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Published Bi-monthly
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(The Journal of the All-India Veterinary Association)



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

Veterinary Surgeon, Madras.

Office: 26, WALLAJAH ROAD, MOUNT ROAD, MADRAS (S. INDIA)

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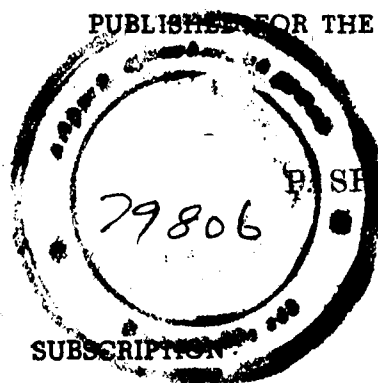
1943

NOTICE

The Indian Veterinary Journal

A Bi-monthly Record of Veterinary Medicine and Surgery
Devoted to the Cause of Veterinary Profession

PUBLISHED FOR THE ALL-INDIA VETERINARY ASSOCIATION



EDITOR:
P. S. NIVASA RAO, G.M.V.C.

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Group photo taken at Dharwar on the occasion of the Farewell Party given to Mr. M. K. Garudachar, G.B.V.C., P.G. (Edin.), Divisional Veterinary Officer, Southern Division, Dharwar, Bombay, who has proceeded on leave preparatory to retirement.

THE Indian Veterinary Journal

(The Journal of The All-India Veterinary Association)

Vol. XIX

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No. 5

Original Article

ON SOME HELMINTHS FROM BURMESE DUCKS (*Anas boschas*) NEW TO SCIENCE

BY

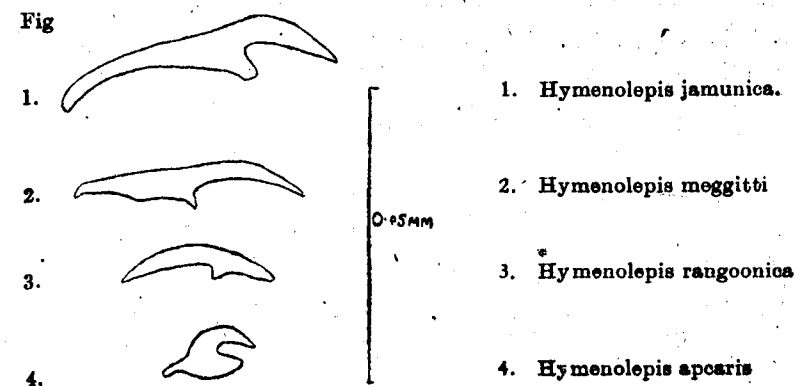
PROF. K. N. SHARMA, M.Sc. HONS.,
Botanist to the Government of Nepal.

This paper recording five new species of *Hymenolepis* and one trematode parasite—*Mehlisia gatesi* n. sp., is the outcome of the examination of about 227 ducks in the Department of Biology, Judson College, Rangoon. As many as 36 per cent of the birds were found parasitised.

The author feels grateful to Dr. G. E. Gates and Prof. F. J. Meggitt of Rangoon University for very useful help and guidance in the preparation of this paper.

HOOKS IN SCOLEX OF

Fig



CESTODA

Hymenolepis apcaris n. sp. (Fig. 4 & 5)

Length 70–100*. Breadth 1. 1. Scolex 0.157 dia, Rostellum 0.1 × 0.05; armed with 21–22 hooks of 0.016–0.018 long. Rostellar sac passing posterior

* All measurements in mm.

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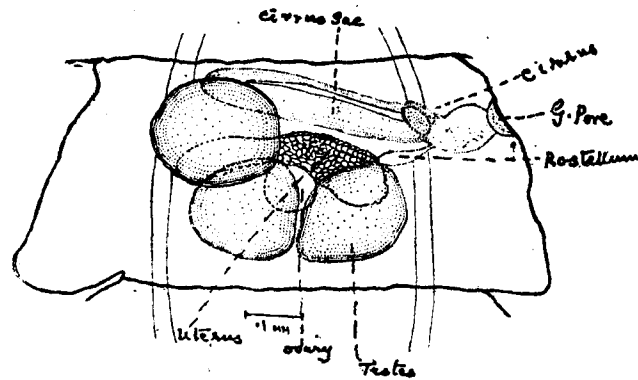
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SUBEDAR T. V. MANIKA RAJ, G.B.V.C.,

who has been appointed Superintendent of Veterinary Services
in Mysore. He had rendered meritorious service in
the last War with the Mysore Army.

margin of suckers. Suckers 0.076 dia. Testes 0.157 dia.; varying in mode of arrangement but in majority of the proglottides the poral and the ex-

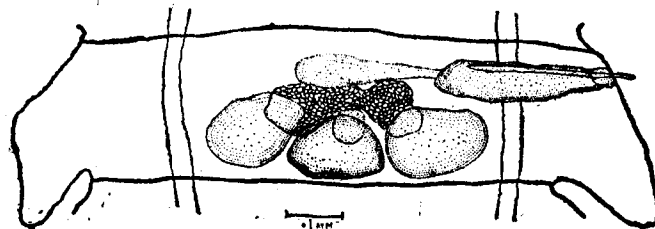


Hymenolepis apcaris (Fig. 5)

terior aporal are slightly anterior to the internal aporal. Cirrus sac 0.41×0.04 , nearly reaching aporal excretory vessels. Cirrus 0.3×0.007 , armed. Ovary ventral to testes. Genital pore unilateral, situated in the anterior third of proglottis margin. Uterus extending to cortical parenchyma. Eggs 0.020 dia. Embryonal hooks 0.008 long. Musculature feebly developed; numerous bundles of longitudinal muscle fibres not sharply divided into two layers.

Reference to the literature shows that *Hymenolepis coronula* (Dujardin 1845) has proglottides much shorter in proportion to the width of the worm, cirrus sac does not extend half way across, and the 12 bundles of inner longitudinal muscles are sharply differentiated from the outer longitudinal muscle bundles. The shape of rostellar hooks also differs slightly. There are no other species with similar combination of characters.

Hymenolepis infrequens n. sp. (Fig. 6)



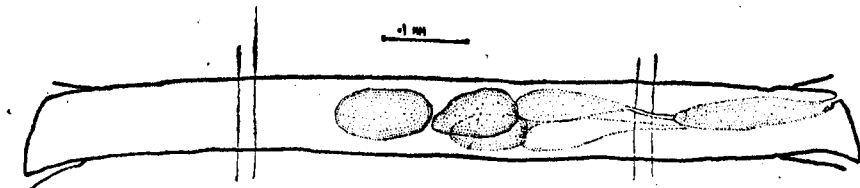
Hymenolepis infrequens (Fig. 6)

Length 40—45. Breadth 0.95. Scolex 0.38 dia. Rostellum unarmed; measuring 0.042×0.1 . Rostellar sac not extending beyond the centre of suckers. Suckers large, 0.21 dia. Genital pore unilateral, situated in the anterior third of the proglottis margin. Cirrus sac 0.31×0.07 ; passing the

excretory vessels on the poral side. Cirrus armed. Internal and external seminal vesicles present. Testes mostly in a transverse row, posterior to ovary. Longitudinal muscles in 70-80 bundles, not sharply differentiated into two layers.

Reference to the literature shows that *Hymenolepis megalops* (Creplin 1829) has genital pores $2/3$ posterior, cirrus sac extending $1/2$ to $2/3$ way across, and scolex 0.88—1—4. *Hymenolepis biaculeata*, (Fuhrmann 1909) has ovary poral and all testes aporal. No other species has a similar combination of characters.

Hymenolepis jamunica n. sp. (Fig. 1 & 7)

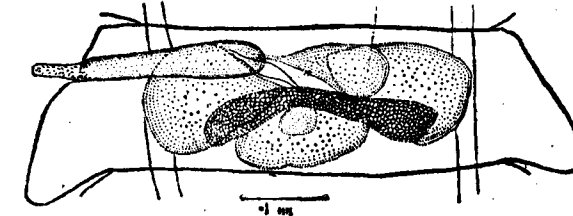


Hymenolepis jamunica (Fig. 7)

Length 50-70. Breadth 0.94. Scolex 0.22—0.24 dia. Rostellum 0.12×0.08 , armed with 10 hooks 0.048—0.051 long. Rostellar sac passing posterior margin of suckers. Suckers 0.135 dia.; armed with many rows of fine hooks. Genital pore unilateral, situated in the anterior fourth of proglottis margin. Cirrus sac 0.182×0.026 , just passing or extending to the excretory vessels on the poral side. Testes one aporal and two poral, of the latter one dorsal and slightly external to the other. Internal and external seminal vesicles present. Ovary slightly lobed. Receptaculum seminis present. Uterus saccular. Eggs 0.068 dia. Musculature well developed; outer longitudinal muscles in 100 bundles, and the inner in 8 bundles.

Hymenolepis naja (Dujardin 1845) has rostellar hooks 10 of 0.052—0.056 long, but the blade is shorter and less curved downwards than in the present form. The cirrus sac is also relatively smaller, and the suckers are unarmed in *H. naja*. There are no other species with a similar combination of characters.

Hymenolepis Meggitti n. sp. (Fig. 2 & 8)



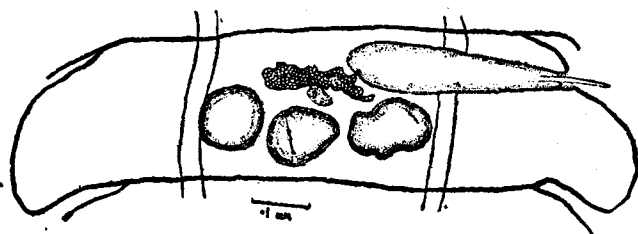
Hymenolepis meggitti (Fig. 8)

Length 20—30. Breadth 0.8. Scolex 0.5×0.42 , well developed. Rostellum 0.097×0.06 ; armed with 8 hooks of 0.040—0.043 long. Rostellar sac not

reaching the posterior margin of suckers. Suckers 0.33 dia. Genital pore unilateral, situated in the anterior third of the proglottis margin. Cirrus sac 0.85×0.037 , extending $1/3$ way across. Internal and external seminal vesicles present. Testes 0.09 dia.; the poral and the external aporal lying anterior to the third. Ovary ventral to testes. Receptaculum seminis present. Uterus saccular. Longitudinal muscles in 100 bundles, not definitely separated into two layers.

Hymenolepis incognita, (Meggitt 1927) has 8 rostellar hooks of 0.045 long, but the blade is shorter and the guard more slender than in the present form. *H. innominata* (Meggitt 1927) has 8 rostellar hooks of 0.040–0.043 long, but has quite a different shape. *H. octacantha* (Krabbe 1869) has cirrus sac extending to the aporal excretory vessels, and the shape of rostellar hooks differs slightly from the present form. There are no other species with a similar combination of characters.

Hymenolepis rangoonica n. sp. (Fig. 3 & 9)



Hymenolepis rangoonica (Fig. 9)

Length 40–50. Breadth 1.13. Scolex 0.68×0.52 . Rostellum 0.18×0.075 ; armed with 8 hooks of 0.027–0.029 long. Rostellar sac not reaching posterior margin of suckers. Suckers 0.29 dia. Genital pore unilateral, situated in the anterior fourth of proglottis margin. Cirrus sac 0.375×0.082 ; extending $1/2$ way across. Testes in a transverse row. Ovary slightly lobed; antero-ventral to testes. Receptaculum seminis present. Musculature well developed. Outer longitudinal muscles in 60–64 bundles, and the inner longitudinal muscles in 10 bundles.

Hymenolepis lateralis (Mayhew 1925) has 8 rostellar hooks of 0.026–0.030 long, but of quite a different shape. *H. birmanica*, (Meggitt 1927,) has 8 rostellar hooks of 0.029 long, but the shape does not agree with that of the present form. *H. linea* (Goeze 1782) has 8 rostellar hooks of 0.020–0.030 long, but with a shorter blade and longer guard; the cirrus sac is relatively smaller than the present form. There are no other species with a similar combination of characters.

TREMATODA

Mehlisia gatesi n. sp. (Fig. 10)

Length 7.8. Breadth 1.6–1.85. Oral sucker 0.24–0.257 dia. Ventral sucker 0.826–0.841 dia.; more than three times as large as the oral sucker. Average distance between the suckers 0.21. Integumentary spines present. Cuticle thick. Prae-pharynx small. Pharynx 0.15 dia. Oesophagus absent. Intestinal limbs simple, reaching the posterior end of the body. Excretory vesicle with main stem reaching posterior testes and dividing into 4 longitudinal branches. Genital pore median, anterior to ventral-sucker. Gonads occupying the middle third of the body. Testes one behind the other, median, $0.49–0.8 \times 0.39–0.40$. Ovary anterior to testis. Shell gland median, anterior to ovary. Laurer's canal present. Uterus between the ovary and the ventral sucker, coiled with loops extending up to intestinal limb on either side. Vitellaria lateral, extending from the posterior edge of the ventral sucker to the posterior end of the body. Eggs 0.095×0.057 .

The present form resembles *Mehlisia acuminata*, (Johnston 1913), in all respects except the relative size of the suckers, absence of vitelline follicles on the entire surface of the body posterior to hind testis, and the size of the eggs.

The other species belonging to this genus are reported from marsupials and monotremes of Australia. The occurrence of the present form in ducks is of great interest. The parasites might have been introduced from Australia in imported animals, and are now established in Burmese ducks.

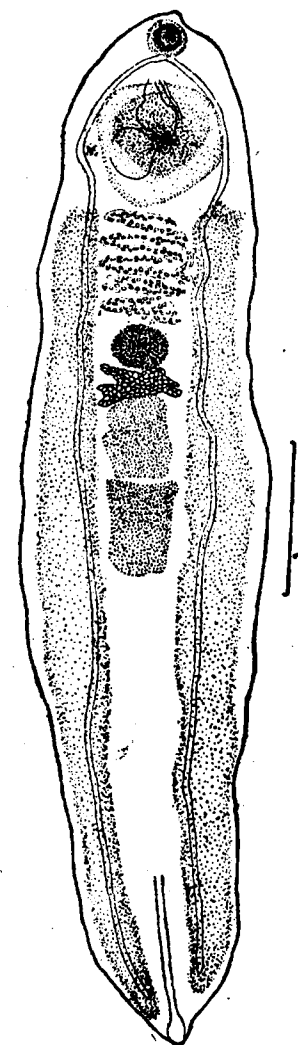
List of abbreviations in figures

Cir. sac—Cirrus sac

Cir—Cirrus

G. P.—Genital pore

R. sem.—Receptaculum seminis



Mehlisia gatesi (Fig. 10)

Exe.—Excretory canal

Test—Testes

Ov.—Ovary

Ute—Uterus.

