostel will be at the rate of Rs. 5 per month.

Private candidates desiring admission should apply to the Principal, Bihar and Orissa Veterinary College on or before the 15th June, 1934 with the original diploma and a certificate of character.

Further particulars, if required, may be obtained on application from the Principal.

Patna, }
20-3-1934. }

(Sd.) R. T. DAVIS, I.V.S.,
Principal.

BIHAR AND ORISSA VETERINARY COLLEGE, PATNA.**Notice.**

The next session of the Bihar and Orissa Veterinary College will commence from the 1st July, 1934.

1. Candidates desiring admission should each submit his application on the prescribed form, together with the following certificates in original, so as to reach the Principal on or before the 1st June, 1934.

(a) Age and moral character certificate from the Headmaster of the school at which he last read.

(b) University certificate or a certificate from the School or University authorities to show that he has passed the Matriculation Examination.

(c) Medical Certificate of fitness from an Assistant Surgeon.

(d) Letter from his guardian stating that all expenses incurred by his ward during the latter's period of study at the college will be paid.

(e) Letter of indentification from some well known person stating that the candidate is known to him and the statements made in the application form are correct.

Notice of Bihar and Orissa Veterinary College Session 1934-35 337

2. Government or District Board stipendiaries should in addition to the above each produce a letter from the Director of Veterinary Services, Bihar and Orissa or from the Chairman, District Board concerned, to whom they should apply in the first instance, stating that their selection as stipendiaries has been approved.

3. Preference will be given to candidates who have passed the I. A. or I. Sc. Examination of a recognised University. A good knowledge of English is essential.

4. Non-stipendiary candidates will have to appear before the Governing Body of the College when called for interview.

5. Fees must be paid in advance according to the scale under rule 8 of the college rules, the initial payment due at the time of admission being Rs. 35-8. only.

6. Candidates will reside in the College hostel from the date of their admission unless specially exempted.

7. The revised scale of pay of the Bihar and Orissa Veterinary Service is as follows :—

Provincial. Rs. 200-40/2-560-40/3-640.

Subordinate. (a) Veterinary Inspectors.

1st grade. Rs. 170.

2nd grade. 135.

3rd grade. 100.

(b) Veterinary Assistant Surgeons Rs. 50 to 100.
(fixed travelling allowance. Free house or house allowance in lieu thereof).

8. Admission forms may be had free on application to the Principal. Prospectus will be supplied on receipt of as. 4 for each copy required.

Patna, }
9-3-1934. }

(Sd.) R. T. DAVIS, I.V.S.,
Principal.

Communications.

TO THE EDITOR,

The Indian Veterinary Journal.

Sir,

Please publish the following.

3-4-34
TRIVELLORE, P.O.,
Chingleput District, Madras.

yours truly,

(Sd.) M. S. SASTRY, G.B.V.C.,
General Secretary,
The All-India Veterinary
Association.

THE EIGHTH ALL-INDIA VETERINARY CONFERENCE.

Much inconvenience might have been caused to many intending Delegates by the postponement of the Conference announced to be held on the 17th, 18th and 19th February last, at Lucknow. But I am sure, my brethren would appreciate the postponement owing to the country-wide earthquake disaster and subsequent weather conditions in Bihar and Orissa, adjoining the United Provinces. The absence of a Conference for over three years and the sudden postponement of the proposed Conference now have given room for different kinds of feelings in different people. But everybody interested in the advance of the Indian Veterinary profession will realise the necessity for holding the All-India Sessions of the Conference annually. In this connection, I take the liberty to invite the attention of the members in every Province and State in this country to the reference made by the President of the Madras Provincial Veterinary Conference on the 1st April 1934, under the caption, *The All-India Veterinary Association*, in his Presidential Address published elsewhere in this issue of the *journal*. I am also sure, many of my brethren in this country will share the regret expressed therein, for the *impasse*. The causes mentioned by the President for the Association not functioning as it ought to, are no doubt true but they are not the only and enough of causes. Professions or Sciences similar to ours with members scattered throughout the land are many at present in this country and they do not have larger number of members than what we have got in our profession in each province or State or in the whole country. Some of them at any rate have much smaller number than the Veterinary profession has. Still there are holding Annual All-India Conferences with sound permanent organisations and in some cases with their own journals functioning effectively. The All-India Science Congress—Philosophical, Historical, Economic and other Conferences have all become permanent annual functions.

