Bovine Tuberculosis, Its Problem and Control*

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There is perhaps no single disease that has aroused more interest and that is of greater significance to the live stock industry of this country than bovine tuberculosis. In the evolution of the present knowledge of this affection there have been many findings of such apparent far-reaching significance that they have each in turn formed an independent basis for a somewhat definite line of procedure directed toward its elimination. The sanitarian, however, must not be content with partial findings nor hope for success by applying methods that are based on too few of the many phases in the complete cycle of the disease to be controlled. If we are to appreciate the problem of bovine tuberculosis and to grasp the principles involved in its control, we must put aside our theories, until the full array of facts is before us concerning the life history of its etiology, its channels of invasion and means of elimination, together with an understanding of the tissue response to its entrance. When these are fully known, it will not be difficult to ascertain how to interpose a barrier that will inhibit its further spread. But when regulations for control are based on a few facts which do not include all of the essential processes of the disease, complete success can not be expected. It has not infrequently happened that sanitary measures have failed.

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completely when but a part of the truth concerning the nature of the disease was known. An illustration of this is found in the numerous methods tried with negative results for the control of malaria, after its cause was discovered but before it was known that it was carried by the anopheles mosquito.

In order to circumscribe the problem centered in the nature of bovine tuberculosis and the many obstacles to its eradication, it may be well to review briefly the succession of discoveries concerning it and the conclusions immediately drawn from them that have operated to bring about existing laws and regulations for its suppression.

The discovery of the tubercle bacterium by Koch in 1882 brought the subject of tuberculosis and man’s responsibility concerning it for the first time clearly before the public. The masterly presentation of his findings seemed to leave no doubt of the identity of tubercle bacteria in mammals. This conclusion was accepted and leading bacteriologists of the time attested to its correctness. A new etiological factor had been revealed which possessed peculiar biochemical and pathogenic properties that differentiated it from all other microorganisms. This discovery brought tuberculosis clearly before the world as an unnecessary destroyer of man and beast, and initiated the first step in its control, namely, efforts to prevent infection.

The next epoch-making discovery was again the handiwork of Koch, who in 1890 showed that the liquid on which tubercle bacteria had grown would produce a distinct temperature reaction when injected into tuberculous individuals. When this substance (tuberculin) was applied to cattle it was found that a much larger percentage was infected than was supposed and that many apparently healthy animals reacted and upon slaughter were found to be more or less diseased. The conclusions hastily drawn from these findings, namely, (1) that the large amount of tuberculosis in man was due to infection from cattle, (2) in order to check the disease in man it must be eliminated from cattle, and (3) that all cattle reacting to tuberculin were immediately dangerous to man and to other animals, were immediately availed of in the campaign against human tuberculosis. This led to extraordinary measures to eradicate tuberculosis from cattle. Health authorities assumed that tuberculin was sure in its response and that a single application would indicate all the infected animals in the herd tested. Working under these hypotheses the American system of control was legalized and many animals were tested and destroyed. The result was that many tuberculous herds were cleaned up completely, but in others the disease reappeared and the efficiency of tuberculin was questioned. Difficulties of this nature were beginning to appear when a third important discovery was announced.

In 1898 Theobald Smith published the results of his researches into the relation of human and bovine tubercle bacteria. He found, contrary to all previous statements, that there were well marked morphological,
cultural and pathogenic differences between them. In 1901 Koch read his famous paper in which he gave the world to understand that there was no relation existing between human and bovine tubercle bacteria. With that announcement there began one of the most intense investigations into the nature of a disease that has ever been recorded. For ten years a large number of competent men and women have been carrying on researches covering every conceivable phase of this great problem. The findings are quite unanimous in pointing out two distinct varieties of mammalian tubercle bacteria, one in man, the other in cattle, and in showing that children are sometimes infected with the bovine variety.

In addition to the question of identity or non-identity of tubercle bacteria, extended researches have shown the existence of many acid-fast bacteria widely distributed in nature that can not be differentiated, morphologically or by their staining properties, from true tubercle bacteria. Much, and more recently Schröder, have described non-acid-fast organisms that produce a disease in guinea pigs with lesions apparently not unlike those of tuberculosis. Thus each of the properties of tubercle bacteria that had long been recognized as possessing diagnostic value has been found to be insufficient in itself. This has made necessary a wider range of identifying tests, thereby greatly increasing the labor of the bacteriologist. These findings have brought clearly before us the phenomenon of the acid-fast group of bacteria and the difficulty in diagnosing tuberculosis from its etiology.

Further inquiries into the explanation for the action of tuberculin have tended to verify the theory of Eberus modified by Smith. This explains the oscillation between reaction and non-reaction in certain individual cases. According to this theory, tuberculin can not cause a reaction where the progress of the specific lesion is arrested, or where encapsulation exists. Thus it explains many of the seeming contradictions in the use of tuberculin and defines more clearly the conditions under which it can be trusted.

A further and equally valuable line of research has pointed out the class of tuberculous cattle that are spreading the virus and those that for the time being are not dangerous to others. Thus little by little the fuller nature of tuberculosis has been revealed, until we have come to recognize that instead of dealing with a single question with a direct answer we are confronted with a series of complicated questions that depend for their answers upon vital and subtle forces which can not be changed by the will or act of man.

The problem of control, however, is not restricted to the biological aspects of the disease. The practical side presents complications that are equally intricate and trying. The inefficiency of present methods for eliminating even advanced cases is shown by the constantly increasing number of tubercle bacteria in market milk. The steady demand for milk from the growing cities has revolutionized the former methods of handling milk cows. To keep up their milk supply throughout the year,
farmers buy fresh cows and sell the dry ones. By reason of this a throng of living cattle is constantly passing through our dairy districts. Many of these animals are infected, but they continue with the others until they become well advanced cases and spreaders of the virus.

The American system of control, which consists in tuberculin testing dairy cattle and slaughtering the reactors, was among the first to be inaugurated. It was started when the authorities believed (1) that human and bovine tubercle bacteria were identical, and (2) when tuberculin was thought to give a reaction in all infected animals. It started as an official measure and carried indemnity from the state for the infected animals. Such payment was justified on the ground of public safety and equity to the owners. With slight modifications the system has continued in operation since its introduction. Could this method have been introduced soon after the infection occurred, it would have been successful generally as it has been in certain localities and in single herds, where all tuberculous cattle seem to have been identified and eliminated. Unfortunately in point of time it came so late that in many states there were too many infected animals for the available funds as well as too large a number of arrested cases, so that a single test could not detect them all. As a result, the official use of tuberculin has been and still is restricted to a small percentage of the cattle. In New York it is less than two per cent annually. Local boards of health and milk commissions have required testing of perhaps five to ten percent more. But even this is not sufficient to insure any great decrease in the number of tuberculous cattle. A very large part of the remaining ninety percent is not tested. In these tuberculosis is continuing to spread according to its own methods. There is more or less private testing, but where the laws are too stringent dairymen themselves are not active in finding the disease. The health authorities and often consumers will not permit the reacting cows to remain in the milking herd, although evidence of disease can not be detected except with tuberculin. At the same time milk from herds that have never been tested and which often contain spreaders of the virus as shown by an examination of the milk is accepted.

A long and careful study of tuberculin has shown that with a reaction there is present an active tuberculous infection, but its failure to react does not prove the absence of the disease. Experience has shown

*Resolution 2 on tuberculin passed by the International Commission on the control of bovine tuberculosis reads as follows:
1. That tuberculin, properly used, is an accurate and reliable diagnostic agent for the detection of active tuberculosis.
2. That tuberculosis may not produce a reaction under the following conditions: (a) When the disease is in a period of incubation. (b) When the progress of the disease is arrested. (c) When the disease is extensively generalized.
3. On the account of the period of incubation and the fact that arrested cases may sooner or later become active, all exposed animals should be resticted at intervals of six months to one year.
4. That the tuberculin test should not be applied to any animal having a temperature higher than normal.
5. That any animal having given one distinct reaction to tuberculin should thereafter be regarded as tuberculous.
6. That the intracutaneous injection of tuberculin is the only method of using tuberculin for the detection of tuberculosis in cattle which can be recommended at the present time.
7. That tuberculin has no injurious effect on healthy cattle.
and theory explained that when infection exists, either in the period of incubation or in a state of arrest, tuberculin is not effective. These findings have answered many of the criticisms that have been raised against it. Many of these important facts have been disregarded, and the system, while applied with good faith, has occasionally allowed infection to remain in the herd. In these the disease has sooner or later developed, and the herd has again become a center for dissemination.