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General Articles

ARTIFICIAL INSEMINATION OF DAIRY COWS WITH SIMPLE APPARATUS

By

J. D. SAMPATH KUMARAN,

I.A.R.I., New Delhi

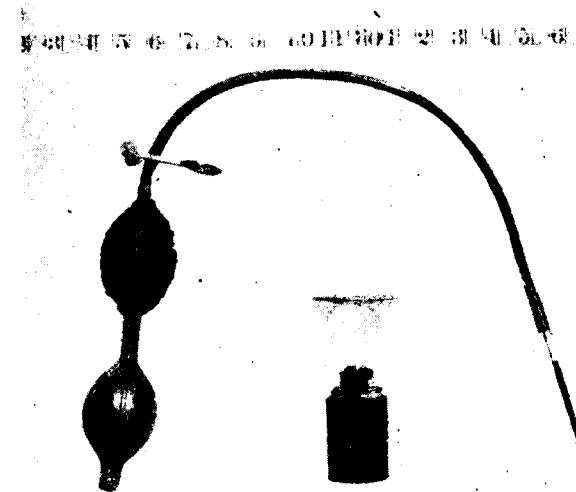
Though the principle of inseminating the dairy cows has been well recognized for various economic considerations, yet its practice is limited very much. This limitation is mostly due to want of proper equipment since this zoo-technique is a delicate one. During the past three years of my experiments both at the Rayanakere Palace Dairy Farm, Mysore, and also at the Imperial Agricultural Research Institute, New Delhi, I have been able to successfully inseminate with the instruments devised by me. I am therefore recommending the same with the hope that this devise may fill up the gap in our progress. Further, the instruments are available everywhere and it is also cheap.

Equipment

The bull semen could be collected by the 'Massage' method quite easily. For this what is required is a small glass funnel, a small glass jar



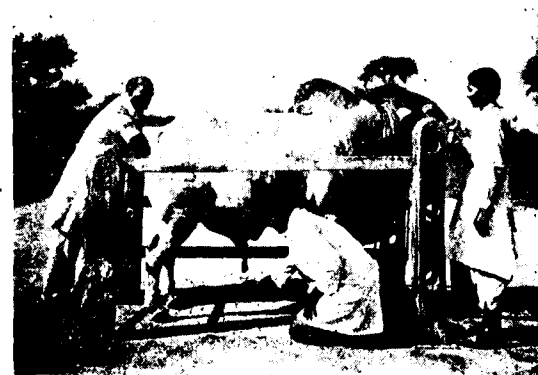
Test tube calf born in 1941
at the Imperial Agricultural Research Institute, New Delhi.
The dam inseminated artificially with the instruments devised.



Complete outfit for insemination and collection.
The glass tube is filled with semen
and there is space between the rubber and the semen level.



First step in inseminating the cow.



Collecting bull semen by massage.



Final step in inseminating the cow. The tip of the glass tube is in the cervix. The left hand pressing the rubber pump.

or a Swan ink bottle and glass cork. For the insemination, the ordinary rubber pump, as the one usually used for the 'Milk Fever' air inflation answers well. To this rubber pump should be attached the glass fountain-pen ink filler. This completes the set. By using such a set, I have produced already four test-tube calves in the Imperial Agricultural Research Institute.

Technique

Collection by massage

The bull should be allowed to be with a cow in heat for some time. This is not always necessary but the collection could be done quicker. Secure the bull preferably in a trevis and spread below a good quantity of straw in order to prevent the rise of dust. The sheath should be clipped and washed to minimise contamination. Two persons are required for this, one to massage and another for collecting.

The finger nails of the operator should be well trimmed to avoid injury to the rectum. The bull should be given a warm plain water enema and backraked. The bull should be made to balloon the rectum as when defecating and force should never be used against the muscular reaction. The ampullae lie on the median line at the bottom of the rectum about two-third distance from the anus through the opening formed by the pelvic arch. They can be located with ease by pushing the hand well forward so that the fingers drop over the body cavity. The arm is pulled back and with a downward pressure, a triangular space will be felt by the fingers. This is formed at the junction of the two ampullae. It requires slight pressure at this point since there is a muscle overlying it. The massage should be done when the hand is drawn out but not when it is taken forward. It must be done with a slow rhythmic motion and not hurriedly since that would injure the animal. The massage should be done with the middle finger only and the fingers on the sides should only guide the middle finger. By using all the fingers there is the chance of massaging the seminal vesicles which lie on either side of the ampullae. During massage the tone of the ampullae indicates the amount of semen which could be got. A large firm tube indicates an abundant supply and when it is flaccid and small, very little semen could be expected. I have been able to collect from a bull aged 15 years, as nearly as 5 c.c. The younger bulls have given about 3 c.c. This is a method which could be easily employed when the bulls are sluggish and the Artificial Vagina not recommended.

Insemination

All the instruments should be sterilized well. Expel some of the air in the rubber pump and then insert the glass filler into the semen container and release pressure so that semen is drawn into the tube only. It must not be allowed to get into the rubber tube since it has an injurious effect on the sperm. When the glass tube is full apply the stopcock so that the semen

may not drip down. Hold the glass tube in between the fingers and insert into the vagina. Take your hand as far forward as to reach the cervix. The tip of the glass tube should be inserted carefully into the cervix to an approximate distance of half a centimeter. It should not be pushed too much. When this is done release the stopcock and press the rubber pump which will discharge the semen into the cervix. This has to be done gently. When there is some resistance, draw the glass tube a bit backward and then inseminate.

This method avoids the need of a speculum. If available a rubber glove may be used with advantage, otherwise well cleaned hand alone can do the job.

Examination of the Semen

In quantity and quality, the semen obtained from different animals and also from the same animal varies very greatly. It is therefore very necessary to carefully examine the semen before insemination in order to ensure success. The volume, colour and cloudiness, the consistency, the motility of the sperm, the number of abnormal sperms per cc., the presence of foreign cells the pH. concentration of the semen and the respiration of the sperm are some of the points to be considered in this examination.

These will be dealt with in the subsequent issues of this *Journal* in detail.

DIAGNOSIS AND TREATMENT OF DISEASES OF WILD ANIMALS IN CAPTIVITY *

By

L. J. Goss

New York Zoological Park, Bronx, New York

The diagnosis and treatment of captive wild animals is a rather broad subject and cannot be mastered in six easy lessons. However, in veterinary circles, many questions regarding this subject are frequently asked. I do not propose to give an exhaustive discussion of the subject, but rather to point out some of the interesting cases observed in the Bronx Zoo and mention the similarity of occurrence of diseases in wild and both large and small domestic animals.

A list of diseases actually seen in the Zoo is as follows: tetanus, pregnancy disease, circling disease, Bang's disease, tuberculosis, moon blindness,

* Presented at the 34th Annual Conference for Veterinarians, Ithaca, New York, January 7, 1942.

Reprinted from "The Cornell Veterinarian", April, 1942.

plant and chemical poisoning, gas gangrene, pneumonia, hog cholera, haemorrhagic septicaemia, parasitisms, actinomycosis and malnutrition in large animals, dog distemper, fox encephalitis, infectious feline enteritis, eczema, dirofilariasis, gastro-enteritis and malnutrition in small animals, and fox, parasitism, tuberculosis, botulism and malnutrition in birds. Then there are the mechanical or traumatic conditions, such as fractures, prolapses, burns, lacerations, foreign bodies and dystocias. In brief, anything can happen to a captive wild animal that can happen to a domestic animal, plus a lot of things that, I believe, never occur in domestic animals.

Tuberculosis and Bang's disease do occur in captive wild animals but not to the extent that the practising veterinarian sees them in his patients. We have seen occasional cases of tuberculosis in antelopes, deer, kangaroos, birds and monkeys. In our collection at the Bronx Zoo, the birds are the most frequent sufferers from tuberculosis. Monkeys are not as tuberculosis-laden as some people believe. They are, however, quite susceptible to human tuberculosis and must be tested frequently (every six months). As a test agent we use P. P. D. (the purified protein derivative) injected into the eyelid. Edema, swelling and redness at the site of injection within seventy-two hours constitutes a positive reaction. It is our firm belief that this disease occurs in monkeys as a result of infection from the visiting public. The incidence of tuberculosis can be lowered in monkeys by separating them from the public by glass. In this case it is a matter of protecting the animals from humans who infect the animals by their unsanitary habits of breathing and expectorating directly on the monkeys and throwing infected food substances to them.

Our primate house quarters about 75 monkeys of many types and used to be the source of considerable trouble. For the past eighteen months, the diet has been changed from boiled white rice, fruit, vegetables and milk to dog biscuit, fruits and vegetables, raw meat three times a week and milk and eggs. With this change in food, the illnesses and deaths have decreased and on the whole the collection looks better. The most perplexing troubles with monkeys have been parasitisms and an encephalitis. The encephalitis has been of epidemic nature and virus-like in action. It occurs in young stock and is characterised by a sudden onset, with complete or partial blindness in some as the only symptom, while others show a loss of equilibrium and still others become completely comatose at the onset. Some of those that are blind remain that way for several days and then completely recover, while others never regain their sight. Those that recover are immune. The mortality is about 50 per cent. The etiology of this disease is unknown as yet.

Epidemics of common colds occur in the primate house from time to time but have never been serious or of long duration. These are similar to the colds of man and perhaps of the same etiology.

A number of years ago we had a gorilla that suffered an attack of infantile paralysis which was not diagnosed with certainty until her destruction last year. This attack resulted in paralysis and withering of her lower limbs that persisted throughout life. Despite the susceptibility of primates to poliomyelitis and the frequent epidemics in humans, this case in the gorilla is the only one we have ever had.

Tetanus is so common in monkeys that routine treatment of wounds in these animals includes injection of 1,500 units of human tetanus antitoxin. Anaphylactic reactions which sometimes occur in the human with the use of this product have not been seen in the primates.

A brief resume of the treatment of a case of tetanus in an elephant is as follows:

The patient, an eight year old female Indian elephant, was observed on May 2 to be unable to open her mouth. She was hypersensitive to noise and palpitation and became tense and raised the tail when touched or when a sudden loud noise was made. The temperature was 98.6°F. There were numerous small cracks on the feet around the nails and healing superficial wounds on the skin at the base of the ears. These wounds, the only visible breaks in the skin, were not deep, sensitive or of the type usually associated with tetanus infection.

After examination, 100,000 units of tetanus antitoxin were given subcutaneously, 50,000 on each side of the neck just behind the mandibles. The next day the animal was less sensitive to palpitation and noise and was able to open its mouth just enough to admit a one-inch stomach tube, through which it drank water slowly. Edema was present at the site of injection of the antitoxin.

On the third day, the animal was found broadside in tetanic spasms. Two ounces of chloral hydrate (seven per cent solution) were given per rectum after manual removal of the fecal material. The spasms were relieved in 20 minutes and the animal remained quiet for two hours. During this time, an additional 120,000 units of antitoxin were given and the patient was again examined for wounds to account for the infection. None were found. As the effect of the chloral wore off, mild spasms occurred and an additional four ounces of chloral hydrate were given as before. Slings were used to raise the animal to its feet and left on through the night.

On the fourth day, with the patient still in slings, 60,000 units of antitoxin were given subcutaneously in the region of the flank. Feeding was accomplished by slowly pumping a light bran mash into the mouth through a stomach tube.

The following day edema was present in the flanks and forelegs. The animal was unable to stand without the assistance of slings. Artificial feeding was continued and 80,000 more units of antitoxin were given. This made a total of 360,000 units in five days.

The animal was kept in slings and force fed for 29 days until June 4, at which time she had sufficient control of the jaws to masticate food. Weakness and loss of weight were pronounced throughout the illness. Once voluntary feeding became possible, gain in weight and strength was rapid and recovery complete. The seat of infection was never discovered. Possibility may have been in the gastro-intestinal tract since elephants are prone to eat large quantities of dirt and refuse from the ground.

Agglutination of Brucella antigens in low dilutions sometimes followed by abortions, has been seen in an occasional antelope but fortunately so far has not become epidemic in our collection. Actinobacillosis and actinomycosis or lumpy jaw is known in Zoo circles as "kangaroo disease" because of its prevalence in kangaroos. It also occurs not uncommonly in antelopes. It is worthy of note that in the past fourteen months we have not had a single case in our kangaroos. During this period, we have fed rolled rather than crushed oats and only the leafy parts of alfalfa hay. Whether the removal from the food of coarse particles such as oat awns and stems of hay accounts for the absence of the disease remains to be seen.

Dog distemper and fox encephalitis have occurred in our wild dogs, wolves and foxes. Infectious feline enteritis or panleucopenia has been seen in our small wild cats. During the past year, we experienced an epidemic of cat enteritis in our Small Mammal House where were quartered eleven small wild cats, such as ocelots, margays, fishing cats and jaguarondis. Four of the eleven succumbed. The seven that lived were adults and had been in the collection for some years and were undoubtedly immune at the time of the epidemic. Following this epidemic we had several deaths in raccoons. The coons died of a condition symptomatically and pathologically identical to the disease in cats. Previous to this epidemic we had occasional cases in various kinds of cats, the largest being a cheetah. I have never seen the disease in a lion but do not contend that this species is not susceptible.

Since May 17, 1941, we have vaccinated approximately thirty domestic kittens with a cat vaccine and have not had a single case of the disease. The vaccinated kittens were a heterogeneous group usually occurring in litters from many different communities. I think that it is reasonable to believe that in such a group of kittens cat enteritis is apt to occur. We have not seen it. As a result of this experience, our hospital procedure is to quarantine for two weeks, all incoming cats, domestic and wild, and give them two doses of vaccine seven days apart.

Vaccination of a wild cat is accompanied by no fewer teeth and claws than it is in a domestic cat. Our scheme and equipment is as follows: Bag the cat in a heavy canvas bag on an iron hoop with a long handle. Then, with a sudden but gentle swipe of the handle, throw the bag over the cat which usually makes for the dark, closed end of the bag. The bag is twisted or tied to prevent escape. Next, the open end of the bag is held over a metal box with a sliding glass top quickly closed. The top is then opened far enough to permit pouring ether onto cotton which has previously been placed in the box. Through the glass one can observe the stage of anaesthesia and remove and inject the animal at the proper time. This procedure works equally well on raccoons, dogs, foxes, rodents, monkeys or any animal that can be bagged. If one desires, nembutal can be administered intraperitoneally while the animal is anaesthetized with ether. The ether

anaesthesia wears off before the nembutal is absorbed from the peritoneum; consequently, no ill-effects from over anaesthesia result.

Psittacosis or "parrot fever" is rapidly drawing increased attention from the layman and public health officials. It cannot be denied that it is a disease of considerable importance and that veterinarians should be well-posted on the pertinent facts concerning this virus disease. It affects all parrots and parrots-like birds of the psittacine group which includes parakeets, love-birds, conures, lorikeets, etc. Finches or so-called "rice birds" are highly susceptible. Recently pigeons and chickens have been found to be carriers. In a group of wild pigeons tested, 50 per cent gave a positive complement fixation test. Man may contract the disease from the excrement or the expired air of infected birds. Fatal cases have occurred in humans from a single exposure in pet stores and pigeon lofts without even handling the birds. Man develops pneumonia as a result of infection. However, it is possible for humans to give a positive complement fixation test without clinical evidence of the disease. Birds may be carriers of the disease for long periods of time and only manifest evidence of it when their resistance is lowered by other diseases, chilling, overcrowding or egg production.

The small animal practitioners in this section are familiar with the fact that dirofilariasis is no longer a disease of the southern states. As proof of this I will review the zoo's experience with this disease. In 1939 we received a young fox that had been captured in the wild in the metropolitan area and shortly after came to autopsy and showed several adult filaria in the heart. In addition to this case, we have had several other infected foxes in our collection. As further presumptive evidence of local vectors of the parasite, I recovered at autopsy, filaria from a wire-haired fox terrier. This dog was born in the Bronx and had never been out of its own yard and had never seen any dogs other than its mother and litter mates.

The axiom, "The therapeutic hazard should not exceed the disease hazard," is particularly applicable to wild animals. The majority of animals can be treated with judicious handling, but there are cases where no safe means of restraint can be devised and more than one animal has been killed through rough or foolish handling. The nature and disposition of the patient must always be considered before attempting treatment. All of us who have treated animals have had the sad experience of having an animal die in our hands. This will happen as quickly with the largest and most ferocious animal as the smallest and most delicate. There are a few standard methods of restraint of wild animals just as there are for domestic animals, but in many cases one is dependent upon a combination of methods or must devise a system that will apply to the individual case. For the greater part, we rely upon ropes and crates for the larger animals and attempt to immobilize the most dangerous part of the animal, whether it be horns, or front or back feet.