All these organisations have the backing and active support of the high placed Government Officers and influential men. The heads of these sections in each Province throw themselves heart and soul into the organisations. Financially the position of the members of these organisations are no doubt much better. Each one takes a pride in his being a member of such organisation. But the tale is quite different with the Veterinary profession in all these matters, though it has got to play a more vital part in the National Health and Wealth.

The All-India Veterinary Association has many times made it quite plain that it is certainly *endeavouring* to play the same role in this country as the National Veterinary Medical Association in Great Britain and Ireland, with regard to the profession and interest of its members and it appealed for hearty co-operation and support from the highest and influential officers of the Veterinary Departments in the country, but with inadequate response.

Though there is no independent Veterinary profession worth mentioning in this country at present, still, every member of the profession in service, especially those in responsible positions can do much to bring this Association into as effective a functioning body as any other similar professional or scientific Association.

It is gratifying to note that the number of retired Indian officers of the Veterinary Departments is increasing every year and some of them like the Presidents of the Bombay and Madras Provincial Associations, have been taking keen interest in the affairs of the profession. It is the earnest desire of every well wisher, that the number of such devoted persons will soon increase to the advantage of the profession and it will not be too much to appeal to retired officers in other provinces to take similar interest in the profession to which they owe everything in their life. The President of the Madras Conference has clearly pointed out the necessity for frequent holding of the All-India Conference.

Much trouble has been taken for building up of this All-India organisation by a band of earnest workers in the field and let it not be said that its useful career was cut short by the apathy, indifference and in some cases positive dislike on the part of the members of the profession. It is hoped that each province will try to rise equal to the occasion and hold in its turn the annual sessions of the All-India Conference without waiting for a call or demand from the Central Association.

THE EDITOR,

The Indian Veterinary Journal, Madras.

Sir,

Please publish the following news in the columns of your valuable journal for the benefit of its readers.

NEW YORK, }
Feb. 19, 1934. }

Yours very truly,

M. V. BURNS,
Medical Department,
The Denver Chemical Co.

MEDICINE DEALER CONVICTED.

The November 30th issue of "The Times of India" along with other important publications of Bombay published an item of the arrest, trial and conviction of Atma Ram for selling spurious Antiphlogistine. The accused was charged at the instance of Mr. C. W. B. Rayner, Bombay manager of Messrs. Muller and Phipps, the agents in India for the Denver Chemical Manufacturing Company of New York, manufacturers of Antiphlogistine.

The accused was sentenced to fine and imprisonment by Mr. Oscar H. Brown, Presidency Magistrate, Mazagon Police Court. It was urged upon behalf of the accused that he was but a petty dealer and that he was unaware of the fact that the substance contained in the tin was not the genuine Antiphlogistine—His Worship was unable to accept this contention as the accused had been formerly employed in a firm of chemists and was well acquainted with the general appearance and get up of such articles. Continuing, the Magistrate said that the accused should have been warned by the fact of the low price at which he was able to purchase this article and from the evidence it was clear that the accused was not the innocent, unwary person he now gave himself out to be.

The Denver Chemical Manufacturing Company of New York proposes to take every step to safeguard their interests, and the imitators, counterfeiters and substitutes will be prosecuted to the full extent of the law. In a number of instances, complications to a fatal termination have been brought about through the use of imitations of Antiphlogistine and it is gratifying to know that the courts recognize the necessity of protecting the public from the use of inert and harmful products which are made to replace preparations of superior merit.

Extracts.**POULTRY—A STABLE INDUSTRY.**

H. L. Sharder, Senior Extension Poultry Husbandman, United States Department of Agriculture, Washington, D. C.

As the great drama of American agriculture has unfolded its pages of history most of the interest has been centered on crops like wheat, cotton and corn or on livestock such as hogs and cattle.

In the early days poultry and egg products occupied a relatively unimportant position. The census data now show that poultry ranks fifth in farm income and that over 90 per cent. of the farms in the United States keep poultry. To speak in the vernacular of the circus, the poultry industry has outgrown the side show and has taken its place in the tent of big business. This does not mean that we have a great number of specialised poultry farms, but rather that poultry has found its place on a large number of general farms. Poultry has progressed from a neglected side line to an important enterprise on the general farm.