For this tuberculin has been unjustly blamed and not infrequently the integrity of the men who used it has been called in question. Unfortunately the use of tuberculin has come all too often to be considered synonymously with the slaughter of a herd and not as an agent of the greatest value in diagnosis.

Again the supposition that all reacting animals are immediately dangerous has been carefully investigated. Many examinations of milk, feces and saliva of infected cattle have been made to ascertain the extent to which open cases of tuberculosis exist without giving physical evidence of the same. This work is now in active progress but the results already reported* indicate that spreaders of the virus can be detected in a very large percentage of cases on physical examination.

Such men as Ostertag and Poels trace failure to detect the “spreaders” to a lack of skill on the part of the examiner. Although our system of testing and destroying the reactors has been right so far as ideals go, in general its results do not seem to have surpassed or even to have equalled the attainments of the methods based on a broader knowledge of the disease and the dissemination of its virus.

In Europe there are in operation at least three methods for the control of cattle tuberculosis. The Bang method, named after its distinguished author, Professor B. Bang of Copenhagen, consists in eliminating all of the clinical cases; in testing the remaining cattle with tuberculin; separating the reactors from the well and keeping them for breeding purposes. In Denmark, however, the farmer is allowed to sell the milk† from the reacting but clinically sound cows as well as the cows themselves, and that country claims to hold the record of minimum tuberculosis in children. His method has been applied in over ten percent of the dairies of Denmark. The distinctive advantages of Bang’s method are that it recognizes the property rights of the cattle owners; educates them in the nature of the disease; so that when their herds are finally


†The milk that is taken to creameries and separated is always pasteurized before it is returned to the farm. Some of the people there as in this country buy milk from tuberculin tested cows only.
freed from the disease they are able to keep them so; enables them to build up sound herds; and further it affords protection to the public.

The Ostertag method, generally applied in Germany, consists in frequent, thorough physical examinations of the cows and the removal of all suspicious cases. Tuberculin may or may not be applied. If it is used the reactors are not separated from the others. Its theoretical basis is that the disease can be detected by a careful physical examination before it has advanced sufficiently for the virus to escape. Ostertag states in his papers, and he has told me personally, that the method, if rigidly carried out, will protect the milk from infection and eventually eradicate the disease from the herd. While it affords little or no protection for inter-herd control, it seems to be effective for intra-herd protection and eradication. Further it protects the consumers of milk in that it eliminates most if not all of the infected animals before they become spreaders.

The third European procedure is known as the Manchester method. It is followed more than any other in Great Britain. It consists in making regular examinations of the market milk for tubercle bacteria. If they are found the herds from which the milk came are carefully examined and the cows or culls eliminating them are found and excluded. This method seems to deal with the immediately dangerous animals only. However superficial as a means of eradication it may seem, Delapin and Boyce report a far safer condition relative to tubercle bacteria in the market milk of Manchester and Liverpool than is indicated by the reports of similar investigations in our large cities.

After carefully studying these various methods, discussing them pro and con with their authors and examining the herds in which they are being applied, one can not help but feel that in the eagerness to obtain at once absolute safety by eliminating all infected animals, the radical position taken in this country has tended to make haste slowly because it has purified but a few herds and left the others as they were. It would seem that the principle should be to eliminate first all cases that appear to be spreading the virus and to remove all of the infected animals from as many herds as possible. The methods suited to eradicate an acute destructive disease such as anthrax or one that might be introduced, such as foot and mouth disease, are not applicable to a malady of such a chronic nature and so wide spread and deeply rooted as tuberculosis is in the herds of this country. Again, with other cattle diseases the infected animals are practically worthless, but with tuberculosis most of them retain for a time at least, their productive value.

Aside from its sanitary aspects the control of tuberculosis has an economic significance that can not be overlooked. It was thought in Massachusetts and New York that the people would pay for and destroy all infected cattle. The records show that the maximum appropriations

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This method does not infer that infected cattle as a rule can be detected on physical examination. It is well known that but a small (3 to 5) percentage of infected cattle can be detected by this method.
that could be secured for indemnity were woefully insufficient. Further, the method antagonized the owners and failed to bring about their co-operation, without which success is doubtful. The Bang method would be open to little or no objection in this country if dairymen could sell the milk from cows that have reacted to tuberculin but which exhibit no physical evidence of the disease. At present our dairymen object to it because they have no way by which to dispose of the milk. Yet the milk from thousands of herds that have never been tested or even examined physically is accepted without question. Why is not milk from dairies containing reacting but clinically sound, i.e., those in which lesions can not be detected, cows quite as safe as it is from dairies where the cows have not been tested, in a country where tuberculosis is as prevalent among cattle as it is in this? The milk from infected cows is no less dangerous because they have not been tested, and conversely the milk from infected cows is a no greater menace after they are tested than it was before*.

As the known facts relative to the nature and extent of bovine tuberculosis and the existing methods for its control are before us, it is clear that its biological problems are complicated by many perplexing administrative questions. Our task seems to be to adjust the disharmonies between existing regulations and the true nature of the disease. When the dairymen understand the facts and are given legal and moral encouragement to apply them, they will see to it that tuberculosis grows out of their herds more rapidly than it grew in. Instead of vainly looking for legislation to accomplish promptly beneficial results, let us direct our attention to the cattle owner and aid him in coming to an understanding of the true nature of his task. I deplore the sentiment so often expressed that dairymen are antagonistic to eliminating this or any other disease, for in most cases they are not. As a rule they are willing to reject all animals that their knowledge enables them to understand are diseased. The control of tuberculosis is largely an individual matter with the owners and they should be aided as much as possible. How they should proceed and what they should not be permitted to do in accord with our present knowledge have been clearly outlined in the report of the international commission on the control of bovine tuberculosis (See appendix for commission’s plan). When all the beneficial results have been obtained that the suggestions in that report make possible, new knowledge on which to base new methods will undoubtedly then exist to direct if necessary further procedure. I feel that any legislation that brings to the cattle owner hardships which are not called for by the true nature of the disease itself tends in the end to spread

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*I possess no records of scientific experiments to disprove this, but personally I question it, having frequently observed nonclinical reactors develop into open cases of tuberculosis in a remarkably short time. I have also seen on autopsy, a week after reacting, animals that before testing were apparently healthy, show widely disseminated tubercular lesions, all of which contained areas of marked hyperemia and evidences of recent and vigorous activity on the part of the infecting organisms. That tuberculinization does not injure healthy animals we all agree, but I cannot say the same of latent cases of tuberculosis. If these observations do not accord with authorities on the subject I shall be obliged to the essayist or any one else for references.—Editor.
rather than check the infection. Knowledge and honesty are the two
great potential factors in the control of bovine tuberculosis, and these
can not be acquired by legislation.

Appendix

Appendix E of the Report of the International Commission on the
Control of Bovine Tuberculosis—The Commission’s Recommendations
on Eradication—A Composite of the Methods of Bang and others.

The Commission, after stating the known facts regarding the nature of tuberculosis
and enumerating the principles to be observed in its prevention and eradication,
recommends the following plan of procedure: It is recognized that in several points
there are opportunities, in order to meet individual needs, to change or modify the
directions herein given. It is understood, however, that whenever such modifications
are made they should conform in the greatest detail to the principles laid down in the
report of this Commission. The plan has for its purpose the conservation of the
herd whenever that is possible.

The control of bovine tuberculosis involves a definite procedure under two distinct
and different conditions, namely: (1) where a herd of cattle is free from tuberculosis
and it is to be kept so, and (2) where one or more animals in the herd are infected and
the purpose is to eradicate the disease and establish a sound herd.

Procedure Under Condition One.—The prevention of tubercular infection
in cattle, free from tuberculosis, consists simply in keeping tuberculous cattle or
other animals away from the sound ones; in keeping tuberculous animals out of pas-
tures, sheds or stables where the sound ones may be kept. Healthy cattle should not
be exposed to possible infection at public sales or exhibitions. Raw milk or milk
by-products from tuberculous cows should not be fed to calves, pigs or other animals.
Cars that have not been thoroughly disinfected should not be used for the trans-
portation of sound cattle. Cattle that are purchased to go into sound herds should
be bought from healthy or sound herds only.

Procedure Under Condition Two.—The eradication of tuberculosis from
infected herds requires for conservation of the herd different procedures according to
the extent of the infection. For a guide to the control of the disease, tuberculous
herds may be divided into three groups, namely:

I. Where fifty percent or more of the animals are infected.
II. Where a small percentage (15 percent or less) of the animals are affected.
III. Where a larger number (15 to 50 percent) of the animals are diseased.

In eliminating tuberculosis from infected herds the following procedure is recom-
ended.