Snakes are easily anesthetized by placing them in a refrigerator where they become inactive and harmless as the temperature goes down and return to activity as the temperature rises.

We have already mentioned the use of bags, snares and ether for smaller animals, especially carnivora. If they have not lost their appetites, almost all can be tricked into taking nembutal by placing it in their food. The usual procedure is to place capsules in small pieces of meat and give them singly. As the animal prepares to bite into the "loaded" piece, a second one is given. This usually causes his greed to get the better of him, whereupon he swallows the first and grabs the second piece. This is continued until all have been swallowed. In giving nembutal orally, one grain per five pounds of body weight is a safe dose. The result of overdosage is simply prolonged anaesthesia which is sometimes advantageous. In the case of surgery, a large dose is advisable because it prolongs anaesthesia and thereby permits healing before the animal is sufficiently awake to remove stitches by licking the wounds. We have kept patients under anaesthesia for five days at a time with a single oral dose of nembutal. The results in healing have been gratifying and have made dressings unnecessary. Bandages may retard healing and further more must be removed under anaesthesia. Obviously when anaesthesia is continued for such long periods, glucose and saline should be given and the patient frequently turned from side to side. A seven per cent solution of chloral hydrate either intravenously or orally has given best results in large animals.

No present day paper dealing with medical treatment would be complete without some mention of the sulfonamides. Although our experience has been limited in the number of cases treated with the various "sulfa" preparations, we favour sulfadiazine.

It is apparent from the previous discussion that, in general, the treatment of wild animals is patterned after that used in domestic animals. The wild animal is medicated as one would treat the domestic animal most closely related to the wild patient. In addition to those animals treated in a manner similar to domestic animals there are those that must be treated according to their physiological and anatomical structure and their food and living habits. It is reasonable to believe that disease processes will manifest themselves in a somewhat similar manner irrespective of the disease host. As an example, I might cite the experience we have had with kangaroos with a muscle dystrophy which was similar to the so-called "stiff lamb disease" of sheep and muscle dystrophy of guinea pigs. Experimental work with guinea pigs showed that it was caused by a vitamin E or alpha tocopherol deficiency. This proved to be the case with the kangaroos and they rapidly responded to alpha tocopherol treatment. Wild animals, such as deer and antelopes, are cared for like domestic cattle; zebras, like domestic horses and primates like humans. Consequently, the zoo veterinarian has a mixed, mixed practice, large and small animals and humans.

by uneasiness, muscular tremors, salivation and defaecation. Acapron, which was of German origin, is no longer available.

Efficacy:—The general conclusion is that pirevan is safe, easily administered and efficient in the treatment of piroplasmosis of horses and mules, particularly if administered in the early stages of the disease.

It is thought that, in comparison with acapron, pirevan is slower in action in that the reduction of temperature takes longer and the acute symptoms of the disease persist longer.

[We had occasion to treat four cases of piroplasmosis in horses, with pirevan. No toxic symptoms were seen in two horses and in the other two there was only sweating on the neck and flanks which passed off in two hours time. All were English horses. They all recovered with one injection.—Ed., I. V. J.]

A CASE OF DOUBLE CRYPTORCHIDISM TREATED SUCCESSFULLY BY ANTUITRIN "S" *

BY

S. H. ADAMS, M.R.C.V.S.,

AND

A. HECTOR, M.R.C.V.S.,

Ponthafren, Newtown, Montgomeryshire.

Subject:—A two-year-old Shire colt.

On November 9th, 1940, we were approached by the owner of the colt, who wished to have him castrated. On examination, however, it was found that neither testicle could be detected, either in the scrotum or in the canal. It was decided to try the effect of Antuitrin "S".

At the suggestion of the suppliers—Messrs. Parke, Davis & Co.—500 rat units, i.e. 1 c.c., were injected intravenously at weekly intervals for five weeks commencing on November 16th, 1940.

On completion of the series of injections no change could be detected in the condition of the colt. At the end of December the owner again reported no change. Towards the end of May, however, the owner reported that he thought the horse was now ready for castration, and on examination it was found that one testicle had descended well into the scrotum and was somewhat enlarged, while the other smaller one could be easily felt a little higher in the groin.

On June 9th, 1941, the horse was cast and chloroformed and both testicles were removed without difficulty. Recovery was uneventful.

* Veterinary Record, January 3rd, 1942.

SHOOTING AN ELEPHANT

Following the publication of the description of a bungling attempt at the humane destruction of an elephant in an American city last year,

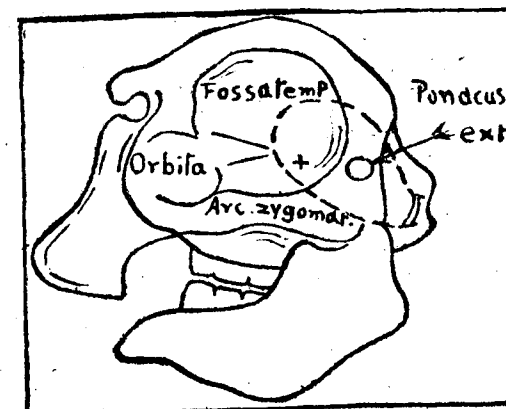


Fig. 1

Profile of an elephant's skull. The dotted outline shows the approximate position and dimension of the cranial vault.

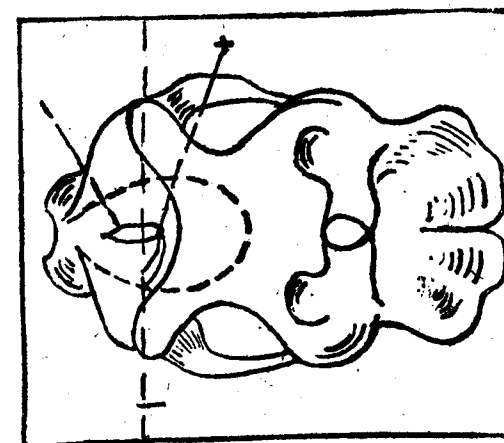


Fig. 2

The front view of the elephant's skull. The dotted line identified with a plus sign (+) indicates the direction that is to be taken by the bullet in shooting through the temporal fossa.

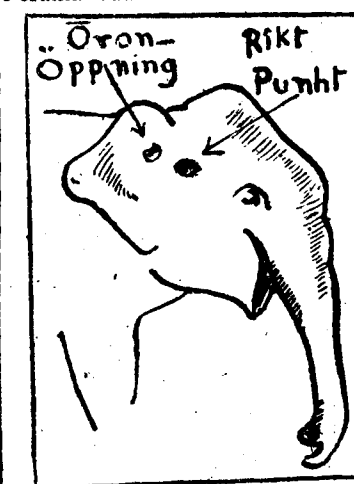


Fig. 3

Sketch of an elephant's head, showing the direction of the shot which caused instant death in the elephant in question. That line is indicated by the designation, "Rikt-punkt," in the illustration.

inquiries have been received regarding the proper manner to shoot one of these animals. A Swedish veterinarian, Professor A. V. Sahlstedt* has

* Sahlstedt, A. V.: Svensk Veterinartidskrift 46 (1941) 122-127. (Dr. C. A. Nelson, Brainerd, Minnesota, translator).



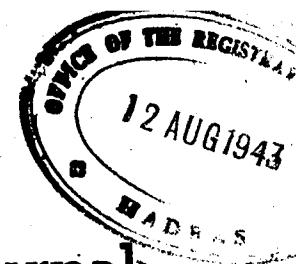
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Editorial

THE ROLE OF THE VETERINARIAN

"The Veterinary Profession should not allow itself to be confined to preventive medicine; unless one considered that preventive medicine began with the selection of the sire and dam who are going to produce the next generation. The place that the Veterinary Profession should take in livestock improvement was a very vexed one and often led to acrimonious discussion in mixed meetings. He had always explained to those people who criticised their attitude, that they did not claim any monopoly in this business. They required the help of a number of other sciences in the same way that when dealing with public health, engineering etc., it was necessary to have the help of members of other professions. In the subject of livestock production and animal health they required the help of geneticists, bio-chemists, pure scientists who devoted their time to subjects like Helminthology, Entomology, etc. He felt very strongly that Veterinary Graduates must have the ability and training to be able to take a comprehensive view of livestock improvement. To get a 'punch' into this question of livestock improvement, they must have that 'centrally directed drive' and he could not see anybody who was going to be able to give that drive except a Veterinary Graduate."

In these words, Mr. F. Ware, the Animal Husbandry Commissioner with the Government of India, outlined the role of the Veterinarian in relation to Animal Husbandry work. It is not often that the equipment, functions and duties of a Veterinary

described the manner in which euthanasia was effected in the case of an elephant at the Zoological gardens at Stockholm, Sweden.

Sahlstedt points out that the large skull of the elephant provides only a small cranial vault, which is located far back of the frontal plane. To reach the brain with a bullet, it should be directed through the temporal fossa. The coronoid process of the mandible is short in the elephant and it does not reach above the zygomatic arch. Sahlstedt states that a shot should be directed at a point approximately a hand's breadth in front of and somewhat below the external auditory aperture—directed on a horizontal plane and somewhat obliquely backward. A bullet so directed will strike the middle of the brain.

Another method which may be employed is to direct the shot back of the ear. The accompanying illustrations give further information on the subject.

"N. A. V.," April, 1942

A REPORT ON THE FAILURE OF ACAPRIN TO CURE BABESIA BIGEMINA INFECTION IN BOVINES*

BY

H. P. STEYN,
Onderstepoort.

For years it has been fairly generally accepted here that *B. bigemina* (*Piroplasma bigeminum*, Smith and Kilborne, 1893) infection can be cured by a single injection of acaprin and although there have been a number of field reports to the contrary, no definite proof of the failure of acaprin has been presented. The observations here recorded are not based upon a planned experiment, but it is considered that they were sufficiently well controlled to warrant the conclusion that acaprin may, at times, not be a reliable treatment for *B. bigemina* infection.

The cows upon which this report is based were the property of a small dairy at Pretoria North. They had been recently purchased from a part of the Orange Free State where piroplasmosis is unknown. After arrival at the dairy they were kept in a small tick-free paddock and most of them inoculated with the Onderstepoort redwater and gallsickness vaccine. About 14-21 days after inoculation they were allowed out on the veld to graze. They then became very heavily tick infested and one animal died of heartwater. After this death the whole herd was confined to the original small paddock. It was during this exposure to tick infestation that the first relapses occurred. One animal became infected and reacted during the period of exposure.

*Journal of S. A. V. M. A., Vol. XIII No. 4.

CASE 1: Breed, Friesland; age, about 5 years; weight, about 1,000 lbs.; condition, fair.

22-4-42. Inoculated with *B. bigemina* and *Anaplasma centrale* blood.

30-4-42. Reacted to *B. bigemina* and 6 cc. acaprin injected. Smear. positive for *B. bigemina*.

2-5-42. 6 cc. acaprin injected. There was marked improvement and apparent recovery. On about 18-5-42 there was a rise in temperature and general illness and although a smear was not examined a relapse of redwater was diagnosed and 6 c.c. of acaprin injected.

6-6-42. Animal again obviously ill, off feed and milk yield dropped markedly. Smears were found positive for *B. bigemina* and 20 cc. gonacrin injected intravenously.

16-6-42. Animal reported to be seriously ill and very weak. 20 c. c. gonacrin again injected intravenously. *B. bigemina* very frequent in smear, marked anaemic changes in blood.

17-6-43. 100 cc. piroblue injected intravenously and blood transfusion given. Animal died some hours later.

Smears taken on the 16th were controlled by Mr. Neitz and the diagnosis confirmed.

CASE 2: Breed, Grade Friesland; age, 8 years; weight, 800 lbs.; condition, poor.

22-4-42. Inoculated with blood from same bottle as case 1.

8-5-42. Reacted to *B. bigemina* and given 6 c.c. acaprin.

23-5-42. Relapse to redwater. Treatment with acaprin repeated.

24-5-42. 6 cc. acaprin administered.

1-6-42. Temperature 104°F., obviously ill and off feed, weak and anaemic. 6 cc. acaprin injected.

22-6-42. *B. bigemina* seen in smear. Anaemia marked and animal still sick. 1 gm. piroblue in 100 c.c. saline administered intravenously. Improvement now set in, but was slow and 5 grains of arsenious oxide per day was prescribed. Steady improvement and recovery followed.

CASE 3: Breed, Grade Friesland; age 2½ years; weight 700 lbs.; condition poor.

22-4-42. Inoculated with redwater and gallsickness vaccine.

24-5-42. Animal reported sick and *B. bigemina* infection diagnosed. 6 cc. acaprin injected.

25-5-42. Acaprin treatment repeated.

1-6-42. Evening temperature 106°F., marked anaemia. 20 cc. gonacrin administered intravenously.

13-6-42. Unthrifty, anaemic, in very poor condition and off feed. Gonacrin treatment repeated. Thereafter there was slow but steady improvement. Occasional smears taken were negative.

CASE 4. Breed, Grade, Jersey; age 3 years; weight 800 lbs; condition, good.

13-6-42. Animal reported sick and *B. bigemina* seen in smears. 20 cc. gonacrin injected intravenously.

29-6-42. Very anaemic, poor in condition, off feed and obviously ill. Numerous *B. bigemina* and a fair number of *Spirochaeta theileri* were seen in smears, the diagnosis being confirmed by Mr. Neitz. Marked anaemic changes in blood. Piroblue 1 gm. injected intravenously. Improvement was slow and unsatisfactory and after four or five days 5 grains arsenious oxide were given daily per os for a week. This was followed by slow but steady recovery.

In each of the four cases recorded the initial treatment was followed by improvement in the general condition and appetite but in no case was recovery complete. After a period of improvement there was a gradual loss of appetite and slow weakening. Although temperatures were not regularly recorded they were not usually very high after the initial attack, reaching from 103° F. to 104° F. and often being much lower. The condition can best be described as chronic piroplasmosis.

There can be no doubt that acaprin has given fairly good results in the treatment of *B. bigemina* for many years, but the author had an experience similar to that recorded here in an imported Shorthorn bull in the Vryburg area during 1937. This bull, however, did not become seriously ill as the cows reported upon here and recovered after the treatment with acaprin had been repeated following a relapse.

It is apparent from the results obtained in these cases that acaprin failed to bring about permanent recovery in three cases and that gonacrin similarly failed in one case. Piroblue, however, brought about recovery in three of the relapsed cases. The use of arsenic in some of these cases appears to have been beneficial. In Case 1 in which piroblue failed the animal was in extremis when treated and died in spite of a small blood transfusion given at the time of treatment.

The question now is, why should acaprin have failed so dismally when up to the present it has given fairly good results? There are certain factors which may have predisposed to these severe relapses, viz., that these were all highly susceptible lactating cows which had been exposed to exceptionally severe tick infestation. These factors may be extremely important in that

the author has found that lactating cows may suffer from some degree of anaemia (work to be published) as a direct result of lactation when the nutritional state is poor. Severe tick infestation of an animal which is already bordering on a state of anaemia must adversely affect such an animal's resistance of blood parasites such as *B. bigemina* and these factors probably played an important part in causing the persistent relapses here recorded.