This situation is partly due to the mechanical development that has taken place for in true American style we have kept our poultry machinery up to date. The mammoth incubator and brooder have made it possible to raise larger numbers of chicks in one unit. The baby-chick business has developed so that chicks may be shipped and delivered to the farm. The poultry packers have installed refrigeration so that the quality of eggs and poultry can be maintained until they reach the consumer. Special freight cars have been designed for feeding and shipping live poultry. All of these might be considered as part of the mechanical shift that has taken place in the poultry industry.

Most important of all, however, has been the attitude of the average farmer toward poultry. This might be termed as psychological shift. Many an old-time farmer considered all hens a nuisance—they roosted on the harness, stole from his granary or corncrib and were always under foot. The egg money was called pin money, but was used to buy the sugar and coffee and sometimes shoes for John and Mary. Mr. Average Farmer did not change his attitude toward poultry as a matter of sentiment—it was a matter of cold, hard facts and dollars. Take as an example the experience of Mr. Stuart a corn-belt farmer. He was starting to town to sell a load of corn one day because he needed cash to pay interest on a note. His wife asked him to take along a thirty-dozen case of eggs for her. He delivered the eggs at the produce house and the grain at the elevator, but her egg check was just as big as his check for the load of corn. After that he was glad to remodel the poultry house, build extra yards so that young and old stock could be kept separate, and assist in the many other details that are necessary for proper poultry management.

Mr. Stuart's case is quoted because this change in attitude has taken place on so many corn-belt and wheat-belt farms. A fair sized flock is kept on his farm and it is recognised as an important part of the farm's operations. The hen is looked upon as an efficient machine to turn grain and other farm products into one of the finest of the human foods, namely, eggs.

The stability of the poultry industry over the past decade has been remarkable. Records from the neighbouring state of Missouri show that from the years 1919-1929 the average labor income per bird was 2.41 dollars. In only two years of this period, 1920 and 1927 did the income fall below 2 dollars per bird. These demonstration farm flocks were standardbred flocks that were comfortably housed and well fed. With reasonable care and attention any farm flock could have as good, if not a better, record than the average income quoted.

In years of relatively low prices of poultry and egg products there is always much discussion about the poultry industry being over-done. This industry is built on a small economic unit and for this reason an increase or decrease can take place very rapidly. With some of our larger animals, like dairy or beef cattle, the cycle of high and low prices covers a period of years. This is not true with poultry.

With every decrease in poultry and egg prices some producers are forced out of the industry. They may live in a region where feed prices are high or they may not have a well-organised market upon which to dispose of their product. The bulk of the poultry in the United States is located in the Mississippi valley area known as the corn belt. Here are produced the corn and wheat and here we also find organised marketing agencies. In years of low egg prices we find Mr. Farmer selecting his low-producing hens and sending them to market a little earlier in the season than he does other years. He knows that the secret of his success lies in efficient production. This is one reason he why he listens to the extension poultryman talk about growing healthy chicks. That is why he hatches his chicks early and moves his pullets to clean range. In years of low prices methods and systems are put into practice by the progressive and up-to-date farmer. He takes this opportunity to keep his methods up-to-date with his machinery.

(Reprinted from twenty-seventh Biennial Report of the State Board of Agriculture, Kansas, 1929-1930, XXXII, 216.)

CAPTAIN HUGH COOPER, M.R.C.V.S.

1896—1933.

AN APPRECIATION.

(Contributed)

(From the *Veterinary Record*, 1933, Vol. XIII, No. 51.)

The death of Hugh Cooper, recorded in your issue of last week, cuts short in its prime a promising and useful life. For India, the country in which he had chosen to spend his professional career, this loss must be regarded as a tragic one, for by temperament and bearing he was eminently attuned to the environment, and the large experience which he had been steadily gaining in the problems of animal pathology peculiar to that country would have been of inestimable value when it was duly placed on record in his more mature years from the massive collection of documents and personal knowledge which he had accumulated on the subject during a period of ten years' well-directed industry. The circumstances of his death display the reactions of a gallant nature to the consciousness of a slowly impending doom, the precise outcome of which was clear beyond doubt to his mind by the knowledge gained in his own expert calling.