Group I. Herds where a tuberculin test shows fifty percent or more of the animals
to be infected should be treated as entirely tuberculous. The procedure here is as
follows:
1. Eliminate by slaughter all animals giving evidence of the disease on physical
examination.
2. Build up an entirely new herd from the offspring. The calves should be
separated from their dams immediately after birth and raised on pasteurized milk or
on that of healthy nurse cows. This new herd must be kept separate from any reacting
animals.
3. The young animals should be tested with tuberculin at about six months old,
and when reactors are found at the first or any subsequent test—the others should be
retested not more than six months later. When there are no more reactors at the
six months’ test annual tests should thereafter be made. All reacting animals should
at once be separated from the new herd and the stables which they have occupied
thoroughly disinfected.
4. When the newly developed sound herd has become of sufficient size the tuber-
culous herd can be eliminated by slaughter under inspection for beef.
   1. Group II. The reacting animals should be separated from the non-reacting
ones and kept constantly apart from them at pasture, in yard and in stable.
   a) Pasture. The reactors should be kept in a separate pasture. This pasture
should be some distance from the other or so fenced that it will be impossible for the
infected and non-infected animals to get their heads together.
b) Water. When possible to provide otherwise reacting cattle should not be watered at running streams which afterwards flow directly through fields occupied by sound cattle. The water from drinking trough used by infected animals should not be allowed to flow into stables, fields or yards occupied by sound animals.

c) Stable. Reacting cattle should be kept in barns or stable entirely separate from the ones occupied by the sound animals.

2. Calves of the reacting cows should be removed from their dams immediately after birth. Milk fed these calves must be from healthy cows, otherwise, it must be properly pasteurized. These calves should not come in contact in any way with the reacting animals.

3. The non-reacting animals should be tested with tuberculin in six months, and when reactors are found at the first six months, or any subsequent test, the others should be restested not more than six months later. When there are no more reactors at the six months' test, annual tests should thereafter be made. All reacting animals should at once be separated from the new herd and the stables which they have occupied thoroughly disinfected.

4. The milk of the reacting animals may be pasteurized and used.

5. Any reacting animal which develops clinical symptoms of tuberculosis should be promptly slaughtered.

6. An animal that has once reacted to tuberculin should under no circumstances be in the sound herd.

7. As soon as the sound herd has become well established, infected animals should be slaughtered, under proper inspection.

Group III. Herds that come within this group should be dealt with either as in Group II, where the herd is separated, or as in Group I, where all of the animals are considered as suspicious and an entirely new herd developed from the offspring.

General Precautions. In ALL cases animals that show clinical evidence of the disease should be promptly eliminated—destroyed if the disease is evidently far advanced, if not, they may be slaughtered for food under proper inspection.

All milk from tuberculous cows that is used for food purposes should be thoroughly pasteurized. This means that it must be heated sufficiently to kill or to render harmless, any tubercle bacilli, that may be present in it. For this, it is necessary to heat the milk for twenty minutes at 149° F. or for five minutes at 176° F. It is important that pails or other utensils used in carrying the unpasteurized milk should not be used, unless previously sterilized, for storing the milk after it is pasteurized.

When diseased animals are found, the stables from which they are taken should be thoroughly cleansed and disinfected. To accomplish this, all litter should be removed; floors, walls and ceilings carefully swept and the floors together with mangers and gutters, thoroughly scrubbed with soap and water. Thorough cleaning before the application of the disinfectant, cannot be too strongly emphasized. After cleansing, the disinfectant should be applied. A five percent solution of carbolic acid, a 1-1000 solution of corrosive sublimate or a four percent solution of sulphuric acid may be used. When the stable can be tightly closed, formaldehyde gas properly used is reliable. If tuberculous cattle have been kept in a small yard the litter should be removed, the surface plowed and the fencing and other fixtures thoroughly disinfected.


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Pathology is a branch of veterinary science that is not appreciated as much as it should be as the basis, the why, of accurate diagnosis and consequently a first essential in rational treatment. Because of the lack of proper appreciation on the part of many practitioners pathologies are not regarded as popular books, as among the best-selling veterinary text books. That this is the second revised edition, and that the work has undergone besides this a reprint, speaks much for its popularity.

As the number of practitioners decreases who recognize diseased conditions by name only and not with an understanding of the abnormal processes existing, will the use of a work, such as McConnell’s Manual of Pathology extend and its importance be better appreciated, e. g., the experienced practitioner knows in a general way that he must eliminate toxins from the sick animal, but he never fully realizes the importance, and immediate necessity of this measure until he learns from pathology that toxins kill cells, and highly organized cells at that, which no remedy can regenerate. He does not appreciate structural changes which he cannot see until he learns from pathology their cause and course of development. Regardless of one’s knowledge of materia medica and therapeutics, treatment based upon disease names is empiricism. All primarily depends upon the individual and the pathologic process.

This little volume, which really is not small, containing as it does more than 500 pages, deals with general pathology and is true to its name a working pathology. The text is clear and more concise and the meaning to the ordinary reader more easily discernible than in the exhaustive works upon the subject. The illustrations, which are many, including a few that are colored and some colored plates also, are “Saunders-Quality.” To veterinarians familiar with Sisson’s Anatomy or Buchanan’s Bacteriology, this means the best. The price is very low for a book of this size and the flexible leather binding and general make up desirable.

Excerpts from various sections will illustrate its scope and style.

“Pathology is that subdivision of biology which has for its object the study of life in its abnormal relations.” It is the science that treats of disease in all its aspects. By disease is meant any condition in which there is a variation from the normal aspect of the organism; it may be either a structural or a functional deviation. A tumor is a functionless new growth, atypical in structure, presenting no typical limit of growth, and frequently harmful to the individual. A parasite is an organism that lives in or upon another. Many are harmless but some of them are distinctly pathogenic; as they live at the expense of the individual, to the detriment of its well-being.

Montana Spotted Fever is a peculiar acute febrile disease found in a certain part of Montana, and supposed to be caused by a blood parasite resembling the pyrosoma of Texas fever. It is thought that it is transmitted by a woodtick, Dermacentor Andersoni, that has first obtained blood from a variety of squirrel.
Equine infectious anemia, pernicious anemia, or swamp fever, continues to receive much attention from practitioners and continued study and investigation from scientific workers.

This disease is of very great importance to the horse industry of this country, having already been reported to be widely distributed in Nebraska, North Dakota, Texas, Nevada, Louisiana, Wyoming, Colorado, Oklahoma, Kansas, Missouri, Washington, Mississippi, Arkansas, Minnesota, the Panama Canal Zone and Manitoba. It is most prevalent on low marshy ground and worse during wet seasons, but may be found in any climate on soil of any nature and at any elevation, and may exist and spread at all seasons. These facts lend strong support to the theory of infection as the principal source of this disease.

In a bulletin recently issued by Dr. L. Van Es and his associates, Dr. E. D. Harris and Dr. A. F. Schalk of the North Dakota Agricultural Experiment station at Fargo, the most complete and valuable report to date on this disease is given.

The bulletin contains more than 100 pages besides numerous charts and colored plates, and is probably the most creditable bulletin yet issued by any Agricultural Experiment Station. It contains a summary.
of everything that has been written on this subject, including a more or less complete review of the work of more than eighty writers on the subject, besides a complete account of the original investigation of this disease which has been carried on at the North Dakota Experiment Station. These investigations are more elaborate and have been carried on for a greater length of time than those of any other station.

The bulletin is one which no veterinarian living in a region infected with this disease or in a region where it is likely to spread, and doubtless there are no regions on the continent to which it is not possible for swamp fever to extend, can afford to be without.

On account of its high cost the edition has necessarily been limited, but Dr. Van Es will make an effort to supply all veterinarians who apply early. Write for it.

Does a Nominations Committee Eliminate Politics?

On another page is given a criticism by Dr. Reynolds of our opposition to the Nominations-Committee plan in the A. V. M. A. This article contains much that is new to most of us. Dr. Reynolds implies that we took an extreme view in our former editorial on this subject, but we believe the candid reader will say his position is equally extreme. Perhaps we can agree that there are many advantages to both the old plan and to the one now in use, and we must admit that both have been the means of selecting mighty good material for the presidency in practically all cases.

To accept Dr. Reynolds' challenges and publish a list of scientific bodies and their methods of selecting their officers would entail work that requires too much time to be accomplished at this, the busiest season of the year, but until we can investigate it we shall continue to believe that very few such societies will be found who leave the nomination of their officers to an ex officio committee. A committee chosen, one member from each state or district by the resident members thereof, is a very different matter, or any committee chosen for a certain purpose and reflecting the sentiments of the body that selects them, we consider a different arrangement. We shall make no attempt at this time—perhaps not at any time—to reply to the arguments of Dr. Reynolds; it is but fair to admit that many of his arguments are unanswerable. But a very few of his statements from which an inference palpably wrong may be drawn, we cannot refrain from discussing briefly.