The piroblue used was manufactured by Sandoz Chemical Works, Switzerland, and although it cannot definitely be stated whether it was T 18 or T 19 it is reported to be the same product as that with which Theiler (1930) worked and which was subsequently sold as piroblue.

Reference

Theiler, A. (1930). *Bull. Soc. Path. Exot.* XXIII, (5); 506-529

STERILITY DUE TO IMPERFORATE OS. UTERUS IN BOVINES

BY

K. S. PATNAIK, G.M.V.C.,

Veterinary Assistant Surgeon, Amalapuram, Madras

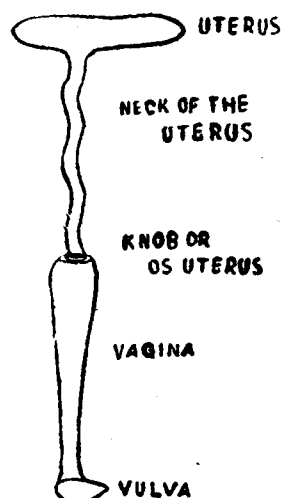
Subject :—A local bred cow of good size, aged about 8 years, in good condition.

History :—As reported by the owner the animal often came to heat and met the bull every now and then. The seminal fluid was evicted immediately as the animal kept on straining after covering. As a result of this, conception did not take place and the cow put on fat day by day. The owner tried oral administration of various kinds of herbs and roots but not with any success. All of them were in vain. He finally put her to yoke in order to reduce the quantity of fat in her body and left her as useless for breeding purpose.

Diagnosis :—On 15-1-1940 the cow was brought to the hospital for treatment. On examination I could introduce my hand into the vagina only with difficulty. The cervix was found to be imperforated with a small depression in the centre. An operation to perforate the Imperforate Os was suggested and carried out as follows :—

On 17-1-1940 the cow was cast and secured. With antiseptic precautions a long trocar and cannula was passed into the genital passage and the Os uterus perforated at the depression mentioned above, taking proper care to avoid injury to the other delicate pelvic organs. A rubber tube was then attached to the cannula and with a glass funnel at the other end, the uterus was irrigated through the perforated cervix with 60 cc. of 1% solution of Acriflavin. On 26-1-40 the perforation was probed to avoid constriction and

union and one ounce of Sodii Bicarbonate wrapped in a piece of lint, was placed in the vagina as the discharge was slightly acid in smell. The lint fell out of its own accord on the following day. Two months after this, the cow was allowed to meet the bull (earlier would have been better) successfully. Ever since that time she never had the desire to meet the bull again as she had before. Then symptoms of conception gradually appeared and the cow delivered a good healthy bull calf on 10-12-40.



Subsequent to this 12 cows and one she-buffalo were brought for sterility and I found every one of them with imperforate *Os* uterus. All the animals were grown up animals fit to be mothers of two or three calves, except one cow which gave birth to two calves and became sterile. The same operation and treatment was adopted in all the cases on different occasions on 17-10-40, 4-11-40, 9-11-40, 25-12-40, 4-1-41, 21-1-41, 12-4-41, 28-4-41, 22-5-41, 25-5-41, 6-9-41, 10-10-41 and 10-11-41. On the whole 13 cows and one she-buffalo, were operated in this place for imperforate *Os* uterus. Out of these 5 cows have since calved while the calving of one

cow is awaited. Eight cows did not conceive at all as the owners were not much interested in their animals and did not bring it a second time for treatment; nor did they send the cow to the bull in time for conceiving. Constriction and union must have taken place in those cases that did not conceive. Probing should be done to keep the way open until the cow is sent to the bull. Otherwise, stricture and occlusion may take place and again interfere with fecundation.

All the cases of sterility I noticed in this place during the year 1940-41 were similar in nature, except one. Hence I am led to believe that imperforate *Os* uterus is one of the common causes of sterility in bovines in this part of the presidency.

Ed. note. This interesting article about a rare condition was returned back to the author with the remark that the *Os* uterus of the cow is a tortuous, rigid, long passage, difficult of exploration except during the periods of heat and parturition and that the puncture of this long passage by a long trocar and cannula, would only lead to the formation of a hard fibrous cicatricial tissue which will only aggravate the existing condition. He was also requested to state whether these cases were those of the so-called White-Heifer disease which is only another term for Imperforate hymen. His reply is as follows:—

Sir, "Imperforate *Os* uterus may be a rare condition, but the occurrence of such a condition goes to say that the existence of the defect was unnoticed before. It may be a deformity of some animals inherited either from the sire or the dam, like cases of Imperforate anus. The matter requires a thorough investigation and research. I have published only the clinical cases that came to my notice in the course of my work.

The imperforation is only at the knob of the *Os* uterus but not throughout the whole canal. After puncturing the knob about $\frac{1}{4}$ inch in thickness, the probe can easily be passed into the natural tubular canal leading to the uterus. The obstruction is only at the entrance from the vagina to the uterus. The tortuous condition of the canal can be straightened by pulling the knob which can be explored having a grip with one hand. The trocar and cannula can be manipulated with the other hand from outside.

The enclosed diagram may give you the idea of the place where there is imperforation.

I leave it to you to decide whether such a deformity can be called White-Heifer's disease."

Association News

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THE ALL-INDIA VETERINARY ASSOCIATION, MADRAS BRANCH

Mr. F. Ware, Animal Husbandry Commissioner with the Government of India, was entertained at a tea party on 29-1-43 at the Madras Veterinary College under the auspices of the Madras Branch of the All-India Veterinary Association. More than 50 members of the Veterinary profession attended.

Welcoming the guest of honour Rao Sahib K. Kailasam Ayyar, Retired Principal of the Madras Veterinary College, and President of the Association, said that he (Mr. Ware) was not a stranger in their midst and was too well known to them to need any introduction. He was grateful to him for having so readily accepted their invitation to spend some time with them that evening and to give them the benefit of a talk on Veterinary and livestock problems in India. This subject was of supreme importance now not only to the members of the veterinary profession but to the whole fabric of the economic and physical well-being of the teeming millions of India. He felt it incumbent on him on that occasion to pay a tribute to Mr. Ware's splendid achievements during his stay in this province as the

Head of the Veterinary Department. For a period of over 18 years from 1911 he laboured hard to build up a veterinary service against tremendous odds. It was no exaggeration to say that if this Province today could boast of a well-established veterinary service to cope with the diseases of livestock it was, in no small measure, due to the brilliant efforts of Mr. Ware in the earlier years. Now that he had a wider sphere of activity they could look up to him with confidence, to initiate many beneficent reforms for the betterment of the veterinary profession and of livestock in India. He then requested Mr. Ware to address the gathering.

After thanking the Association for having given him an opportunity to be in their midst that evening, Mr. Ware recalled some of his reminiscences during his service in this Province. During some of his recent tours he was disappointed to find that the people responsible for veterinary service in some places were not conscious of their importance. He observed that with such an outlook it was not possible to build up a useful veterinary service. He recalled the first tour he did in Madras as the Head of the Veterinary Department—that was in connection with the selection of a suitable site for the Veterinary Hospital, Erode—and he and Rao Sahib Kailasam Ayyar met then for the first time. They insisted on seeing the correct people and tried to show the people that they meant business. If he and the Rao Sahib had felt then that they were “a big zero” they would not have achieved the success for the veterinary department, which they found in Madras today.

The Veterinary Department and the veterinary profession should make itself useful to the public. Mr. Ware recalled his attending a Conference in London in 1927. It was an Empire Conference convened for discussing the development of agricultural and veterinary research. Sir Arnold Theiler, the famous Veterinary Bacteriologist from South Africa was present at the Conference. He said that when any subject connected with animals was being discussed or any investigation relating to animals was being undertaken the Veterinary profession should have a hand in it.

In order that the Veterinary Department and the Veterinary profession should be useful to the public it is essential that every individual in the profession should be efficient. The veterinary department has many things to contend with as compared with some of the other departments. When it comes to a question of a human being in trouble, sentiment comes in and every effort is made to save the person's life. That is not always so in the case of an animal. When it is a question of production we compare our work with the work of the crop specialist. He could produce a new crop in 2 or 3 months and could judge the result, but we cannot produce a new animal and see what its value is under about 3 years. For these reasons it is absolutely essential that there should be no

slackers in the department. If a man was making his living in private practice that was his own lookout. But in this country most of the members of the veterinary profession are in Government Service. If a Veterinary Assistant Surgeon sits in a hospital and waits until cases come to him he is not doing his job well. If the Lecturers in a Veterinary College say that they do not find time for research they are not doing their job properly. The Circle Officers should not plead ignorance when they are asked something about the movements of cattle in their jurisdiction. If they were going to impress themselves on the public a man must know everything about his job.

What was required of a Veterinary graduate now, was that he must be, above all things, a good physiologist. He had been emphasizing the very great importance of that subject to the profession, for some years past. Animal production and livestock improvement were going to be the important subjects of the future and they had to attack them from several angles. The veterinary profession should not allow itself to be confined to preventive medicine, unless one considered that preventive medicine began with the selection of the sire and dam who are going to produce the next generation. The place that the veterinary profession should take in livestock improvement was a very vexed one and often led to acrimonious discussion in mixed meetings. He had always explained to those people who criticised their attitude, that they did not claim any monopoly in this business. They required the help of a number of other sciences in the same way that when dealing with public health, engineering etc., it was necessary to have the help of members of other professions. In the subject of livestock production and animal health they required the help of geneticists, bio-chemists, pure scientists who devoted their time to subjects like Helminthology, Entomology etc. He felt very strongly that veterinary graduates must have the ability and training to be able to take a comprehensive view of livestock improvement. To get a ‘punch’ into this question of livestock improvement, they must have that ‘centrally directed drive’ and he could not see anybody who was going to be able to give that drive except a veterinary graduate.

A slight re-orientation in the system of veterinary training was called for. At this juncture a very great responsibility rested with those who were charged with the duty of designing the veterinary curriculum and at the same time with the teachers in the Veterinary Colleges. Mr. Ware emphasised once more the great importance which he attached to the subject of animal physiology. Some of the other subjects had to suffer if they were going to devote more time to physiology, which should include a large amount of practical work, particularly in the subjects of circulation, digestion, lactation and reproduction. He congratulated the Principal of the Madras Veterinary College and the Director of Veterinary Services,

Madras, on the improvements that had been introduced in the College. He was particularly delighted to hear that the new degree course students were spending 3 months at the Hosur Cattle Farm. He felt sure that they would benefit much by their stay there. The series of lectures in Agricultural economics included in their course at the Hosur Cattle Farm should make them very complete veterinary graduates when they finish their course.

Mr. Ware wished the Association and the Department the best of luck in the future. The future for the Madras Veterinary Department was very bright. He considered that the department was now organised on correct lines. It had been given the work now for which it was intended. The training of students had been brought up to the highest pitch. In certain other Provinces and States which he visited he found that their activities were confined to the control of contagious diseases and if they continued in that line they would wipe themselves out of existence when they had brought the diseases under control. On the other hand in a department which was charged with the duty of increasing animal production one could see no end to what they might be able to do. He looked forward to the time when animals would be produced so resistant to disease that no biological products would be required for their protection. With the help of artificial insemination they would be able to produce large numbers of the type of progeny they required. They might even look forward eventually to be able to decide for the dam whether she would have a female progeny or a male.

Rao Sahib Kailasam Ayyar thanked Mr. Ware for his interesting and instructive address.

THE BOMBAY VETERINARY MEDICAL ASSOCIATION

Proceedings of the Annual General Meeting of the Bombay Veterinary Medical Association held on 30th and 31st December 1942 at the Bombay Veterinary College, Parel.

There were present:—Mr. E. S. Farbrother, Khan Sahib N. D. Dhakmarwala, and Messrs. M. Moheydeen, D. S. Laud, Miranda, R. P. Vedak, J. P. Damri, P. V. Akula, K. R. S. Aiyer, D. V. Khole, B. M. Phatarphod, Abhyankar, R. C. Nathani, H. H. Uttanwala, P. B. Cardmaster, N. S. Naik, H. P. Hunchalikar, Khambatta F. S. Laxmashwar, G. T. Shah, P. C. Bapat, T. G. Desai, Sane, S. P. Deshpande, Nabar, Vaidya, Tamhane, Behere, K. R. Alur, S. J. Khambetter, Gadag, Raichur, A. E. Kulkarni, Jadgowda, R. M. Kalapeshi, S. R. Malandkar, Perrin, D. H. Welankar, A. H. Khan, R. N. Naik, M. L. Narayan, Unnerkar, Aiyangar, Revankar, and the students of the Bombay Veterinary College. Dr. and Mrs. Batliwala, Mr. B. G. Parelkar, Dr. Desai, Mr. Chadda, Mr. Trivedi and Mr. Hector Perera from Ceylon attended the Meeting.

Mr. H. F. Knight, C.S.I., C.I.E., I.C.S., J.P., Adviser to the Government of Bombay, arrived at the Bombay Veterinary College at 4-25 p.m. for opening the Conference and was received by Khan Sahib N. D. Dhakmarwala, Mr. E. S. Farbrother, Mr. M. Moheydeen and Mr. R. N. Naik. He was led to the dais and the proceedings began by the welcome speech of Mr. M. Moheydeen. Mr. M. Moheydeen welcomed the guests and the members of the Association in suitable words, (Appendix A).

Then Khan Sahib N. D. Dhakmarwala read his address and the Annual Report of the Association, (Appendix B).

Mr. H. F. Knight, C.S.I., C.I.E., I.C.S., J.P., rising amidst cheers, addressed the Conference and declared it open, (Appendix C).

A vote of thanks to Mr. H. F. Knight and the guests was proposed by Mr. R. N. Naik, (Appendix D).

A Demonstration on A.R.P. for Animals was staged by Mr. K. R. Alur in the presence of Mr. H. F. Knight and the guests.

Mr. H. F. Knight, the guests and the members were entertained to light refreshments, during the course of which all the Veterinary Graduates were introduced to Mr. H. F. Knight by Khan Sahib Dhakmarwala as desired by him. The day's function was thereon terminated.

The Conference resumed its sittings at 11-30 a.m. on 31-12-42 under the Presidentship of Mr. M. Moheydeen, Principal, Bombay Veterinary College.

The following papers were read and discussed:—

1. 'Romance of the wild' by Mr. F. S. Khambatta, B. Ag. (Animal Husbandry) G.B.V.C. (Gold Medalist), Inspector, Municipal Markets, Bombay.
2. 'Vegetables and Fruits—their marketing and inspection by the Market Staff with their Seasonal and geographical distribution' by Mr. D. S. Laud, G.B.V.C., F.Z.S., Superintendent, Municipal Markets, Bombay.

The Conference was adjourned to 3 p.m. and retired for a common lunch, which was attended by Mr. E. S. Farbrother at a special invitation.

At 3 p.m. the following two papers were read:—

3. 'Rupture of Abomasum or 4th stomach in a Cow' by Mr. A. H. Khan G.B.V.C., P.G. (Edin), Assistant Professor, Anatomy, B.V.C.
4. 'War Survey' by Mr. K. R. Alur, G.B.V.C., P.G. (Mukt), Lecturer, Bombay Veterinary College.

The following resolution was passed:—

"Resolved that the entrance Fee of the Association be Rs. 3 and the Annual Subscription be Rs. 2."

Mr. M. Moheydeen vacated the Chair at 5 p.m., as he had some urgent work, and suggested that the Conference be adjourned to the next morning, but Mr. S. B. Hunchalikar said that the programme was to last upto 6 p.m., and suggested that the meeting be proceeded with. This suggestion was put to vote and was carried. M. Khan Sahib Dhakmarwala was voted to the Chair and the following business was transacted :—

The resignation of Mr. T. R. Khaladkar of the post of the Hon. Treasurer of the Association was submitted to the Chair and was accepted with the following resolution :—

"Resolved that Mr. T. R. Khaladkar be informed that the Association has accepted the resignation with deep regret and that his name be kept on record in appreciation of the valuable services rendered by him as an Honorary Treasurer."