Born at Hampstead, on September 13th, 1896, the youngest child of the late Mr. C. H. and of Mrs. Cooper, he was educated at Broadoak School, Northwood, and then at Uppingham School, from which he entered the Royal Veterinary College in 1913. He served his pupilage with Mr. F. T. Trewin, of Watford. He qualified in 1917, after winning the Walley Memorial Prize of the R. C. V. S., entered the R. A. V. C. during the War, and saw service in Mesopotamia. After demobilisation, he went into Veterinary practice for a short time, and then returned to the Royal Veterinary College, early in 1920, as a Research Assistant in the Department of Research in Animal Pathology, soon afterwards becoming Sir John M'Fadyean's Demonstrator in Pathology. He also lectured in Protozoology. Towards the end of 1921, he was appointed to the post of Pathologist on the staff of the Imperial Bacteriological Laboratory (now the Imperial Institute of Veterinary Research), Muktesar-Kumaon, U. P., India. He took on his duties there after a short visit for special training to Sir Arnold Theiler's Laboratory in South Africa, where he seems to have caught a good deal of that master's zeal for research. At the time of his death, he had spent ten years, as has been said, in actual service, not counting leave periods, at the Muktesar Laboratory.

If a selection had to be made of his most important contributions during this period to the advancement of knowledge in veterinary pathology, perhaps the most outstanding would be his extensive and careful survey of the nature and distribution of bovine coccidiosis and piroplasmosis and the resuscitation of latent forms of these infections during intercurrent attacks of rinderpest. There were several other problems that he had gone far to elucidate from among the wealth of material that lay awaiting investigation, notably, for example, pseudo-fowl plague (ranikhet disease), fowl spirochaetosis, glanders, rinderpest in goats, Johne's disease, surra, and bovine theileriasis. It was fully expected that in the normal course of events he would have survived to place on record the masses of evidence which he and other colleagues had gathered round such problems.

His real service to the study and diffusion of knowledge upon animal pathology in India cannot, however, be estimated, even approximately, by his achievements in specialised pieces of large research, important though many of these were. At the institute, he developed a large and varied routine and advisory pathological side, which was of incalculable benefit to the civil and military veterinary services in the field. His replies to enquiries were invariably characterised by courtesy, helpfulness, precision in diagnosis, and soundness in prognosis. Further, in the classes of training at Muktesar for various grades of veterinary officers in India, including the two years' courses started by the Government of India for the education of Indians in India to the highest standard, he took a prominent part, and his practical teachings will long be remembered by veterinary officers now scattered in responsible positions throughout the subcontinent.

In that isolated hill station his social qualities were an immense asset. Kind, gentle, unfailingly generous and hospitable, he was the friend of everyone: the intimate companion of his European colleagues, he was beloved and trusted by all grades of Indians; these he encouraged at their work, listened to sympathetically in their difficulties, and fired with enthusiasm in their games. He was a sincere lover of animals.

Soon after his marriage to Miss Janet Beazley in India, in April, 1931, he came home to England on ordinary leave combined with a prolonged period of

study leave, which he arranged to spend at Professor Buxton's Research Institute in Animal Pathology at Cambridge, where he was to resume contact with his early friends then on the staff there. He was due to return to his work in India at the beginning of the cold weather season, in the autumn of 1932.

There supervened, however, at this stage in his career, when his future seemed secure and full of bright prospects, one of those unexpected tragedies that seem to fall with special malignity upon those whose minds are fully enlightened as to their fate by the special culture acquired in their avocation and cannot obtain relief in the succour afforded by easy illusion. Characteristically, he faced this position with unwavering courage, betraying till the last no signs of anguish or exhaustion of his ample reserves of sane judgment. Instead, he was coolly solicitous not to inflict his personal sufferings on his friends and relations. At one stage during the course of treatment phenomenal success was achieved; indeed, so remarkable was the improvement in Hugh Cooper's condition that in May, 1933, he was passed fit to return to India, whither he proceeded, accompanied by his wife and young son, overjoyed at regaining a glimpse of the gorgeous Himalayan scenery surrounding his Indian home and getting back to the scenes of his former happy labours. It was not long, however, before the trouble recurred and in July he returned back to England once more. Deeply grateful as he was for all candid advice, he became reconciled to his doom and gallantly met it. The writer now learns that throughout his affliction Cooper kept methodically a daily record of his condition, believing that it might be of some scientific use afterwards. The record is in the custody of the Mount Vernon Hospital. This attitude towards his condition was, it must be felt, a singularly heroic and objective one, but it had no trace of morbidity or callousness about it. His spirit was naturally deeply sensitive and courageous. He who was seen to run unarmed shouting after a Panther to rescue his pet bull-terrier from its jaws was not a subject whom familiarity with disease processes and the experimental method had hardened. Rather it seems to have ended him all the more strongly with the calm that pertains to a human caste—that to which he belonged—which holds that in the face of dire personal adversity, certain things, display of subjective emotion among them, are just "not done."