First he says that our statement that a considerable percentage (not a large number) of voters in any large body of men follow the lead of some bell-wether is uncomplimentary, and he apparently resents
this; yet further on he himself says, that practically the whole membership of the Association formerly acted thus on frequent occasions.

The statement that we claimed that certain distinguished and active members of the A. V. M. A. are superannuated, was probably not meant seriously, but that those who did not read the beginning of the discussion may not be misinformed, we hasten to affirm that this was neither stated nor implied; the point was made that a committee, such as this one, is naturally apt to exaggerate the importance of long membership in the Association in considering eligibility for offices of trust. Five minutes' conversation on the subject with some of the members of the Committee will convince even Dr. Reynolds that this is true.

The presidency of the A. V. M. A. offers great opportunities for constructive work of immense importance to the veterinary profession and to the public in general; in addition to this the office is one requiring a very considerable amount of executive ability; its importance is so great that nothing other than qualification for the work involved should enter into consideration in selecting men for the position.

The Doctor probably does not mean that even under the old plan, which he terms "ward politics," any but fit men were elected president of the A. V. M. A., but we might assume that this was the case from his condemnation of the plan, and further, that some of these same bad (?) men of his are now choosing our chief executives for us. Our critic so emphatically asserts that "slates" were fixed under the old plan that he almost says that they are not fixed up under the present arrangement. Doubtless he would have been correct to have so stated, yet he will hardly deny that there is in many cases an "understanding" among a select few before the assembling of the Nominations Committee. Could he not write at this time its probable choice for each of the offices next year, and with almost certainty select the next chairmen for the important committees? There are those who we believe can do this.

The A. V. M. A. has grown much during recent years and accomplished much, and the International Committee on the Control of Bovine Tuberculosis, an outgrowth of the Association, has accomplished a great deal more, but in our opinion there have been many factors that contributed more to the growth of the A. V. M. A. than its method of choosing its officers, not the least among which has been the AMERICAN JOURNAL OF VETERINARY MEDICINE, and there is much that the Association could have accomplished that it hasn't. The A. V. M. A. is nearly as old as the American Medical Association, yet the A. M. A. has 35,000 members, has had a hand (often in an indirect way) in the formulation of legislation for the protection of public health in nearly every state and large city, maintains a committee or council of experts for the detection of frauds on the doctor and to pass upon legitimate remedies, has a large share in the production of the Pharmacopoeia, supports efforts for national legislation, has conducted several movements for popular education, etc., almost without end.
Several states have no veterinary practice law and in most of those states having such legislation the veterinary laws are unsatisfactory. It would be a comparatively easy matter for the A. V. M. A. at least to aid in remedying this. An effort before the state legislatures in behalf of the 10,000 practicing veterinarians equal to that that has been expended upon Congress for the forty army veterinarians would have accomplished much, very much.

We had hoped Dr. Reynolds would give a reason why even the most introductory remarks are prohibited concerning nominees from the floor. This places nominees from the floor at a disadvantage as compared with the choice of the Nominations Committee, and is we believe unfair.

In conclusion we must object to the statement, implied, that our work during the past four years in building up the present circulation of this journal, unequaled by the circulation of any other veterinary publication in the world, represents the sum of our work for the good of the profession. It represents but a small part of it. Four years ago we looked upon a profession in this country nearly three-fourths of whom read no veterinary publications other than those issued for advertising purposes and the most of whom were perfectly satisfied with what professional reading matter they then had. Our first and greatest task was to create a demand for better veterinary literature. In doing this our work was impartial and destined to aid all deserving veterinary publications, and we have no other kind in this land. We entered a field in which two worthy veterinary publications had failed and another had had a life-and-death struggle for existence. We entered this field and won. And, because of our winning, more than 5000 veterinarians are better practitioners than they otherwise would have been, nearly every state association has more members than it would have had but for the enthusiasm aroused by our journal. Through this same publication the A. V. M. A. has received more advertising and more boosting among those eligible to membership than through all other agencies combined. Every other veterinary publication read in this country has had its circulation increased as a direct result of the demand we have created for this kind of reading matter. The bulletins of interest to veterinarians issued by state agricultural experiment stations and by the Bureau of Animal Industry have had a larger distribution, the sale of books on veterinary topics has been increased many hundreds because of this same demand for more and better veterinary literature.

That we have made mistakes in this work we should not think of denying. Our criticism of the Nominations Committee may have been a mistake, from Dr. Reynolds' view it undoubtedly was; there is no probability that it will be our last; we lay no greater claims to infallibility than that we do not often make the same mistake twice.

Let it not be supposed that this has been accomplished by us alone. We have had the earnest help and loyal support of hundreds of the best
men in the profession, Dr. Reynolds among the number, but the hard
grinding, grueling part of this work of awakening the veterinary pro-
profession, the discouraging, the nerve-racking, the almost heart-sickening
part of it, the reverses and disappointments, and the financial risk has
been all ours.

To understand this it is necessary to first get clearly in mind that
there are certain fundamental differences between periodical publishing
and almost every other kind of business. In the words of one of the
most successful publishers in this country: "Reading is a necessity of the
mind, not of the body. The publisher must create a mental want not
satisfy an existing bodily need. In no other business does mechanical
labor and material add so little to the real value of the product.

"A publisher has nothing concrete to sell his buyer—only ideas.
He has nothing concrete to sell to his advertisers—only a glance and a
moment's attention from his readers. Where another business may
live a lifetime one idea and wax fat and prosperous, selling it over and
over again in neat little packages, the publisher must have new ideas
for every month and every month's product must be different, yet in
certain essentials the same as that of the preceding month. When a
number of his magazine is off the press his warehouse is empty, his
patterns are worthless. Unless he can again and again create a new
thing that will in some measure reflect ever changing, yet ever changeless,
human nature, he will fail in the end. Nothing is more complete than
such a failure. The only salvage is a list of people who do not want
the magazine and some junk—for a printing press is either the livest or
the deadest thing in the world. It will not work at all for people who
do not understand their business.

"The magazine field is open to competitors, free to all comers. Any
man with a new idea and an old printing press can win success, but he
must win success all over again with every number of his periodical.
No matter how popular a magazine may be, no matter how strongly
intrenched it may seem, it has to go through exactly the same process
every month. Once such magazine has lost its perception of what people
want, once its hold on the public has loosened, it slides down a greased
way to bankruptcy.

"More money has been put into publishing than has ever been taken
out. It is the easiest business to get into and the hardest to stay in.
A new magazine ventures in the arena. The public looks it over and
says 'thumbs down' and the corpse is dragged down. An old favorite
comes on, cocksure that it is going to please the old way, misses a few
times, and the hearse is backed up to the stage door. Periodicals that
have passed down to the second generation without being entertained by
a receiver or two on the journey are as plentiful in America as the dodo.
During the past year as during almost every preceding year magazines
representing investments of from $100,000 up, that have never paid a
dollar's profit, have passed away, leaving behind nothing but a deficit.
"Advertising will not go into a magazine until after it has proved up with the public. So every publisher must start in business facing the certainty that, even under the most favorable circumstances, he will have a deficit for months, or years, or for keeps. That is his only certainty."

Recent Publications

A Pocket Medical Dictionary.—By George M. Gould, A. M., M. D., giving the pronunciation and definition of the principal words used in medicine and the collateral sciences, including very complete tables of the arteries, muscles, nerves, bacteria, bacilli, micrococci, spirilla, and thermometric scales, and a new dose-list of drugs and their preparations in both the English and metric systems of weights and measures, based upon the eighth revision U. S. Pharmacopeia, also a veterinary dose table. Sixth edition revised and enlarged, 1,006 pages, 34,000 words, flexible leather, $1.00. P. Blakiston's Sons & Co., Publishers, Philadelphia, 1911.

Any description of the Gould dictionaries is superfluous. More than 300,000 of them have been sold and there is scarcely a veterinarian who has not one or more of them. In this edition more than 4,500 new words have been added, so that the work is strictly up to date. The inclusion in the text, instead of separate tables, of eponymic terms is a distinct advantage of this edition.


Meat is one of the most important and most widely used of all foods, and it is at the same time the one that next to milk is perhaps most open to contamination from a multitude of sources, both before and after slaughtering. The most universal recognition of this fact has resulted in the passage of laws by all enlightened governments designed to insure a wholesome supply of meat and regulating its sale. The enforcement of these laws created a demand for a book of this character. The excellence of Edelmann's work in Germany has brought about the appearance of a second edition, and its translation by Drs. Mohler and Eichhorn, of the Bureau of Animal Industry, Washington, D. C.