The following resolutions were then passed :—

1. This meeting of the Bombay Veterinary Medical Association prays to the Almighty for the speedy and successful end of the War in favour of Allies.

2. The Government may be requested to compel the importers of the milch cattle in the City of Bombay to get their animals inoculated against Rinderpest for which a nominal fee be charged to cover the expenses.

3. The Government be requested to expand the Civil Veterinary Department, Bombay Province, according to the recommendations of the Royal Commission on Agriculture, 1928, as the work in the Department has been greatly increased.

4. The Government be requested to reconsider the suggestion already made to introduce a senior grade for the benefit of the senior Veterinary Assistant Surgeons who may not be eligible for Provincial posts.

5. The Government be approached and requested to amalgamate the Veterinary and Livestock Departments as has been done in other Provinces as Animal Husbandry work could be carried out more efficiently and economically under one head and which would create a good field for Veterinary Profession.

6. The Government be requested to increase the starting pay of the Veterinary Assistant Surgeons to Rs. 80 as the standard of admission of students to the Bombay Veterinary College has been raised.

7. The Bombay Municipality be requested to increase the Veterinary Staff at Markets and Slaughter houses as there is considerable increase in the professional work.

8. The Government be approached and requested to restart the Post-graduate Course at the Bombay Veterinary College and to ask the Director

of Veterinary Services, Bombay Province, to depute a limited number of Veterinary Assistant Surgeons to undergo this course every year.

9. The Government be requested to appoint a Veterinary Statistician for the collection of statistics and for publishing from time to time reports on control of epizootics, progress, effected on Animal Husbandry work and on other general welfare of the livestock wealth of the Province for the information of the public.

10. The Bombay Municipality and Trustees of various benevolent bodies, such as Pinjrapoles and Humanitarian Leagues, be requested to award some scholarships to poor and deserving students of the Bombay Veterinary College and thus encourage the study of the Veterinary Science.

11. The President be requested to address a letter to the President and Committee Members of the S. P. C. A. to consider sympathetically the lot of their Veterinary Staff and to devise a scheme of Provident Fund or a Pension Fund for their benefit.

12. Resolved that the Audited statements of the Accounts ending 1941 be passed.

13. Resolved that Mr. M. Moheydeen, Principal, Bombay Veterinary College, be thanked for allowing the use of the Old College Hall for holding the Annual Session of the Association and for affording every facility to make the Session a success.

14. Resolved that the Association was very much thankful to Mr. M. Moheydeen, as he consented to preside over its Annual deliberation. The President be requested to forward a letter of thanks to him.

15. Resolved that the staff and the students of B. V. C. be thanked for the assistance given by them in making the Session a success.

16. The following Office-Bearers were elected for the next year :—

Khan Sahib N. D. Dhakmarwala, *President*.

Mr. P. G. Date and Mr. P. C. Bapat—*Joint Hon. Secretaries*.

Mr. E. R. Kulkarni—*Hon. Treasurer*.

Messrs. S.B. Hunchalikar, D.B. Khole, R.N. Naik, P.B. Cardmaster and K.R. Alur—*Members of the Managing Committee*.

Messrs. V. N. Kulkarni and K.R.S. Aiyer—*Hon. Auditors*.

17. Resolved that Government be requested that students who are trained under the new curriculum introduced recently in the B. V. College with Inter-science qualifications for admission be awarded with Diplomas worded as "Graduates of Veterinary Science."

18. It has been observed that at the I. V. R. I., Mukteswar, there were no officers recruited from the Province of Bombay although it is a

Central Institution for whole of India and should have representatives from all provinces in order to afford equal chances for Veterinary Graduates of this Province to work in Research line, which is the urgent need of the day and to develop a tendency for study and spirit of healthy competition. Hence it is resolved that the Director of the I. V. R. I., Mukteswar, be requested to recruit Veterinary Graduates from this Province.

19. It is observed that measures for the protection of animals are not uniform in all the Provinces in India and in some of them there are no organisations set up for this work. In the interest of the animals which are a part of the National War Front, uniform measures should be undertaken and an advisory board be constituted to carry out this work. Hence it is resolved that A. R. P. for Animals should be included as one of the articles of Civil Defence.

20. Resolved that the Government be approached to give House Rent allowance to reserve Veterinary Assistant Surgeons.

With a vote of thanks to the retiring Members of the Managing Committee and Khan Sahib Dhakmarwala the proceedings terminated.

(APPENDIX A)

WELCOME ADDRESS

By

Mr. M. MOHEY DEEN, M.B.C.V.S., J.P.,
Principal, Bombay Veterinary College.

Mr. KNIGHT, LADIES AND GENTLEMEN,

I have great pleasure of according a cordial welcome to you all here to-day and specially to our chief guest Mr. H. F. Knight, G.C.I., C.I.E., I.C.S., J.P. As all of us know, Mr. Knight is the Adviser to His Excellency the Governor of Bombay in Agriculture, Veterinary, Rural Development and Co-operative Societies in the Province. I consider that our conference is very fortunate in having Mr. Knight to open as he is the fittest person to do so. We are very glad to see that Mr. Knight takes a keen interest in Veterinary matters and is rightly guiding veterinary activities of this Province. It will not be an exaggeration to say that Mr. Knight is well known for the unexhaustible energy with which he is working for the minute power of observation and for the firmness which he is supporting the constructing plans of the Government.

This College is not new to Mr. Knight. This is the second time that he is paying visit to this Institution. Most of the Members of the Veterinary

Medical Association belong to the staff of the Civil Veterinary Department and as there is a heavy epizootic duty in the Province, many of them could not attend this Conference and due to this the attendance is small. However, the Members who have gathered here will have a busy time for a couple of days in discussing professional papers, exchanging ideas, renewing friendship, and passing resolutions which will ultimately reach Mr. Knight for his consideration.

We feel extremely glad in extending a warm welcome to Mr. Knight and other guests present here.

(APPENDIX B)

PRESIDENTIAL ADDRESS

By

Khan Saheb N. D. DHAKMARWALA, G.B.V.C.

Mr. KNIGHT AND GENTLEMEN,

As the President of the Bombay Veterinary Medical Association it gives me great pleasure to welcome you and offer my grateful thanks for your attendance here this evening, especially I have to thank Mr. H. F. Knight for the honour he has done to our Association by kindly accepting our invitation to open the proceedings of the Annual General Meeting today. I need hardly say that we appreciate it very much since amongst his multifarious and onerous duties he has been able to find time to come here. Mr. Knight needs no introduction since he is one of the oldest members of the distinguished Indian Civil Service and after serving for nearly 28 years in different responsible posts, is now holding the important post of Adviser to His Excellency the Governor of Bombay for the last 3 years and as such he has found far greater scope for his energies, being reputed as a very hard worker. We, therefore, congratulate ourselves for having him amongst us and his presence here is a proof of his great sympathy towards the veterinary profession.

Before reading the Annual Report of the Association I wish to mention some of its salient points for the information of Mr. Knight.

As far as veterinary associations are concerned, I am proud to say that Bombay claims to have taken a lead in the matter because the first Association of its kind was started in 1890 by the late lamented Prof. J. H. Steel, the first Principal of the College. It is an Association of graduates of the Bombay Veterinary College serving under Government, or otherwise. A majority of the members is employed in the civil Veterinary Department of the Presidency proper and others are in the employment of

local bodies and allied societies or as private practitioners. The last class of people is fast disappearing on account of the increase in mechanical transport and consequent gradual extinction of the paying patients, especially horses. Our graduates, therefore, have no other field open to them except service, municipal or private, which consists of Pinjrapoles, Gowshalas and Societies for Prevention of Cruelty to Animals. Our membership is also decreasing every year since a separate subordinate service association of Graduates employed under the civil veterinary department is lately created and others are in Sind and the Baroda State.

The aims and objects of our Association are:—(a) To promote the study of professional subjects and diffuse the knowledge thus acquired, (b) to consider the question of common interest affecting the veterinary profession as a whole. (c) To raise the social status of the members and (d) to create a feeling of unity and brotherhood.

Besides these, there are many advantages and usefulness of holding Annual General Meetings. First of all we have to do so in accordance with the rules and regulations of the Association so that the annual report of the accounts may be passed and business transacted by the Managing Committee may be recorded. Not only this but the meeting serves a useful purpose in bringing professional brothers together in stimulating interest in discussions on professional subjects and difficulties and also meeting new members and old friends. We are all bound together in the common cause of promoting the interest of our profession by co-operation and in this Association we have an organization which stands to uphold in every way the dignity and honour of our profession and to promote a sense of *esprit de corps* amongst all members.

With these few introductory remarks I now come to the proper business of to-day's Annual Meeting.

Last year you were pleased to elect me again as the President which means that I have the honour of holding this office for the last 25 years. I wish to thank you heartily for the honour which I appreciate very much. I need hardly say that I shall continue to do my best to perform its duties with the usual support of the members of the Managing Committee.

At the time of the last Annual Meeting held at Dharwar in December 1940 it was resolved to hold the next meeting at Surat either in December 1941 or April 1942. But owing to certain difficulties in travelling facilities etc. we have been obliged to postpone it until this day; therefore the report before you is for the year ending 31st December 1941. I am sorry for this delay which has been unavoidable.

In placing before you the Annual Report of 1941 it gives me great pleasure to state that our Managing Committee held two meetings and the following resolutions were discussed and passed:—

(1) A letter to the President, S. P. C. A., requesting him to place the services of Graduates serving under him on the same footing as those of the Bombay Municipality.

(2) Government were requested to consider the resolution passed about granting Sunday as a holiday to A. V. S. in the C. V. D. Also with regard to the appointment of College Officers as Examiners and their allowances etc., but Government replied that they cannot grant this request.

(3) The different States were requested to open adequate number of Veterinary Dispensaries to protect their livestock.

(4) A representation was made to the Army authorities with regard to the pay, rank, etc., of Assistant Veterinary Surgeons required for war, comparing them with those of the Assistant Medical Surgeons and the matter was settled satisfactorily.

(5) Government were approached again to affiliate the college with the University since the entrance test is now raised to the Inter-Science 'B' group. It is satisfactory to note that a committee is appointed who is drawing up a syllabus for the B.V.Sc. degree of the University.

Our membership is now 83 as against 92 of the last year. As regards the financial condition of the Association it may be stated that the balance is Rs. 1,603-3-1 as against Rs. 1,593 of the last year, the income being Rs. 254-2-0 and the expenditure being Rs. 244-2-0.

During the year our profession had to record the loss of Mr. G. D. Bhagwat, of Nandurbar and Mr. E. Bruen, O.B.E., I.A.S., Livestock Expert to the Government of Bombay, who died on December 7th. He joined the Indian Agricultural Services in 1919 and his tireless work as head of livestock section in Bombay was universally acknowledged and appreciated. In all matters connected with the development and improvement of animal husbandry he was a recognised authority and an enthusiastic and selfless worker.

Also of Mr. M. R. V. Panikar, B.Sc. (Edin.), M.R.C.V.S., Principal, Madras Veterinary College. He was the first from Madras to have taken European Veterinary qualification. After serving in different capacities in the Madras Presidency since 1924 he was appointed Principal three years ago. He also acted as the Director of Veterinary Services of Madras. He played a conspicuous part in the institution of the University Degree of B.V.Sc., in the Madras Veterinary College.

* We offer our heartfelt condolences to all their bereaved families.

Before asking you to pass the accounts and adopt the Annual Report as it is customary for the President to introduce the proceedings with some remarks about professional matters, it is with great pleasure that I do so as briefly as possible:—

Milk in India.—In my Presidential addresses for the last many years I have urged the necessity and importance of pure milk in towns and cities. I do so again and say that on the whole milk in India is still produced under insanitary conditions, is freely adulterated and faultily distributed through petty and ignorant dealers. In fact the milk problem in India is an extremely serious one and should receive great attention of the authorities concerned. Very timely, therefore, is the report of the Agricultural Marketing Adviser for the Government of India. His conclusion is that in view of the peculiar conditions prevailing in India, the distribution of milk in a City or town could be most effectively done if it were entrusted exclusively to one properly constituted milk marketing organization. In other words, the monopoly of milk distribution should be given to one body. The report envisages the necessity for special legislation to empower Provincial Governments and through them Municipal authorities, to put such a scheme in operation. It estimates the capital required for buildings, plants, and equipment to collect, and distribute 1000 maunds of milk per day at Rs. 4,50,000. At the present rate of consumption, a city consuming 1,000 maunds of milk a day would be one having a population of 2,00,000.

This means that by investing less than Rs. 3/- per person, the milk supply of a city could be organised on a proper basis. Estimates of profit and loss show that the capital invested could be recovered within a decade. As capitalists may not respond sufficiently to such a venture, the scheme should be tried as an experiment in Bombay, Calcutta, Madras etc. The capital required to operate the scheme at these experimental centres might be found by either the Local Government or the Municipality or by both. When a number of such urban milk schemes have come into existence in a Province, a Provincial Daily Produce Marketing Commission should be set up to co-ordinate and supervise their work. There is of course an element of compulsion in the scheme, but this is a preferable alternative to the present state of chaos and filth. The efficient marketing of milk and dairy products is looked upon as a matter of National importance in other countries. Therefore to effect improvements in the marketing of milk in this country we must purge urban areas of their milch cattle and organise effectively the collection and distribution of rural supplies of milk. On an adequate supply of pure foodstuff depends to a large extent the progress of public health in India. And as milk constitutes an important item of diet in this country, efforts should be made in improving both its quality and supply. 15 years ago the Royal Commission on Agriculture presided over by Lord Linlithgow emphasised the necessity of controlling the milk trade in the interests of foodstuffs. In 1937 Dr. N. C. Wright, Dairy Expert, carried out an investigation into the cattle and dairy industries of India and his report teems with useful suggestions. Many of them are very important and

should be carried out as soon as possible. It is obvious to-day as it was five years ago that without a better system of production and distribution, the consumption of milk, particularly in rural areas, shows little improvement. We must also condemn the unhealthy concentration of milch cattle stables in towns and cities. These stables are a breeding ground for flies which carry the typhoid infection and spread it widely. There are nearly 22,000 milch cattle in Bombay's cattle stables and licences for new stables should be discontinued. If the law as it stands is inadequate to deal with the menace, Government might consider the advisability of amending it so as to enable the authorities to take effective action. With this object in view, a conference was held in Bombay last year to take measures for the improvement of the supply of pure milk, butter and ghee. The Conference resolved to constitute a society for the prevention of adulteration of milk, butter and ghee to supplement the efforts of the authorities in checking the evil. The Conference adopted a resolution drawing the attention of Government to the total absence in most cases, of provision for the punishment of offenders and that where they existed they were inadequate. The Conference also urged on the Government to insist a higher standard of milk to establish testing houses and to extend the necessary penal legislature to all parts of the country to check the evil. Nearly 65% of samples of milk collected in Bombay were found to be adulterated, therefore, the law must be administered strictly. In this connection it is gratifying to note that there is a move to supply fresh milk at the cheapest possible rate to citizens of Bombay and the labouring classes. It is proposed to import milk from Anand about 266 miles from Bombay under scientific process in sufficient large quantity to meet the daily requirements of the city. The question of keeping milk in absolute fresh condition during its transportation over long distance is also being considered by specialised application of refrigeration known as "Quick-chilling", which means the extremely rapid extraction of heat which reduces the temperature of milk nearly to the freezing point. The technique is very different from the ordinary freezing or cold storage treatment and the success lies in the rapidity of the cooling combined with the precise control of the temperature. The milk is quickly chilled as soon as possible after milking at Anand, and during its subsequent transportation to Bombay the temperature is carefully maintained at the correct level by the use of dry ice. It is pointed out that milk treated in this manner and stored at a properly controlled temperature will remain in fresh condition for many days. Dry ice is the most convenient medium for maintaining the proper conditions during transport. This process is widely used in Great Britain and America for the treatment of foodstuff and it is felt that it has a very wide scope for its use in India. The quantity of milk so far transported to Bombay is about 30 maunds per day and in view of the success obtained, plans are well advanced for increasing this supply in the near future. A well insulated railway van filled with a refrigeration plant is being used for transporting milk.