Review.

HORSE BREEDING APRIL, 1934.

The April number of "Horse Breeding, the Journal of the National Horse Breeding and Show Society of India, is a very full one, containing as it does important speeches by the President, Sir Terence Keyes, at the Annual General Meeting and at the Annual Council Dinner, in which he clearly brought out the importance of racing for the "grade" horses of India,—as well as for thoroughbreds,—in order to develop the stock of the small breeders and to secure a profitable market for them. He remarked that the object of the Society was to make India as far as possible independent in the matter of horse-flesh. "In this, stallion power is a very important factor; and the race course is the only test of the worth of prospective stallions. But the backbone of the industry is the breeder of "grade" stock; and it is him that we are out to help in every way. While such racing as is necessary to test the worth of our stallions can probably be adequately provided with the co-operation of the great Racing Clubs, it is a very different thing to fit a sufficient number of races suitable for stimulating the market

for the breeder of the "grade" horse into the frame work of the great racing clubs, however generous and sympathetic they may be. It is for this reason that I think the Society should welcome and assist in every possible way the proposal to start a new Racing Club in the North of India, and should mobilise the expert opinion of everyone interested in horse breeding and bring it to bear on the problem of ensuring that the policy and system of the new Club are framed in the interest of the breeder."

In the "Breeding" section there are several interesting articles. A short article on "The Grading Up Process", which is illustrated by photographs of interesting old pictures showing the English thorough bred foundation stock and its descendants, shows that what was possible in England two centuries ago should be equally possible in India to-day.

A comparison of the encouragement given by racing in South Africa and India, and the figures of production resulting from this encouragement in the former country are very illuminating. In South Africa 85 per cent of the horses racing are home bred against 11 per cent in India.

An article on "Utility Horse Breeding" quotes some interesting extracts from a letter by Brigadier W. H. Anderson, late Director of Remounts in India, to "Horse and Hound". These extracts might well have been written about India at the present time, and emphasise still further the necessity of a profitable market for the breeders. The article goes on to consider what the so-called "utility" horse really is. "Has the term ever been defined? After all, the so-called utility horse is produced by the thoroughbred and surely the nearer we can approach to the thoroughbred, without sacrificing other requirements, the better utility horse will be evolved and the greater will be the chance of securing the necessary profitable market for the breeders generally."

A list of thoroughbred mares in the "Eve Bloodstock Scheme", and instructive article on "Compensations in Equine Conformation", by the well-known writer Colonel Sidney Goldschmidt, a speculative article on "Polo Pony Breeding", various racing notes, the full review of the 12th Imperial Delhi Horse Show and reports of other Horse Shows, and some interesting "Stable" notes, are other items which make up an interesting number.

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Obituary.

THE LATE RAO SAHIB H. C. SAMPATH IYENGAR.

It is with extreme regret that we record in this issue the sad demise of Rao Sahib H. C. Sampath Iyengar, District Veterinary Officer, Vellore, at the General Hospital, Madras, at 11 p. m. on 8-4-34.

He came to Madras availing himself of the Easter Holidays and attended the recent Provincial Veterinary Conference and was busy shaking hands with so many of his old students and friends. But he took suddenly ill and it was diagnosed as a case of intestinal obstruction and he was rushed to the hospital, where he was operated upon and in spite of best medical aid, he breathed his last.