The demand for the first American edition was so great that it led to a second edition in a comparatively short time. In this issue the book has been completely reset in new type, many new illustrations have been inserted, and the subject has been brought up to the latest date. The work is concise—at all times free from "padding."
Coming from the source it does, we should expect this work to be a scholarly, scientific, authoritative, quasi-official treatise covering every phase of the subject of meat inspection, and in no sense is it a disappointment. The value of the work for American veterinarians has been immensely increased by ample annotations by the translators.

No one in a position to know will question the statement that the United States has a meat inspection superior to that of any other country. In no other country is the meat inspection so completely under the control of veterinarians.

A very great deal is expected of the veterinary profession in this country in the way of food inspection, hence the great need of a work of this kind on meat hygiene. It is not with Federal Veterinary Inspectors alone that it should find a welcome; no veterinarian can afford to be without an authoritative guide on the science of meat inspection; the part that practicing veterinarians already have in municipal food inspection is large and rapidly increasing, and just in the degree that this inspection is placed upon a merit basis does it become less a farce and source of political graft.

The Physician’s Visiting List for 1912, published annually, 60th year, bound in flexible leather with gilt edges, flap, pocket and pencil, for twenty-five patients weekly $1.25, for fifty patients weekly $1.50, for seventy-five patients weekly (2 Vols.) $2.25, for one hundred patients weekly (2 Vols.) $2.50. P. Blakiston’s Son & Co., Philadelphia.

Simplicity and thorough adaptation to the purpose for which it is intended characterize the book throughout. It possesses the perfection that comes from much testing and long experience. The contents naturally fall into two divisions as follows:

PRELIMINARY MATTER.—Calendar: 1911-12—Table of Signs, to be used in keeping records—The Metric or French Decimal System of Weights and Measures—Table for Converting Apothecaries’ Weights and Measures into Grams—Dose Table, giving the doses of official and unofficial drugs in both the English and Metric Systems to correspond with new U. S. P.—Asphyxia and Apnea—Table for Calculating the Period of Utero-Gestation—Incompatibility—Poisoning—Comparison of Thermometers.

VISITING LIST.—Ruled and dated pages, with blank page opposite on which is an amount column, column entering for ledger page, and space for special memoranda.

Wanted---Ward Politics in a Scientific Body

The American Journal of Veterinary Medicine for October, 1911, contained an editorial opposing the continuation of the Nominations Committee of the A. V. M. A. Further discussion of this question appears in an article by Dr. Williams of Cornell, in the November issue of the same journal.
The writer ought to be in good position to defend the Nominations-Committee plan. He has probably suffered as much because of this plan as any other member of the Association. He has felt in duty bound to stand several times for nominations for the presidency when defeat was certain. He has stood for nomination after asking friends on the Nominating Committee not to allow his name to be submitted and has then faced harsh criticism for refusing to withdraw in the popular candidate's favor to the hurt of the Association's plan of election.

He can even plead guilty to being the originator of the Nominations Committee in the American Veterinary Medical Association. The suggestion that ex-presidents be used for this committee is not mine. This came from another man who has years of hard work for the Association to his credit.

I confess considerable appreciation of Dr. Campbell's good work for our profession and to a good deal of admiration for his success in building up the American Journal of Veterinary Medicine. We can readily and fully excuse him on the ground that he is comparatively young in A. V. M. A. work and unfamiliar with the conditions that often prevailed before the Nominations-Committee plan was adopted.

I can not believe that if Dr. Campbell understood the conditions and methods that were rather common in the old days, he would now argue for a return to them.

In the editorial previously referred to, Dr. Campbell offers several arguments that do not stand close analysis. There is an uncomplimentary statement to the effect that a large class of voters simply follow the lead of some one else and vote blindly; that this class of voters will blindly support the nominee whose name first appears on the list and therefore the man whose name first appears is usually chosen. Cold Association history clearly proves that this latter assertion is in error.

Then, again, there is a rather questionable bit of rhetoric to the effect that a committee of ex-presidents is naturally and necessarily apt to "look backward rather than forward, within rather than without," etc. In other words, ex-presidents are "has beens" so far as grasp of present and prospective association affairs is concerned.

Now! wouldn't that jar you? Stewart, Williams, Hoskins, Glover, Rutherford, Melvin, Dalrymple, and others "has beens" not capable of fully grasping present needs of the Association! These men have gone repeatedly through the executive-committee grind; served on practically every committee of the Association and, finally, had the responsibility, the training, and experience of the presidency. Always the Association member who lasts through a term of years and is an active worker is most loyal, has the good of his Association most at heart. If you want to make a good Association member of a young man, put him to work.

Then there is a suggestion in this editorial that this committee plan is the explanation as to why this Association does not grow as it
should or have weight with the public that it otherwise might have. It certainly seems to the writer that the A. V. M. A. has had a very healthy growth during the past few years, and further that this same Association has a very great deal of influence and weight in public opinion. Suppose VETERINARY MEDICINE publishes a statement of recent growth by years, before and after adopting this plan. We challenge such publication.

The work of the International Commission on Control of Bovine Tuberculosis which this Association appointed, has been accepted bodily without question by both the Canadian and American governments, and hundreds of thousands of copies of Commission reports have been distributed as the best statement available on the question.

Dr. Campbell says the Nominations Committee is undemocratic. But under this plan members who do not care to take an active part in political manipulations are certainly guaranteed a choice from several candidates, selected by representatives of all schools and all sections. The voter's reasonable rights are protected by unrestricted nominations from the floor whenever he thinks that the Nominations Committee is unfair or unwise in its selections.

It is the older days that were not democratic when slates were fixed up one or more years in advance, and only one candidate had any possibility of election, and when the voter had practically but one candidate to choose from or to vote for. The appearance, even, of democracy was very superficial.

Repeatedly the following dialogue has occurred in Association history previous to the adoption of the Nominations Committee, as can be testified to by all older members of the Association:

Instantly after the call for nominations, Jones, making a flowery speech: “I nominate Dr. Brown.”

Smith: “I second the nomination.”

Dr. Doe: “I move that nominations be closed; and the secretary be instructed to cast the ballot of the Association for Dr. Brown for president.” Then came the vote with only one candidate available. In some cases the same plan was varied by nominating men who didn’t stand a ghost of a chance for election.

It is to such “good old days” which Dr. Campbell would have us return!

We still have a little flavor of politics occasionally in our Association elections but rarely anything like a bad odor.

In the old days the Association was nearly always in the control of some one school for a term of years; occasionally two schools combined, and then we had a continuous game of “Ring Around the Rosy,” a condition which is impossible under our present plan.

In a number of cases the important offices have been actively campaigned for two years in advance. In some cases this was done with, in other cases without, the candidate’s knowledge of what was being
done. "You help us this year elect Dr. 'A'; then perhaps your friend Dr. 'B' may be appointed as chairman of the Executive Committee for the ensuing year. The year following we will all turn in and elect you to almost any office in the Association you would like."

How many of my older readers can remember cases where even the candidate himself condescended to buttonhole voters for two years in advance, asking for support when the proper time came by and by.

It would be unfair to suggest that such campaigning and trading was invariable. There certainly did occur a few important elections when the successful candidate had absolutely refused to make any pre-election pledges or knowingly permit active campaigning.

It may be that the present plan or personnel of our Nominations Committee is not the best that could be had. We should all be ready to accept improvement. But to do away entirely with the general plan and return to the old, would certainly appear to be a step backward which many members would much regret to see taken. Movement backward or downward is always easy; it is too difficult to make progress upward to take reckless chances of losing progress gained.

Our Association elections are now on a dignified basis. We conduct our elections in general like most other large scientific bodies of the country and on a general plan that has been tried in many large scientific bodies and found satisfactory. Suppose Dr. Campbell or any one else who really believes that the general plan of the Nominations Committee should be done away with, should look up and publish a list of important medical and other scientific bodies in the United States that have been using this general plan of a nominating committee or house of delegates, or something similar. Publish with this a list of scientific bodies of equal size and importance where elections are held by the old plan which the A. V. M. A. has discarded. The particular makeup of our Nominations Committee is, of course, a minor matter. A house of delegates or some other modification of the Nominations-Committee plan might be better.

There can be no question about the good ideals of Veterinary Medicine's editor, or of his loyalty to our profession, nor any question concerning the hard grinding work he has done for the profession elsewhere. It would seem that these factors should have made his October editorial an impossibility. Had he been working in the Association a few years earlier it is quite safe to say that this editorial would never have been written.