Regional cattle shows.—It is a very sensible arrangement that just before the All India Cattle Show held in New Delhi in February last year there were two regional shows, one for Western India at Bhavanagar in Kathiawar and one for Southern India at Bangalore. The All India Cattle Show is also the regional show for Northern India and prize winners from all these three regional shows competed in New Delhi for the championship cups and trophies. Hitherto Southern and Western breeds of cattle were not adequately represented at the All India Cattle Show at Delhi owing to the prohibitive cost of transport. But owing to these regional shows, the pick of the cattle of Western and Southern India are able to display themselves in the All India ring which is started at the instance of His Excellency the Viceroy who conceived the idea of bringing together at one place representatives of the best known breeds in India. The first show was held in 1938 and nearly 400 entries were received and it was so successful that the Government of India voted a sum of Rs. 2,50,000 to make it an annual event and these were also held in 1939, 1940 and 1941 at New Delhi and last year it was decided to expand the field by holding regional shows. There has been a great improvement in cattle since the first show was organized and it is hoped that all those who are interested in the agricultural prosperity of India, will spare no effort to see that a pure breed of animals with high pedigree is maintained. But the improvement of cattle breeds is dependent upon the maintenance of records of pedigree and milk production. It is, therefore, encouraging to know that the Imperial Council of Agricultural Research has now put in operation a scheme of "Herd Books". These books are kept at New Delhi and any person who owns or breeds Sahiwal, Sindhi and Harijana cattle or Murrah buffalo, may apply for registration in respect of animals which conform to the definition laid down and which satisfy the minimum milk-yield qualifications, no registration fees are charged and applications for registration have to be made to the council.

Indian-Bred Horses.—It is interesting to see the progress made by the Indian-Bred horses in Bombay since Government amended three years ago the Bombay Race Courses Licensing Act and increased the stake for country-breds. Four years ago the average sale of Indian-breds averaged 12 per year. Last season as many as 82 country breds found purchasers and breeders benefited to the extent of nearly Rs. 3 lakhs. Time was when an Indian-bred horse was rated at between Rs. 700 and Rs. 1,000. Today these animals fetch on an average amount of Rs. 4,000 per horse which is an eloquent testimony to the fact that with encouragement Indian bred racing has a tremendous future. These results would have greatly pleased the late Sir Bernard James, who for many years fought strenuously for the recognition of Indian-bred horse on the turf. Today out of 800 animals on the Bombay Turf as many as 200 are country-breds. It was not so long when the humble Indian-bred totalled a small contingent of 30 or 40. This

ambitious scheme has thus materialised and races for indigenous breed have rapidly extended during the last three years and in 1943 nearly 40 per cent of the total stake money raced for during the Bombay Season will be allotted to the Indian bred. The executives of the Royal Western India Turf Club Ltd. have from time to time been subjected to much hard criticism but their latest gesture goes to dispel any doubts about their sincerity in this matter as they are now out to further the interests of Western India racing.

When we met last time we were passing through very critical times of the war. But since then although America, Russia, China and Dutch Indies have joined the British as Allies, Japan has declared war against America and Britain and thus there is the danger of this enemy at the gates of India. It is therefore our duty to protect our country by helping Britain as much as possible to save us from the horrors of invasion. We must not think that the Veterinary profession is poor and that it does not matter much whether we help or not. This Great War will be won if every individual however poor pulls his weight in the cause. Let us also express our jubilation over the recent success of the Allies in Africa and Egypt. Let us also all unite in praying that the days of tribulation be shortened and thus bring us nearer to sure victory, a just peace and worldwide brotherhood.

In this connection I am glad to state that under the auspices of the Bombay Veterinary Medical Association a Committee of A.R.P. for Animals has been formed under my Presidentship, and the Principal, Dr. M. Mohey Deen is the Chief Warden for the City of Bombay. This body is recognised by the Government and the A.R.P. Controller. We started classes to train wardens who joined this organization and till now nearly 250 wardens are trained and fully qualified to perform the duties as Wardens. These comprise members of the college staff and City and Harbour Veterinary Department and students of the Veterinary College, S. P. C. A. Agents and Inspectors and Veterinary staff of the Municipal Health Department and some private practitioners, who came forward as volunteers to work as Wardens in the A.R.P. for Animals.

They have undergone a course of instruction under the able guidance of Mr. K. R. Alur, Lecturer, Bombay Veterinary College, who takes great interest and trouble in this work and is now Deputy Chief Warden, A.R.P. for Animals. These wardens have thus taken a great responsibility and they deserve our best thanks. I trust that they will prove worthy of their work if and when their services are required. The war which has opened in every continent raises many anxieties in the minds of people and it is gratifying to note that Veterinarians have not forgotten to do something for the good of dumb animals. This A. R. P. for Animals has assumed an important aspect in Bombay and possesses an organization to deal with these problems.

Twenty First Aid Posts with the required equipment have been sanctioned and are functioning all over Bombay. This A. R. P. service will deal with all animal casualties, and medical treatment will be given to animals by qualified men, who will judge whether the animal is to be put out of its misery by means of captive bolt pistol and whether the carcass can be salvaged for food as well as give their opinion on the value of the animal for purpose of compensation to the owner. There is an A.R.P. School with 6 qualified Instructors at the A. R. P. Headquarters. It has trained by now 300 wardens.

Besides these, kennels have been erected in England for training dogs to guard aerodromes and factories, etc., against intruders. Members of the services are taking over the work of training, a special course being given to dogs to enable them to trace interlopers during the hours of darkness.

Training of dogs for modern warfare.—Dogs are said to have a paw in every war since man first went for to battle. Modern war dog has to perform entirely different duties from those of his ancestors, but as a volunteer or conscript, he always renders faithful services. India, realising the wonderful work of the trained dogs, has opened a training centre for war dogs at Karachi. The school started with a handful of dogs, the majority of which were Alsations. Training has progressed rapidly and some of the fine dogs have already been drafted out on duty. They are being mainly trained for message carrying and patrol duty. Within three months the dog learns to carry messages, ammunition or rations at speed over distances of about a mile. His arrival at the out-post is being signalled by a flag and he then returns to the base. The dogs carry on without making mistakes or wasting time. Some of the dogs are taught to have light rolls of telephone cable and all taken on patrol duty.

Before concluding I wish to thank the members of the Managing Committee and especially Mr. P. G. Date, one of the Secretaries, and Mr. T. R. Khaladkar, the Treasurer, for the great help given to me throughout the year. I wish also to thank the Principal for allowing us the use of this College Hall for the meeting.

With these few remarks I now propose that the annual report be passed, and request Mr. Knight to open the Conference.

(APPENDIX C)

Mr. Knight's Speech

The following is a summary of the speech delivered by Mr. H. F. Knight, G.O.I., C.I.E., I.C.S., J.P., Adviser to His Excellency the Governor of Bombay in Agriculture, Veterinary, Rural Development and Cooperative Societies.

Mr. Knight, during the course of his speech, stated that it was needless for him to stress the importance of Veterinary profession, especially in a country like India in which the whole life of the people depended on their cattle. Veterinary profession has risen greatly in its status since the College was started and the Association, such as the Bombay Veterinary Medical Association, tended to remind the public of the importance of the profession and the qualifications of the members. At the present moment Veterinary Profession was particularly required for various reasons: though this as a permanent feature of economics of India where Agriculture is entirely dependent on the small holdings which cannot be mechanised, Veterinary Science is particularly necessary at this moment for the following three reasons:—

- (1) "Grow more food" campaign which needs cattle in a very large number and in a better condition than what are found ordinarily in villages.
- (2) The fall-back on animal transport due to the lack of petrol supply.
- (3) The famine conditions prevailing in this Province unfortunately affect the areas in which some of our most valuable cattle are bred.

It is of very great importance that attention should be paid to the improvement of breeding cattle and to the efficient animal husbandry. In this connection he paid a glowing tribute to late Mr. Bruen who had done a good deal for the improvement of cattle breeds in this province.

He stated that he could not open the Mahud Show this year and expressed that last year's show at this place was a wonderful one. Such cattle shows greatly encourage cattle-breeders in the production of efficient cattle. He had not heard as yet the results of the Mahud Cattle Show, but he opined that it should have been a very successful one.

It was also intended to hold a cattle show at Viramgaum in December, but he regreted to announce that due to the prevalence of cattle disease it had to be postponed till probably next February.

There is no reason to be ashamed of the participation of the cattle of this Province in the All-India Cattle Show held two years ago. Our cattle put up an excellent show indeed.

Veterinary profession should not consider that their normal task lies in the narrow sphere of prevention and cure of animals alone. It cannot afford to forget the importance of cattle breeding. It must take a very keen interest on this all important subject.

Preventible diseases of live stock, such as Rinderpest, Foot and Mouth Disease, Haemorrhagic Septicaemia and Anthrax, etc., cause tremendous loss to the country. Parasitic infestations also cause a great loss insidiously.

We should, therefore, make every attempt to prevent the recurrence of this loss in future. Cattle dipping tanks introduced in this Province are making very good progress. He had visited a cattle dipping tank and had seen the animals regularly dipped and had been very much impressed by the usefulness of the dipping tank.

Unfortunately famine has broken in certain districts and it has become necessary to move the cattle from the famine districts to cattle camps. When they move the help of the Veterinary profession would be required and it is hoped to have a special Veterinary arrangement to protect them against contagious diseases.

India being an agricultural country depends on Veterinarians as well as agricultural experts for its well-being and progress. He assured that he was alive to the importance of Veterinary work and the necessity of pressing on with it as far as finances permitted.

He offered a few comments on some of the points mentioned by the President in his address as follows :—

He felt sure that the members of the Association would reconsider and decide that they would not press that no medical attention should be given to cattle on Sundays. The Veterinary Officer has the same responsibilities as human doctor and therefore he should never be off duty.

He felt glad to note the proposed improvement in the Veterinary College course and that a Committee of the University of Bombay was considering a Veterinary Science Degree for the University. Due to war conditions, there was a great scarcity of building material, etc., and on account of this there was the difficulty of constructing additional buildings for the College. This war and the building restrictions had handicapped the undertaking of not only the additional work in the Veterinary College but also in Hospitals in the Province.

He agreed with what the President of the Association had stated regarding the condition of milk trade in Bombay City and regretted that nothing had been done regarding it as yet. Late Mr. Bruen had produced a scheme on this subject but it has been held in abeyance partly owing to his untimely demise and partly due to the following reasons :—

1. The impossibility of securing the special machineries for pasteurising milk prior to its transportation to Bombay.
2. The impossibility of securing the necessary railway waggons and of arranging frequent train service.
3. The difficulty of suddenly removing cattle stables out of Bombay City.

It was indubitable that the milk supply of Bombay and other large cities would have to be rationalised and in this connection he envisaged the formation of something on the lines of public corporation, a "Milk Board" on which cattle owners, the Municipality and Government would be represented on the Board of Directors and all these three bodies would contribute to meet the cost. All milk consignments coming to Bombay would be collected at collecting centres and pasteurised and distributed in the Bombay City by persons licensed by the Milk Board under the supervision of Milk Board Inspectors. This would put a stop to the milk trade carried out by hawkers.

A gradual elimination of cattle stables from the Bombay City could now be started by compelling the owners of stables who run their trade without giving adequate attention to sanitary conditions to close down their stables and affording facilities to open their stables in the country outside the limits of this city.

At present the milk inspection has been a duty laid on the Municipality which had no funds for its efficient working but during this war there seemed to be no effective solution for this problem and therefore requested the Veterinary profession to keep up the agitation on it for being tackled after the war. In the meanwhile the experiment of bringing chilled milk from Anand would be watched with great interest.

He congratulated the Veterinary Medical Association on the great assistance rendered in respect of A. R. P. for Animals.

He thanked the members of the profession again for inviting him for this pleasant function and offered his best wishes for a successful session of the Conference.

(APPENDIX D)

Vote of Thanks

Mr. R. N. Naik, G.B.V.C., Bacteriologist, Bombay Veterinary College, in proposing the vote of thanks, said :—

MR. KNIGHT, LADIES AND GENTLEMEN,

It is with great pleasure I propose a hearty vote of thanks to Mr. Knight and other guests who have assembled here responding to our invitation and giving us the pleasure of their company today. We shall highly treasure in our memory the presence of all the guests and especially that of Mr. Knight who has been able to spare a little time from his onerous duties. We feel happy, extremely happy, to find him in our midst as he is in-charge of the vast livestock wealth of this Province along with other subjects. For the information of our guests who are not quite conversant with the livestock

wealth of this Province, I may just mention that Bombay Province possesses about 9 to 10 million cattle and buffaloes and 4½ million sheep and goats and innumerable poultry. It is, therefore, necessary and especially essential in these days that this vast livestock wealth is conserved, improved and further multiplied in order to yield sufficient milk, meat and milk products and the bullock power required for draught and cultivation purposes. To do this there is the great task of improving the livestock breeds, introducing efficient animal husbandry and minimise mortality resulting from preventable diseases. If we consider the staff of the Veterinary Department, the number of cattle and buffaloes allowed to be in charge of each Veterinary Assistant Surgeon ranges from 75,000 to 2,00,000 instead of 25,000 as recommended by the Linlithgow Commission. It is, therefore, hoped that recommendations of the Royal Commission on Agriculture will be given effect to in this Province as early as possible.

Most of the members of our Association are Veterinary Assistant Surgeons in the Veterinary Department. These Veterinary Officers are the most busy persons but they never directly or indirectly rush to press for advertising their work. They only put into practice the wellknown proverb viz., "If you make a good profession, make good your profession" and that is how they happen to meet annually at a conference which also makes a professional man perfect.

We have heard the address of Mr. Knight with rapt attention and we shall leave no stone unturned in acting according to the piece of advice given to us by him. We further pray in the terms of the sentiment commonly expressed in English functions "May His Excellency's Ministers have wisdom to plan our institutions and energy and firmness to support them."

With these words, I, on behalf of Bombay Veterinary Medical Association, once again thank heartily Mr. Knight and all other guests.

BHOPAL-REGIONAL CATTLE SHOW

Welcome Address

The following Address has been presented to His Highness Sikandar Saulat, Iftikharul Mulk, Nawab Mohd. Hamidullah Khan, Bahadur, G.O.S.I., G.O.I.E., LL.D., Ruler of Bhopal, by the Chairman (The Hon'ble Motamid-us-Sultan Rai Bahadur Raja Oudh Narain Bisarya, President, Bhopal State Council and Revenue Member, Govt. of Bhopal) and Members of the Bhopal Regional Cattle Show.