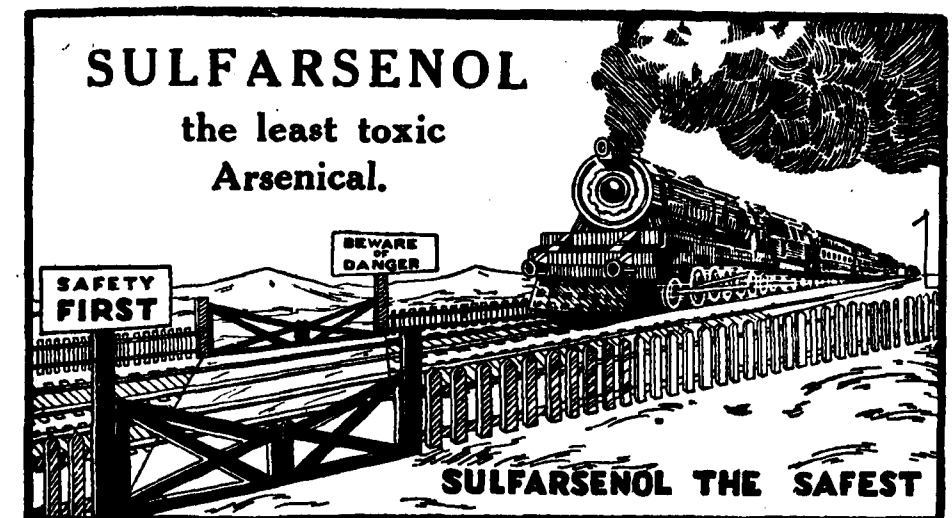
A stern and zealous officer, who spared neither himself nor others, where duty was concerned and practically to the very last day of his existence, he gave his best to the Civil Veterinary Department, Madras. Even a week before his death, he was busy inoculating cattle with Goat-Virus against Rinderpest and keeping an accurate and exhaustive account of his work. He died virtually in harness. For all over 30 years, he served the Department in a manner, which earned the praise and admiration of his higher officers. He gave his best and he gave his all.

As a mark of respect to the memory of this great officer, the City Offices of the Civil Veterinary Department, Madras were closed for a day.

We offer our heart-felt condolences to the members of his bereaved family.

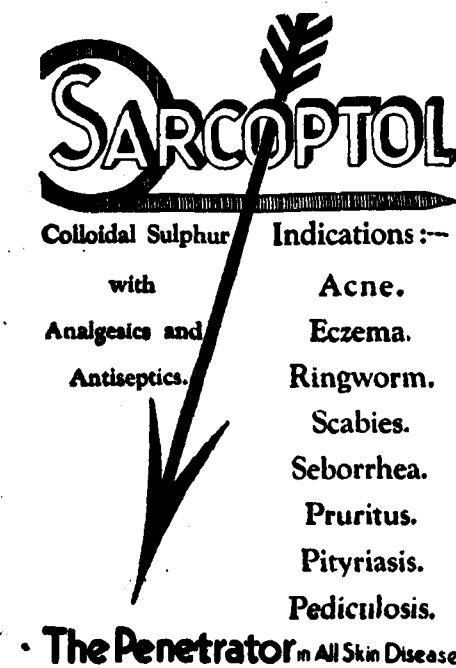
CAPTAIN HUGH COOPER, M.R.C.V.S.

We are grieved much to learn from the Veterinary Record of December 23, 1933 of the sad demise of Captain Hugh Cooper, at the prime of his life. We cannot do better than extract an article contributed to that journal under the heading "An appreciation."

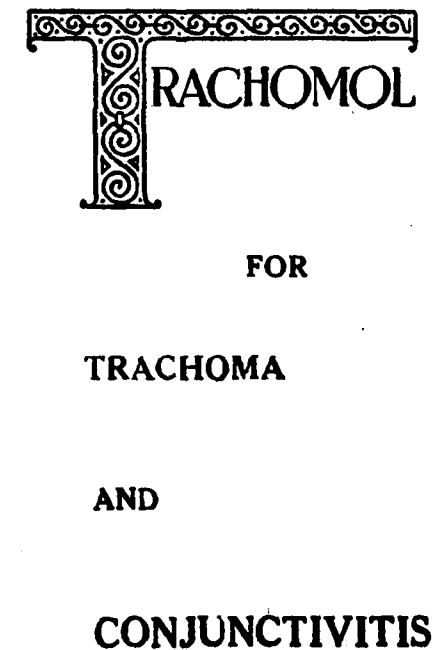


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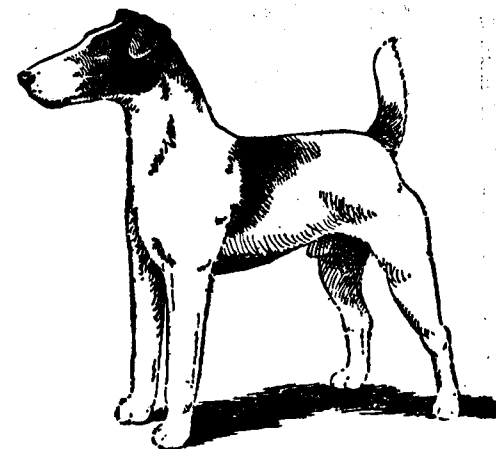
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