In the meantime let us hope that he keeps on pounding away for the profession even if occasionally he does hit the wrong nail.

Will some one who has an extra copy of the December, 1910, issue of Veterinary Medicine kindly send it to Dr. W. A. Thompson, Rushville, N. Y. The Doctor wishes to have his journals bound and lacks only this number of having his files complete.
In regard to the treatment of greasy heel (strahl krebs) in horses, by Haag (München. Tierärztl. Wchnschr., 1911, Vol. 55, No. 4, p. 56).—A detailed description of a case in a valuable horse.

The treatment consisted of radically removing the diseased tissue with final curettage, the application of antiseptics, and bandaging with a pressure bandage. The bandage was removed after five days and the foot treated every three days with formalin-pyoktanin and therapogen. The hoof was in good shape after six weeks.

Tubercle of the choroid in the cat, by W. I. Hancock (Vet. Rec., 1911, Vol. 23, No. 1175, pp. 433-436, pls. 2).—The author points out that very few observations have been made in regard to the presence of tubercles in the choroid of the cat. No notices in this regard appear in the veterinary text-books, and he reports his clinical findings with six such cases.

A persisting hymen in a cow, by Schaffer (Jahresberichte bayerische Tierärzte; München. Tierärztl. Wchnschr., 1911, Vol. 55, No. 1, p. 9).—A cow two and one-half years old which came into estrum every three to four weeks, but which after numerous attempts would not breed, was on inspection found to have a very thickly developed hymen. After incising with a knife about six liters of mucus mixed with dark blood gushed out. The animal was successfully bred at the next period.

A simple and harmless method for conducting the tuberculin reaction, by P. Barabaschi (Gaz. Osped. e Clin. [Milan], 1910, Vol. 31, No. 94, pp. 987-989; Ztschr Immunitätsf. u. Expt. Ther., II, Ref., 1910, Vol. 3, No. 12, p. 1053).—The area to be injected is strongly rubbed with absolute alcohol to produce a hyperemia. In the middle of the area thus prepared a thin layer of crude tuberculin is applied and allowed to dry.
A positive reaction consists of slightly raised vesicles which appear in twenty-four to seventy-two hours.

The disinfection and treatment of wounds with iodized benzine, by Meyer-Bardaviek (Berlin. Klin. Wchnschr., 1910, No. 25; München. Tierärztln. Wchnschr., 1911, Vol. 55, No. 6, pp. 92, 93).—The results obtained with a solution consisting of iodine 0.5 grams, benzine 800.0 grams and paraffine to make 1,000 grams were considered good. The iodine must be fully dissolved.

The hair on the field of operation is shaved off and then disinfected with the iodine-benzine solution, then rubbed with alcohol, and finally covered with a sterile cloth. A short time before the operation the area is sprayed with a solution consisting of iodine 2.0 grams dissolved in 10 grams of ether and absolute alcohol, collodion 2.5 grams and ether to make 100 grams.

Septic or purulent wounds, or wounds covered with oil or dirt, are also treated with the iodine-benzine solution.

Treatment of volvulus coli in a horse, by Pschorr (München. Tierärztln. Wchnschr., 1911, Vol. 55, No. 5, pp. 69, 70).—The first attempts made to unwind the colon according to Jelkmann's method seemed to quiet the animal considerably—it took feed after this. After five hours, however, it became very restless, and on exploration it was noted that the same condition which had previously existed had set in again.

Jelkmann's procedure was again tried, which resulted in a perfect reduction of the volvulus and a total subsidence of the existing colic.

Five cases of tricuspid stenosis in bovines, by M. Jühn (München. Tierärztln. Wchnschr., 1911, Vol. 55, No. 3, pp. 37–43).—A description of five cases of tricuspid stenosis in cows with calf. (This is of particular interest because cows affected with endocarditis seldom come to the attention of veterinarians.)

One case recovered completely, while the other four were slaughtered. The actual cause could not be determined, but metritis as a factor could be excluded. The author believes, however, that the distomes present which had migrated into the liver of the slaughtered animals were instrumental in introducing the bacteria found on the valves, into the blood stream.

The ophthalmic test in glanders, by Miessner and Schern (Deut. Tierärztln. Wchnschr., 1910, No. 5, pp. 65–69).—The method is a very satisfactory one and the unfavorable results obtained with this procedure are due to the use of varying malleins. The work of other authors is discussed in this connection.
I SHOULd like to hear through the medium of VETERINARY MEDICINE the experiences of other members of the profession in the treatment of canine distemper with "Gualyptol" marketed by the Sorby Vaccine Company.

My experiences with this product have been most gratifying.

C. G. SAUNDERS.

Toronto, Can.

DR. E. R. Voorhees of Somerville, New Jersey, together with Drs. J. E. Rider and William Sheppard, served as veterinarians for the Horse Show recently held in Madison Square Garden.

The South Dakota Chronicle of Armour, South Dakota, contains an obituary notice of Mrs. A. F. Reichman, wife of Dr. A. F. Reichman. The Doctor and family recently moved to South Dakota from Kingsley, Iowa. The sympathy of his many friends goes out to Dr. Reichman in his great bereavement.

The North Dakota Veterinary Medical Association will meet in annual session January 16th and 17th, at the Agricultural College at Fargo.

IN THE December issue of your journal Dr. Schreck of New Haven, Connecticut, asks for the formula of "Lesure's Colic Cure" and "Daniel's Colic Cure." They are said to be both the same, or were originally, as Daniel worked for Lesure, but later went in business for himself. One bottle, the lighter colored, is believed to contain tincture nux vomica, the other tincture colocynth. W. H. DODGE.

Dean Moberly Dead

The Bulletin is grieved to report the death of Dr. D. G. Moberly, class of 1900. The doctor had a wide acquaintance in the veterinary world through his service in South Africa and the Philippine Islands, and through his connection with the Food Inspection Service in Kansas City, also through his relations with the Kansas City Veterinary College and subsequently the St. Joseph Veterinary College. Dr. Moberly was an enthusiast in his professional labors and always sought to enhance the interests of the veterinary profession. A large circle of relatives and friends mourn this untimely end of what promised to be a very useful professional career. The death occurred at St. Joseph by suicide, December 9th, and the funeral services were held at Olathe, Kansas, at the home of his brother, Dr. R. L. Moberly, Tuesday morning, December 12th.—K. C. Vet. Col. Quar.
A Treatment for Periodic Ophthalmia*

During the past year I have been experimenting somewhat with periodic ophthalmia, and have found what I think to be practically a specific for this trouble. During the year I have been able to get only five cases to treat as we have very little of it in this part of Texas, but all five of these cases are apparently well. One has been cured eleven months, and the others somewhat shorter periods.

I would like to hear from veterinarians located in parts of the country where there is much of this to treat and to learn of their success along this line of treatment.

Treatment: Lugol's Solution and distilled water equal parts, which makes a two and one-half percent solution of iodine; inject twenty-five minims of this two and one-half percent solution into the fatty pad back of eye. Repeat in fifteen to twenty days if necessary, but in only one case have I had to repeat the injection. The eye will swell somewhat, but one need not be at all alarmed if the two and one-half percent solution is used. I used Lugol's solution full strength twice and got no better results than from the diluted solution; besides giving the horse a very sore eye. I suppose it is unnecessary to add that the instruments and field should be perfectly clean.

Earnest M. Wiggs, D. V. S.
Wichita Falls, Tex.

Success Under Adverse Conditions

About 10 p. m. I received a call from a farmer living fourteen miles north. He said over the 'phone that his animal was down in the field and could not rise even with help. Nothing was said about it being a mare or that she was near her foaling time. So like many of us I made a long-distance diagnosis which later developments proved to be erroneous. When I arrived at his place he still said nothing about the mare being heavy in foal only that his son had been working her during the afternoon in a four-horse team to a drag and that she was down in the middle of a plowed field about one-half mile from the house. Still thinking I had been called to treat a case of azoturia we drove out to the animal.

It only took a glance to change my diagnosis. I found what seemed to be a complete paralysis of both hind legs. Profuse hemorrhage from the vulva which was much dilated and teats greatly swollen.

I was at a loss to account for the hemorrhage until on further examination I found a laceration about two inches long in the left wall of the vagina about two inches from the vulva, evidently caused by the animal having fallen on the drag. I stopped the hemorrhage by giving digitalin, then examined further and found the os dilated, the membranes intact and the colt very much alive.