MAY IT PLEASE YOUR HIGHNESS,

It is our proud privilege, as Chairman and Members of the Managing Committee of the Bhopal Regional Cattle Show, to wish Your Highness, with our keen sense of loyalty and devotion, many happy and prosperous returns of your Birthday and to offer, for Your Highness's gracious acceptance, our most respectful thanks for the honour Your Highness has done us by acceding to our humble prayer to perform the opening ceremony of the Exhibition.

Regional Cattle shows have been lately devised, for the duration of the war, for the benefit of cattle breeders in distant parts of the country, who were finding it difficult, for want of peace-time facilities of rail transport, to exhibit their specimens at the Central Show, annually held in Delhi. The All-India Cattle Show Committee, on their part, were naturally anxious to keep up the wholesome interest which had been created, by the urge of competition, in the improvement of the different breeds of cattle scattered all over India. The suggestion that smaller exhibitions might be organised at convenient centres in different localities was in consequence unanimously adopted, to maintain that interest unimpaired for the time being. For the Malvi breed of cattle, noted for its stamina in respect of ploughing as well as cart traction, Bhopal was chosen, with the concurrence of Your Highness's Government, as a centre for the exhibition of specimens of cattle reared in the surrounding States and the contiguous portions of the Hoshangabad and Saugor districts of the Central Provinces.

To us in Bhopal this advent of exhibits from neighbouring territories comes as a welcome accretion to our own Central Cattle Show, annually held at Chiklod which, thanks mainly to Your Highness's keen personal solicitude for the well-being of your agricultural subjects, has been a source of continued encouragement to them ever since the year of 1935. The change of venue from the refreshing environments of Your Highness's beautiful Retreat has naturally caused us regret, but that feeling is compensated when it is realised that the present exposition is being held in the Capital as a part of the programme of what we affectionately call our Birthday Celebrations.

Invitations for participation in this show were sent to the neighbouring States and British Indian districts, but it is a matter for regret that, for an inevitable lack of long enough notice, all of them are not as well represented today as we had wished for. But we are thankful that the interest evoked in regard to our undertaking is evidenced by the welcome presence amongst us, this morning, of Maharaj Prabhunath Singh Ji, Home Member, Narsinghgarh Darbar, Mr. F. G. Gossip, M.B.E., Secretary, All-India Cattle Show Committee and Syed Riazul Hasan, M.B.O.V.S., Officer in Charge,

College News

MADRAS VETERINARY COLLEGE

PANIKKAR MEMORIAL FUND

List of Subscribers to the Fund from 4-1-43 to 1-3-43

(Continued from page 220, January 1943 issue of I. V. J.)

		Rs.	A.	P.
	Brought forward	597	2	0
145	Sri I. D. Mantramurti	5	0	0
146	„ P. V. Doraswami Iyer	2	0	0
147	„ A. Moberly	2	0	0
148	„ B. Sitarama Rao	1	0	0
149	„ V. R. Rajagopalan (I. V. R. I., Mukteswar)	5	0	0
150	„ C. Bharadwajan	5	0	0
151	„ A. Lakshmana Rao	2	0	0
152	„ T. Subba Rao	5	0	0
Total ...		624	2	0

R. SWAMINATHAN,
Lecturer,
Madras Veterinary College.

King's Birthday Honours

[RAO SAHIB ON Mr. B. A. MANKAD, G.B.V.C.,

(Retired Veterinary Assistant Surgeon, C. V. D., Sind) Rajkot C. I.

We are glad to note that the Government have been pleased to award the title of "Rao Sahib" to Mr. B. A. Mankad, G.B.V.C., Retired Veterinary Assistant Surgeon, C.V.D., Sind. We congratulate him on his well-merited distinction and wish him long life to enjoy the honour bestowed on him.

Correspondence

[Views expressed in letters addressed to the Editor represent the personal view of the writer only and must not be taken as expressing the opinion or having received the approval of the I.V.J.]

To

The Editor,
INDIAN VETERINARY JOURNAL, MADRAS.

Sir,

I request you kindly to publish the following memoir in the columns of your Journal.

Rao Saheb C. Suryanarayana Murti, G.M.V.C.,
Retired District Veterinary Officer, C. V. D., Madras.

C. Suryanarayana Murti was born on 1-7-1886 at Srungavriksham, a village in the West Godavery District in a poor Brahmin family.

Owing to the death of his father when he was only 7 years old, he was educated by his maternal uncle, the late Mr. Eleswarapu Perayya Sastri who was serving in the Revenue Department.

In 1904 he passed the Matriculation Examination and the compulsory portion in Upper Secondary which was then considered by Government to be equivalent to F.A., for purposes of promotion in Government service. He was married in the same year.

He passed the Government Technical Examination in Animal Physiology Intermediate Grade in the First Class and completed the 3 years course in the Madras Veterinary College in 1908.

He was appointed as Veterinary Assistant on 19-2-1909 and as House Surgeon at the Madras Veterinary College in 1913.

He passed the Departmental Examination for promotions standing first in rank in 1914 and the Post Graduate course in Pathology, Bacteriology, Parasitology, Protozoology, Preventive Medicine, and clinical diagnosis in December 1922.

During the years 1921 to 1924 he was placed on special duty on Rinderpest in connection with Serum Simultaneous Inoculations when his work was highly appreciated by his superior officers.

He was in charge of the Veterinary Hospital at Berhampore, Rajahmundry and Vizagapatam from 1914 to 1918, worked as an Inspector from 1918 to 1923 with short interruptions, acted as officer in charge of first

Biological Products, Izatnagar and that among the exhibits, while the bulk of them has come from all parts of the Bhopal State, those from Narsinghgarh, Rajgarh and Saugor are also included.

We are at the same time grateful to the All-India Cattle Show Committee for having placed at our disposal a sum of Rs. 484, along with a number of challenge and other cups, that being the share apportioned to us of the prizes allotted to specimens of Malvi cattle. To the above amount, Rs. 1,000 have been added by Your Highness's Government to be expended on consolation awards, by way of encouragement and here we wish gratefully to tender our most respectful thanks to Her Highness for having graciously consented to give away the prizes this afternoon.

Your Highness would perhaps permit us, on this occasion, to give a brief account of what Your Highness's Government have been able to accomplish, recently, in the field of live-stock economy. It will be recalled, with a sense of gratification, that your Highness was pleased, in 1938, to add a Department of Animal Husbandry to the administration of veterinary relief from the ills to which bovine flesh is heir. Since that time, 148,903 head of cattle have been successfully inoculated with goat-virus serum, as a prophylactic measure and 39,356 treated by means of serum-therapay for rinderpest, black-quarter, anthrax and haemorrhagic septicaemia, while, 261,867 cases of sundry cattle-disease have been treated both in veterinary hospitals and by distribution of remedies in the villages. The activities proper to the Animal Husbandry section have so far resulted in the treatment, by the painless Burdizzo method, of 42,392 worthless calves and in the distribution in the country-side, through Government grants and private enterprise, of 978 stud bulls of approved physique.

The stimulus given to the rearing of real good cattle, by State-wide propaganda, is best evidenced by the fact that the specimens sent out from Bhopal, to the All-India Cattle Show in Delhi, have continued to be awarded handsome prizes from year to year and were able, at the Show of 1942, to sweep the board by winning all the challenge and other cups, as well as the cash prizes, set apart for the Malvi breed.

And now, may we most respectfully beg Your Highness to declare the Regional Cattle Show of Bhopal to be open, with your blessings, for the judging of the exhibits and to permit us once again, to thank Your Highness for the great honour you have conferred upon us by gracing the occasion with your benign presence?

We are,

YOUR HIGHNESS,

YOUR HIGHNESS's most obedient humble servants,
Chairman and Members of the Bhopal Regional Cattle Show.

His Highness's Reply

RAJA SAHEB AND MEMBERS OF THE CATTLE SHOW COMMITTEE,

I thank you for your good wishes and for the expression of your loyal sentiments, and am indeed very pleased to be present on this occasion, and to perform the opening ceremony of the Regional Cattle Show.

I feel happy that, by implementing, as you say, the decision recently taken by the All-India Cattle Show Committee, you are actively helping to keep alive, in these difficult days, the interest which has been steadily built up, towards the improvement in the various breeds of cattle throughout the length and breadth of this sub-continent. For all that has been done and accomplished in this behalf, India owes a deep debt of gratitude to the keen personal interest which His Excellency Lord Linlithgow has all along evinced in the matter, and I feel sure that the efforts that are being made in the Provinces and the States in this important branch of agricultural well-being will be sustained, in war time as before, for the lasting good of the people.

I have listened, with great interest and pleasure, to the account you have given of your endeavours in husbanding the resources of the State towards the improvement of the local breed of cattle. I compliment you on the results so far obtained. But let me tell you, before I take leave of you on this occasion, that Animal Husbandry has a very high place among the numerous and various activities of the State and that, as such, it has no room for crying halt at any stage of its progress. New problems will arise, new discoveries will be made and, with the opening up of new vistas for the service of our people, there will be an ever-increasing need for more and more work both in the field and in the laboratory. I have no doubt that you have these facts very much in mind, and that all concerned with the amelioration of the conditions of my peasantry will continue to strive, and strive hard, to give their very best in the performance of their humanitarian task.

I have much pleasure, gentlemen, in declaring the Regional Cattle Show open, and I wish you every success in your efforts for the betterment of my people.

circle on two occasions in 1926-1928, and was taken into the gazetted service as District Veterinary Officer in August 1929 which rank he held almost until the time of his taking leave preparatory to retirement from 4-11-38. He acted as Superintendent of the Serum Institute on 2 or 3 occasions during 1935, 1937 and 1938. He finally retired from service from 1-6-1940.

His work in the Department was characterised by thoroughness, unstinting devotion to duty and honesty and was highly appreciated by his superior officers as well as the collectors of the districts in which he served. As a token of appreciation of his work, Government conferred upon him the title of 'Rao Saheb' in June 1939.

His simplicity, honesty, principles and his devotion to duty were most attractive. His inspection of his subordinates was always instructive. He was encouraging those who were sincere about their work. He was always accommodative and hospitable to both the officials and non-officials.

After retirement he settled down in Cocanada and devoted himself to the pursuit of religious study for which he had a passion. After the bombing of Cocanada by enemy raiders on 6-4-1942, he left the place for Tuni with his family. His wife, his eldest daughter and himself were successively afflicted with diabetic ulcers. He returned with family to Cocanada in about July 1942. His wife recovered but his eldest daughter died in August. He himself was thrice operated upon and he died on 2-10-42 as an inpatient in the King George Hospital, Vizagapatam.

In private life, he was loved by friends, dependants and relatives; he was of a sweet and affable temper, never known to have been ruffled, his hobby was to be of use to those around him. He chose his friends and made lasting friendships. Deeply religious and searching after the unknown, he was not narrow-minded. As an example of the goodness of the man, it may be stated, that even after his retirement, he was often visited by people who served under him and was greeted by them with affectionate respect—a rare thing among retired officials.

He leaves behind him his wife, 2 sons and 6 daughters, besides his eldest brother Mr. C. Sitharamayya, Retired Manager of Messrs. Parry & Co., Ltd., Nidadavol.

"May his soul rest in peace."

Yours faithfully,
MUHAMMAD YUSUF, G.M.V.O.,
Veterinary Assistant Surgeon.

Cocanada,
21st January, 1943.

K. B. Trivedi, G.B.V.O.

Sir,

I am sending a short sketch of the career of Mr. K. B. Trivedi, who was Veterinary Assistant Surgeon at Broach, and who died of cholera on 12th September 1942 after an illness of only four days. He was my fast friend and was very social and jovial. He had made himself known to all the big officers and prominent people of this city and his death is much lamented. I request you to be good enough to publish the same in the columns of your *Journal*, of which he was a firm supporter from its very inception, for the information of his numerous friends.

Mr. K. B. Trivedi, G.B.V.O., late Veterinary Assistant Surgeon at Broach served the Bombay Civil Veterinary Department for a period of 22 years, one month and 12 days. During all this period he served as Veterinary Assistant Surgeon and discharged his duties to the entire satisfaction of the general public and his superiors.

He had gone to Nikora, a village in the Broach Taluka, on the 4th August 1942 for conducting inoculations against H. S. in cattle there. Subsequently, early in the second week of September 1942, he had to go back to this village and also to the village of Mangleswar to take the result of inoculation. Cholera was then prevalent in these villages but all the same, this would not deter him from visiting those places. He got himself protected against cholera and carried out his duty.

As a result he contracted cholera and had a few motions at Mangleswar village. No medical help was available there. He returned to Broach and availed himself of the best medical treatment; still in spite of the strenuous efforts of the best medical officers, to the ill-luck of his family he expired after the midnight of the 11th September 1942, i.e. next day of his returning from tour.

Thus Mr. Trivedi had actually sacrificed his life on the altar of duty. His disposition was very social and jovial. He has left behind him his wife, 5 sons and 3 daughters. The eldest is 21 years and the youngest is 2 years.

May The Almighty give his soul eternal rest.

Broach,
20th January 1943.

Yours faithfully,
P. V. NAGARSHETH, G.B.V.O.,
Retired Veterinary Inspector, Bombay C.V.D.

Bovine Nasal Schistosomiasis

Sir,

A bullock, 4 years old, was brought to me for treatment of Nasal Granuloma. He was producing a loud snoring sound. I had opportunities of seeing many cases of Nasal Granuloma in the Bihar Veterinary College, Patna, and was fully acquainted with the symptoms. The usual treatment for this was intravenous injections of Tartar Emetic. The solution injected was 4% in strength. It was first boiled in distilled water and then allowed to cool down to blood heat just to ensure safety and sterility of the solution. The cases were cured and some of them did not recur. Antimosan does give good results and is safer to use. But the drug is not supplied to such dispensaries as mine, and hence I had to use only Tartar Emetic. I prepared a 4% solution of Tartar Emetic and very carefully injected the same in the jugular vein of the animal. The animal did not get up all at once after the injection. When he got up, he was first unsteady but soon became normal within 20 minutes and the owner took him home.

After a week I injected 10 c.c. of the solution and was watching for any possible reaction but none appeared. He got up after the injection and was taken home. After 20 minutes or so the owner returned and reported that as he reached the place he fell down and died. I could not do the post-mortem examination since the owner was not agreeable.

I request my brother professionals if a similar experience were met with by them, to throw some light on this subject. This has been my first experience in the treatment of Nasal Granuloma with Tartar Emetic.

R. N. SRIVASTAVA, G.B.V.O. (Pat.)
Tamkahi, U.P.

[The writer is requested to peruse the article entitled 'Observations on the treatment of Bovine Nasal Schistosomiasis' by Messrs. M. Anant Narayan Rao and S. Vaithianatha Mudaliar, which appeared in No. 3 of Vol. XIV of this *Journal*, January 1938, pages 261-278. A complete line of treatment is chalked out based on the result of experimental treatment of cases. Deaths do occur very occasionally. In early infections when a large number of eggs (and naturally a large number of parasites) are seen in the nasal discharge Antimonium Tartaratum kills the worms in the venules. These worms lose their hold and many of the dead worms are carried in the current of blood through the jugular vein into the right heart and from there get pumped into the lungs where they cause embolism. Depending on the severity of the worm embolism in the lungs, the animal may show respiratory distress or death due to syncope. Syncope may also be hastened by the action of the drug on the heart. Hence repetition of the treatment depends

on such conditions as the severity of infestation (which should always be ascertained by microscopical examination for eggs), embolism in the lungs, the action of the drug on the heart and the cumulative action of the drug.—*Ed.*]

Rearing of Buffalo Calves

Sir,

I request you to publish the following experience of a Vet. and call for remarks from other Vets. all over India and elsewhere—How to rear buffalo calves successfully with as little mortality as possible. Cow calves live and thrive well in their suckling stage but not the buffalo calves. It appears difficult for the buffalo calves to live for the first six months. Later on they thrive well if they live the first six months. In the infantile stages they do not thrive well and meet death often. I request my other professional brethren who have had experience in big buffalo dairies and elsewhere to note their experiences through the columns of this *Journal*.