The uterus seemed paralyzed, for during the examination and the delivery the mare made no effort to strain. After very little trouble the colt was delivered and was as lively as could be, but strange to say we had a complete eversion of the uterus following. The ground was very dry and the wind blowing a gale, the case seemed almost hopeless. After cleaning the uterus as best I could and replacing it I went to bed. When it became daylight I irrigated the uterus thoroughly with a permanganate solution, advised owner to get the mare

*Reprinted by request.
home as soon as possible and prescribed strychnine sulphate, ten grains in a quart of water, one ounce to be given every hour. The owner informed me the next day by phone that the patient had been up several times during the day. A few days later he came to my office and said the mare was almost all right and the colt was doing fine. Last week he again called and asked advice about breeding her.

A. W. Austin, D. V. S.
Madison, S. D.

The annual meeting of the Colorado Veterinary Medical Association will be held in Denver, January 18th and 19th, 1912.

Formula for Lightning Liniment

Here is the formula for Black or Lightning Liniment asked for on page 868 of the December issue of VETERINARY MEDICINE.

Olei lini................... ozs. 8
Olei terebinthinae ...... ozs. 8
Olei amberis ............. oz. 1-2
Acidi sulphurici ........ oz. 1-2

Add the acid very slowly to the other ingredients in open dish; do not bottle for two to four hours.

G. S. Pratt, V. S.
Barron, Wis.

The Colorado State Board of Agriculture at its semi-annual meeting in December voted to change the name of the Division of Veterinary Science of the Colorado Agricultural College to the Division of Veterinary Medicine, and the degree from that of Doctor of Veterinary Science to Doctor of Veterinary Medicine. What state board will be next?

Parturient Paresis Like Azoturia

In reply to Dr. Heiny's query regarding his case of "Recurrent Parturient Paresis" in the November number, I had a similar case in which the cow was down on four consecutive mornings, the udder being inflated each day. After the fourth day, no recurrence occurred. From this case I learned that the udder must be distended and kept distended until recovery is complete and the excretory organs active; the calf even must not be allowed to suckle the dam until then. In certain cases there is atony of the bowels which must be overcome before the udder is milked out.

There are some points of resemblance between azoturia in horses and parturient paresis in cattle which are of interest. Both diseases occur in young, vigorous, plethoric animals when in the prime of life and condition. The attack takes the acute form in both diseases. The horse starting out in apparently the best of condition and the cow usually left all right the evening before. Symptoms are similar, nervous excitement followed by paralysis; the paralysis usually affecting the posterior extremities, and that one attack predisposes the animal to a second is true in both diseases.

Previous to Schmidt's wonderful discovery the treatment even followed the same lines, namely purgatives, calmatives, bleeding,
mustard plasters, etc. The duration was usually a couple of days with a heavy mortality. Schmidt reduced this to practically nothing with his udder distension treatment and now we need a simple treatment for azoturia to complete the analogy.

P. V. Weaver, D. V. M.
Glen Cove, N. Y.

Intestinal Strangulation by Ovarian Ligament

I was called to treat a case of colic in a mare twenty-two years old. I arrived about ten p. m. and found the mare suffering intense pain.

The owner told me the mare had not been used for a month or more and had been running on grass. She was found about four o'clock that morning, rolling and suffering great pain, respiration greatly increased, perspiring profusely, pulse very weak and rapid. Her bowels had not moved all day.

I was puzzled to account for the trouble, and gave her a dose of a mixture of chloroform and ether to try to quiet her long enough to make a rectal examination, but failed. I then gave her one ounce of chloral and succeeded in quieting her enough to make a manual examination per rectum, but found no feces there. I then felt something through the wall of the rectum, which seemed to be a knot tied in the bowel. I tossed it from side to side rapidly trying to dislodge it but failed. I then gave one-half grain of arecoline hypnoterically and produced efforts to defecate, but no feces passed.

I next gave fifteen grains of barium chlorid intravenously, which produced violent but still unsuccessful efforts to defecate.

The mare died about one o'clock. On autopsy I found an ovary had dropped down and passed around two divisions of the small intestine, then passed around itself or rather the ovarian ligament and was drawn down tight thus strangulating the bowel. (This mare was in foal.)

Has any reader had a similar experience?

W. B. Robinson, D. V. M.
Mt. Sterling, Ky.

Arsenical Tolerance of Sheep and Cattle

Two experimental lambs, one weighing seventy pounds and the other eighty-five pounds were given Fowler's solution of arsenic for stomach worms. I went away from home and forgot to give proper directions regarding the treatment and both were poisoned.

The smaller lamb was started in on 2 Cc. of the solution and it was increased 1 Cc. daily for eleven days when it was getting thirteen Cc. daily. On the eighth day it was noticed ailing with a severe diarrhea, but the medicine was continued until the death of the animal. The larger lamb was started on a dose of four Cc. daily and increased one Cc. daily until the thirteenth day, when it died from arsenical poisoning. It was getting fifteen Cc. at a dose.

This experiment reminds me of one that was made by my friend Dr. Francis of Texas. Some news-
THE OLD LINIMENTS

Executive committee selected, together with the president and secretary, to draw up by-laws were Drs. Trou, Brice and Mitchell. Another meeting will be held in a few weeks in the Chamber of Commerce rooms at Erie, when the association will be more thoroughly organized.

J. Atkinson Wilkinson.
North East, Pa.

Two Old Liniments

In the December issue of Veterinary Medicine, page 867, Dr. Peterson, Cullom, Illinois, inquires for a formula for Black Oil Liniment for wire cuts. Perhaps the following will meet his needs.

No. 1. LINIMENT FOR WIRE CUTS

Raw linseed oil............pt. 1
Potassium nitrate............oz. 1
Lead acetate...............oz. 1
Sulphuric acid.............oz. 1
Carbolic Acid..............oz. 1-2

Mix the three first and the fifth ingredients, then the sulphuric acid, slowly stirring all the while in a large mortar.

Sig.: Apply to cuts with a small brush or feather.

No. 2. MARSHALL'S BARBED WIRE LINIMENT

Pix liquida.................oz. 3
Oleum terebinthae ozs. 1-2
Phenol....................ozs. 1-2
Oleum pisces, q. s.........pt. 1

M. Sig.: Apply to cuts two or three times daily after first washing well with warm water and soap.

I cannot vouch for the good qualities of these. They are some old formulas of mine and I never have used them. Let the
good work go on, and if we veterinarians are willing to exchange our thoughts and experiences we shall all gain a great many new ideas. Your formula department is a dandy.

Z. W. SEIBERT, V. S.
Crestline, O.

Make Your Own Proprietaries

I am glad you have taken up the publication of formulæ of the much advertised veterinary preparations. In my experience I have found that my clients think one is very clever if one can supply and make them a much advertised article. I have been making up Kendal's spavin cure for some time for those who demanded or praised that preparation. I have been putting up a six-ounce bottle and charging one dollar for it. The average stock owner goes to the drug store for his blisters, liniments and colic cures, and I think it is up to the veterinarians to prevent this as much as possible.

I should like to know a real good colic drench that one can sell to the horse owner to arm himself for a colic case.

Below find the formula for a preparation that simulates Absorbine.

Oil of wormwood......oz. 1
Oil of turpentine......ozs. 4
Oil of wintergreen......ozs. 2
   (artificial)
Oil of mustard......oz. 1-2
   (artificial)
Rectified spirits......ozs. 8

W. B. Cox, V. S.
Unity, Sask., Can.

Ascarus Infestation

October 14th, I was called to attend a grey gelding, the property of Mr. G. Jones of Gold Brook, New York. This animal had been subject to attacks of colic every few days during the past two months, the attacks lengthening in duration and increasing in intensity as time progressed. I was not the regular attending veterinarian and this was my first experience with either the owner or the animal. This attack began about three p. m. and I was called about 9 p. m., and found enteritis well established. In spite of all treatment animal died at five o'clock the following morning.

The owner opened this animal and removed, from the small intestines, so he said, a large quantity of worms, which he turned over to me when I visited there later in the day.

I found upon count, 512 of the ascaris megalacephalus, varying in length from one and one-half inches to fourteen inches; averaging eight inches. Of this lot, one hundred and eighty were fully pregnant, one of the largest contained one hundred and twenty young ones. The whole number completely filled two quart jars, packed solid. A simple computation will give the approximate total of worms present, 26,720 snakes that were deriving nourishment from this animal. As far as my experience of twenty-six years of practice and such recorded cases as I have heard of goes, I believe this is a record. I have the proof in my office, and the
exhibit has been a great source of interest to everyone who has seen it.

The autopsy showed extended extravasation along the intestinal tract, but no ulceration of the mucous coat of the stomach as I have seen in other similar cases, traceable to the same source.