A VET.

Depigmentation of the Skin in Cattle

Sir,

I have read the interesting article by Mr. Patnaik, Veterinary Assistant Surgeon, Amalapuram, published in the November 1942 issue of this *Journal* on "A peculiar case of spotted condition of the skin in a buffalo."

I have recently treated two cases of this condition successfully and would like them to be reported in your esteemed *Journal*.

The Taluka Agricultural Development Association, Jamner, maintains a cattle breeding farm at Gangapuri in the jurisdiction of this dispensary for supplying bulls of "Nemar" breed to the cultivators of this tract. The colour of the animals of this breed is a nice combination of red and white. I am required to visit this farm occasionally.

While going round during my first visit to the farm, two animals, a heifer and a bull, attracted my attention. On the skin of these animals there were oval yellowish white patches varying in size from a rupee to a hen's egg and irregularly distributed over those parts of the body covered with red skin. The condition of the affected skin was quite normal except for the yellowish white discolouration; there was no thickening of the skin, no pruritis, no discharge. The growth of hair was not affected; the

hairs of the affected parts were also quite normal to the touch. I was told by the Manager of the Farm that the patches were noticed on the body of the heifer about two months back; in the case of the bull they had been seen recently. In both the animals they were increasing gradually in number and discolouration.

At the time of examination the heifer had about 30 patches on the body and some of these patches had coalesced and formed into one big patch; the bull had about 10 patches on the whole of the body.

I supplied sulphur ointment for application over the affected parts for about a week. This had no effect.

I therefore advised the Manager to send only the heifer to Jamner to see if anything could be done to cure the melody. The heifer was admitted as an in-patient at this dispensary and was given Liq. Arsenicalis for a week. This treatment also had no effect.

I, therefore, gave her intramuscular injection of sterilised filtered cow's milk 50 c.c. and repeated it on the fourth day with increased dose 60 c.c. After the second injection the discolouration was found to be getting fainter and fainter gradually. A third injection of 60 c.c. was given on the fourth day after the second injection and the heifer was sent back to the Farm. Liq. Arsenicalis was continued along with this treatment also. At the time of third injection the discolouration of most of the patches could be noticed only by standing close to the animal. The animal was examined at the Farm a week after the last injection of milk; the discolouration had become still more imperceptible and some of the affected skin had assumed its normal glossy colour.

Encouraged by this result I advised the Manager of the Farm to send the heifer to the Dispensary again to receive some more injections of milk and also the bull affected with this condition to receive the same treatment.

The heifer was again given two injections of milk at intervals of four days, in doses of 60 c.c. each.

The bull was given two injections. The dose of the first was 50 c.c. and of the second 60 c.c.

Both, the heifer and the bull were given a course of Liq. Arsenicalis during the treatment, for one week.

Both these animals were examined at the Farm at intervals since this treatment and it was found that during one month following the treatment the condition had disappeared altogether.

Two cases are not enough to enable one to say that this line of treatment would be successful in all the cases of this condition; but it is certainly worth while giving this treatment a further trial.

Both the animals were given Liq. Arsenicalis side by side with milk injections, but in my opinion, the credit of curing the condition should go to milk injections.

I would attribute the condition to diet deficient in certain vitamins or minerals, probably the latter, and would name it as 'Depigmentation'.

Jamner, E. Khandesh Dt.
7-12-42

N. G. SAHASRABUDHE, G.B.V.C.,
Veterinary Assistant Surgeon.

Punctured Bladder in a Calf

Sir,

In the *Indian Veterinary Journal*, Vol. XVIII, No. 5, there is an interesting article on 'Rupture of the bladder in a Bull-calf' by Messrs. V. V. Venkatachala Iyer, Hariharan and Mohamed Monzur Huq. Some time after performing the successful operation mentioned therein, Mr. V. V. Venkatachala Iyer got a similar case and in accordance with my request, he invited me to be present at the time of the operation. Laparotomy was performed and the ruptured bladder was brought out through the incision and sutured.

In a subsequent issue of the *Indian Veterinary Journal*, there was a lengthy criticism of the article. Of the several points raised in it, only one point—that it is an anatomical impossibility to get the bladder out of the abdominal incision set me athinking. Fortunately on the very next day, I got a similar case which I record below:—

A weak debilitated bull calf of about 4 months old was brought in a cart for treatment on 28-6-42 with the history that it was off-feed and had not passed urine or dung for the past 3 days and was drinking plain water.

On examination, distension of the abdomen, extreme weakness, hard breathing, signs of uneasiness were noticed. The temperature was 100.2° F.

Diagnosis:—A provisional diagnosis of ascitis was made and diuretic administered. An enema also was given. In about 5 minutes the calf fell down, struggled and died.

Post-mortem:—Since I had a suspicion that it might also be a case of rupture of the bladder, I opened the abdomen as I would operate for the condition in a live animal. There was a bucketful of fluid. The bladder was found moderately full with urine, the anterior portion being free in the abdomen. On the superior surface between the two ureters I found the bladder punctured. The bladder was removed by cutting off the attachment, and on opening, found to contain plenty of calcareous deposit from the size of a mustard to that of a pea.

Production of eggs. •

Hosur birds—up to 30-6-42.

Hen No.	Date of first laying	No. of eggs laid out in Hosur Farm	No. of eggs laid here	Total	Remarks
602	14-3-38	50	47	97	Died on 27-4-41.
676	8-8-39	67	237	304	
689	21-3-40	117	...	117	Died on 16-12-40.
701	31-7-40	68	144	212	Sold as she was not laying.
706	24-8-40	33	174	207	Do.
735	27-11-40	9	182	191	Died on 15-3-42.

Farm birds—up to 30-6-42.

Hen No.	Date of hatching	Date of first laying	No. of eggs laid	Remarks
1	4-1-41	12-6-41	293	
2	"	2-7-41	98	Died on 21-11-41.
3	"	7-7-41	187	
4	15-1-41	21-7-41	217	
5	"	6-8-41	136	
6	12-2-41	16-8-41	17	Died on 11-9-41.
7	"	"	186	
8	16-12-41	4-6-42	25	
9	"	8-6-42	16	
10	"	17-6-42	10	
11	"	29-6-42	1	

Receipts and Expenditure for the year 1941-1942.

Receipts		Expenditure	
Particulars	Rs. A. P.	Particulars	Rs. A. P.
By sale of birds	90 8 0	Feeding charges	80 0 0
" eggs	100 13 0	Purchase of article	16 9 8
		Purchase of desi birds	3 6 0
Total	191 5 0		99 15 8

From the above it can be seen that a clear profit of Rs. 91-5-4 was made by the unit during the year 1941-1942.

16-11-1942.

R. B. SARMA, G.M.V.C.,
Veterinary Assistant Surgeon,
i/c V. H. Tallakulam, Madura.

Extracts

INDIAN BLOODSTOCK

Record Prices for Indian Two-Year Olds

Record prices were paid for two-year-old Indian horses at the annual Indian blood-stock sales held at Mahaluxmi last Sunday and Monday when several smart youngsters were put up for auction. On Sunday, thirty lots, which were put under the hammer, realised just over Rs. 3,00,000 while on Monday, a batch of about 24 fetched the same price.

Among the highly priced youngsters sold on Sunday was a bay-filly by Paradine-Scaltback, which was bought by the Maharaja of Kashmir for Rs. 20,000. A brown colt by Sheridan-Ruffle fetched Rs. 26,500 and was knocked down by the Maharaja Gaekwar of Baroda, who also acquired a chestnut filly by Shorthand-Bim Ba Boo for Rs. 25,000. A brown colt by Pound Foolish-Sporting Love was also purchased by the Baroda stable for Rs. 21,500, while Prince Ali Khan acquired a chestnut filly by Michoumy-Laughing Water for Rs. 25,000. Phenomenal prices were recorded on Monday and the Baroda stable paid Rs. 1,59,000 for six youngsters. A bay colt by Sheridan-Phillipa was knocked down by Gwalior for Rs. 45,000, while another dark bay colt by Chelmarsh-My Queen was also acquired by the same stable for Rs. 35,500. The Gwalior stable acquired three more fillies and one colt during the sales. A brown filly by Chelmarsh-Little Mary fetched Rs. 27,000, another by Celebrator-Irredenta Rs. 11,500 and a third a dark bay filly by Celebrator-Response Rs. 13,500, while a chestnut colt by Sheridan-Gladiola realised Rs. 26,500.—A.P.I.

"Hindu," 5-2-43.

122 Lots Fetch over 15 Lakhs

The annual Indian Bloodstock sales held at Mahaluxmi during the past week concluded yesterday and proved one of the most successful sales ever conducted and 122 lots of two-year-olds realised the record price of Rs. 15,53,100.

Last year, the sales averaged Rs. 5,290 per lot, but this year's remarkable advance was in no small measure due to the foreign markets being temporarily closed and with the sporting princes investing heavily and bidding astonishing prices. Stud farms in India realised prices beyond anticipation. In all five sessions were necessary to dispose of the lots. Of the original 142 lots down for auction, the number dwindled down to 122 through withdrawals etc.

Even Bloodstock had a very successful year. Lots sold under the scheme realised Rs. 2,78,800, while Renala, Bhopal, Kolhapur and Mysore

The fluid found in the abdominal cavity was examined by the Veterinary Assistant Surgeon in charge of the Veterinary Dispensary, Madura City, and found to be urine.

I give below an extract of the anatomy notes of Rao Sahib H. N. Chelva Iyengar, Lecturer in Anatomy, Madras Veterinary College :—

“Relation—This differs according to the degree of the fullness of the organ (bladder) and also in respect of the two sexes. The inferior surface rests on the interior wall of the pelvis and extends forwards on the abdominal wall as the bladder fills.

“Posterior part of bladder has a definite fixed position while its anterior part is movable”.

So if one were to hold the bladder at its attachments with one hand, the free end of the organ can be brought out of the abdominal incision with the other hand. Hence it is not an anatomical impossibility.

R. B. SARMA, G.M.V.C.,
Veterinary Assistant Surgeon,
Tallakulam, Madura.

Working of the Demonstration Poultry Unit at Tallakulam, Madura.

Sir,

Poultry keeping in South India as a side industry is one of the new enterprises. Government and certain Missions take a keen interest in it, but so far it has not found as much favour with our people as it ought to have had, because of the enormous loss caused by the prevalence of fowl diseases.

The object of writing this note is not to discuss the methods of control and prevention of the several diseases of fowls, but only to show that poultry-keeping as a side industry can be a profitable one, and within the means of the ordinary man with a small capital.

Desi fowls are kept in most of the houses of our villages just to meet the domestic requirements. These birds are handy. But the foreign-bred birds are very susceptible to many diseases and so seclusion and strict observance of hygienic measures are very essential for the successful working of the industry.

In a few Veterinary institutions of this presidency, Demonstration Poultry Units have been installed and two breeds—the White Leghorn and the Rhode Island Red are used. I think it would really be interesting and

educative if the working of each of the Units were published in some of the veterinary periodicals.

The Poultry Unit at this institution was started on 7-12-1940. (I took charge of it on 12-12-1940). The stock consisted of 6 hens and one cock of the white Leghorn breed. The spacious compound here is well suited for poultry rearing. The soil is neither clayey nor sandy and grass pasture abounds if there are frequent showers. It is well isolated from the surrounding villages. But in a veterinary institution there is always the danger that diseases may be brought in by the birds that are brought for treatment. Though this has happened on several occasions, yet, with careful handling, this Unit has so far escaped the ravages of Ranikhet disease—the chief disease to be feared by poultry keepers.

Feeding :—Quality, variety and regularity are the three chief things to attend to. The routine method of feeding given at this Unit is as follows :—

At dawn the birds are let out free. At about 7 A.M., they are put into the run and 3 ollocks of their grain feed is thrown on the ground. This consists of equal quantities of paddy, wheat, cholam and kambu (of late wheat is not given as it is not available). At 11 A.M., they receive 4 or 5 ounces of their mash consisting of rice bran, ragi flour, fish meal and mineral mixture, mixed with oil cake soaked in butter milk and a few cut onions and garlic. Between 2 and 3 P.M., one and a half ollocks of cooked rice with meat and cabbage on alternate days is given to them and they are let out free to pick up what they can. At about 6 P.M., they receive their grain ration as in the morning. At dusk they are put into their house for the night. In addition to these feeds the run is provided with bits of charcoal, crushed shells and grit. Plenty of fresh water with a few grains of Pot. Permanganate in it is always kept at their disposal.

Production of chicks :—Eggs were kept under Desi hens for hatching. Till 30-6-42, 71 chicks were obtained from 148 eggs—48% hatchability. Eleven chicks were transferred to adult stock when they commenced laying and the rest were sold. Eggs were sold at As. 12 per dozen for table use and Rs. 3 per dozen for hatching purposes.

also had a good season. The record price of Rs. 55,000 was paid for the Renala-bred colt out of Sheridan-Resolve by the Maharaja Scindia of Gwalior, who also acquired another Renala-bred bay colt out of Celebration-Cincenne for Rs. 50,000. Messrs. A. H. and M. H. Ahmedbhoy acquired a grand looking grey colt bred at Jasden out of Irongrey-Flamcoe for Rs. 50,000. The Bhopal Stud was also in the limelight, the progeny of Zuyder Zee and Mas d' Antibes being much in demand. A bay filly out of Mas d' Antibes-Crimson Rambler was sold to the Prince of Berar for Rs. 24,000, while a colt out of Zuyder Zee-Great Zeal was acquired by the Maharaja Scindia of Gwalior for Rs. 30,000. The highest priced fillies were the Renala-bred brown and black filly out of Chelmarsh-Little Mary, bought by Gwalior for Rs. 27,000 and a bay filly out of Mas d' Antibes-Golden Harvest, bought by the Prince of Berar for an identical price.—A. P. I.

"Hindu," 6-2-43.

Review

Hoare's Veterinary Materia Medica & Therapeutics

(SIXTH EDITION). Edited and Revised by J. RUSSEL GREIG and GEORGE F. BODDIE, pp. 516. Bailliere, Tindall & Cox, London. Price 25s.

This is a handy book of Medicine, Therapeutics and Materia Medica, which should be in the hands of Veterinary Practitioners and students.

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Veterinary profession has now been keeping pace with the sister human medicine and drugs that are in common use in human are being used in veterinary patients more especially in small animal practice. The latest addition to human medicine may easily be incorporated in veterinary books.

Obituary

A. RAMAYYA, G.B.V.C.

We regret to record the sad demise of Mr. A. Ramayya, G.B.V.C., Veterinary Assistant Surgeon, C. V. D., Madras, on the 1st of March 1943, just when he was enjoying his leave preparatory to retirement. He leaves behind him, his wife, one son and three daughters and a large number of friends to bemoan his loss. We offer our heartfelt condolences to the members of the bereaved family.

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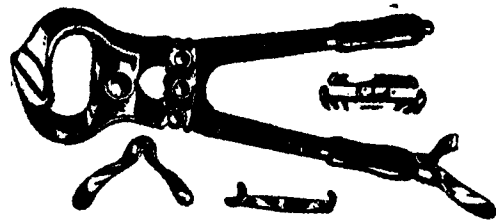
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