[No name was signed to this report, doubtless through an oversight. We shall be glad to give proper credit if the writer will furnish the necessary information. —Ed.]

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Unusual Case of Ascites

During the spring of 1902 I was called into the country, and upon arriving, the farmer informed me that he had a little jersey heifer, not yet two years old, that he guessed was going to have twins or triplets, as she had got so heavy that she could no longer stand; pregnancy was advanced seven months.

I found the distension due principally to ascites, and inserted the trocar and cannula.

Like Doctor Gillett, who reported a similar case in the August, 1911, issue of VETERINARY MEDICINE, I did not at first realize the quantity of fluid, till the bedding began to get wet. I thereby lost four or five gallons, not measured. I drew thirty-six gallons after beginning to measure, making, I am sure, fully forty gallons in all.

I decided not to draw all the fluid at one time, for fear of the surgical shock, and a too sudden distension of the abdominal blood vessels, from suddenly relieving so much pressure.

The animal was lying down, and I had tapped high enough so that we were able to draw directly into a barn pail, so that I am confident that we did not draw over three-fourths of the fluid.

Despite my precautions, she aborted the following night, a single fetus, of average size. The fetal membranes had to be removed by hand the second day after the abortion.

She was still unable to stand (having been down several days before I was called) so I left fluid extract of nux and gentian, with instructions to keep her well bedded and to turn her several times daily.

In about a week she came to her feet and made a good recovery. The remaining fluid was reabsorbed and I did not have to tap her again.

I ascribed the cause to be due to fetal pressure on the circulation, probably the portal system, which accounts for the rapid absorption of the remaining fluid as soon as the pressure of the fetus was removed.

I advised the farmer not to breed her again, and she was fattened for beef.

I believe that had the animal been standing, and I had drawn all the fluid, the amount would have equaled the case referred to above.

The farmer told of the occurrence to the neighbors but, heretofore, I have refrained from telling it, for fear my reputation might suffer.

This occurred on the farm of John McCourty & Son, wealthy farmers of Red Creek, New York, and was witnessed by Newton
Douglass, a neighboring farmer.

W. C. VANALLSTYNE, M.D.C.V.S.
Veterinary Surgeon, 7th U.S. Cavalry
Ft. Wm. McKinley, P. I.

Refer This to Your Wife

The following are some of the questions that were asked, and answered, at a meeting of the Chicago Veterinary Society to which the ladies were invited. The regular program of this association consists of a discussion of questions taken from a question box, to which all who desire may contribute. This sort of program has proven wonderfully interesting to the Chicago Veterinarians and is a means of keeping the attendance at their meetings above what could be hoped for did the program consist of formal papers.

1. How do you judge the merits of a late return home?
2. Who will suffer in the hereafter, the veterinarian or his wife, for the unmitigated falsehoods, told over the telephone by the wife, during nocturnal hours, at the suggestion of the husband?
3. Is the veterinarian who regularly attends the meetings of this society, a gainer thereby?
4. How should meat and milk be handled, after it arrives at the home, to prevent contamination?
5. Which is preferable for a pet, and why, a horse, dog or cat?
6. Is it an evidence of progress of the profession to find veterinarians using automobiles instead of horses?
7. What shall we do to the veterinarian who is chronically late for his dinner?
8. What of the veterinarian’s wife whose dinner is chronically late?
9. What keeps our husbands at the meetings of this society until one or two a.m.?
10. What is the veterinarian’s social duty to his wife?
11. What is the most disagreeable part of a veterinarian’s business from the wife’s point of view?

In attending veterinary meetings in the various states we occasionally meet the wives of veterinarians in attendance; not nearly as often as we should, for veterinarians do not take their wives to their association meetings one-tenth as often as they should, or as, we believe, the women-folk would like to go. But some few veterinarians do take their wives regularly to veterinary meetings. These ladies tell us that they read Veterinary Medicine and find it interesting. The foregoing queries are propounded here for the ladies alone. Let us have your answers. They may help your Chicago sisters to solve some of the very many difficult problems confronting them.

An Effective Treatment for Roup—
Catarrhal and Diphtheritic

Simple roup—contagious catarrh and diphtheritic roup—avian diphtheria, though two distinct maladies requiring different treatment may be present in the same flock at one time. Not infrequently birds with simple roup develop later the diphtheritic variety. In my own yards several year-old
Orpingtons contracted catarrhal roup in its most virulent form, and before these were thoroughly well half a score pullets in the adjoining run went down with true diphtheritic roup. Altogether I had at one time thirty birds under treatment. The catarrhal patients responded quickly to treatment: of the hens with diphtheria seven died before I was able to discover an effective treatment. As I find the books on diseases of poultry offer a variety of treatments (none of which prove very efficacious) I feel that I may serve others by outlining the procedures which proved curative in practically every instance.

It is important to recognize simple roup as soon as the bird sicksens. Two thoroughbred fowls—one a two-year-old Wyandotte rooster lost an eye through the inability of the attendant to detect the oncoming malady. The sore eyes were noticed but were reported as being due to "spurring." When I examined the birds I found the temperature high: the tongue pale and dry and the eye on one side closed and immensely swollen. Strangely enough, only one side of the head was affected in every case save one. This bird's eyes were destroyed within four days and as it was unable to feed was killed though it had practically recovered. I made a small incision at the lower margin of the orbital space, evacuated fully a dram of pus and then irrigated the cavity, nostrils, mouth and throat with peroxide of hydrogen one part, water one part. When foaming ceased the inner and outer surfaces were sprayed thoroughly with an alkaline antiseptic solution.

An excellent formula is boric acid gr. 1-4; benzoic acid, gr. 1-4; sodium silicofluoride, gr. 1-2; sodium sulphocarbolate, gr. 1-2; sodium bisulphide, gr. 1-2; thymol, eucalyptol, menthol, of each gr. 1-2; camphor, gr. 1-16; hydrastine, gr. 1-16. The Abbott Alkaloidal Company prepares a tablet containing the above ingredients, listing it as "Menthol Compound." One tablet should be dissolved in from four to eight ounces of warm water and one to two drams of glycerine added. Use the solution freely. If suppuration is marked and pustules appear upon the wattles or comb use the stronger solution over such areas: the weaker can be applied without danger to the eyes, nostrils, etc. Or the eyes may be irrigated with a solution of boric acid, gr. 5, and zinc sulphocarbolate gr. 2, to the ounce. All pustules should be opened and every affected surface (except eyes) cleaned first with the peroxide. Dry the treated areas and then swab with equal parts of oil thuja and Antiseptic Oil (another preparation made by The Abbott Alkaloidal Company). Give each adult fowl gr. 1-3 of calcium sulphide and gr. 1-2 echinacea twice daily—it is easy to administer these drugs while treating the bird. A solution may be made and given with a dropper if preferred. As all birds with roup have diarrhea their water should contain one grain of the combined sulphocarbolates of lime, zinc, soda and copper to the ounce. I also add one even tea-
spoonful of the sulphocarbolates and one of calcium sulphide with half the quantity of pepper to the mash for twelve birds. Water vessels must be kept scrupulously clean and disinfected with carbolic acid and boiling water daily. Change the water night and morning. Sick birds should be removed from the flock and kept in a dry, light room. It is not necessary to kill infected fowl. Even those infected badly and treated late will recover and even though they lose an eye or part of the comb will, within a month, fatten well. Valuable hens may be forced to lay after a month or six weeks convalescence. That the disease in either form is most infectious is true: eight yards out of the ten throughout the country have suffered this season, and unless the birds are removed as soon as attacked and great care is taken to maintain cleanliness and supply the unaffected fowl with a good mixed diet the loss will be terrific. One fancier I know lost twenty-six birds out of a flock of thirty-four. He is one of the men who say "Treatment is useless! Kill every infected hen and burn its body."

"Leg weakness," rheumatism, leukemia and a host of minor disorders follow roup unless good care is taken of the flock. Birds under one year and over three seem to fall the easiest victims. Strong two-year olds passed through the epiornitic untouched though in the same pens.

DIPHTHERITIC ROURP. This, the more fatal malady of the two, must be treated vigorously. The affected bird gapes, sits around with drooping tail and arched back: younger fowl tuck their heads under their wings and present a most forlorn aspect. The comb is pale and the nostrils either glued up or discharge a ropy secretion. After a day or two the birds wheeze or "roup" when breathing and at this stage are unable to pick up and swallow grain. In some few cases the eyes are suffused or even contain pus. Upon opening the mouth of a sick bird grey or yellow patches of a cheesy or membraneous substance will be observed about the central fissure—upon the roof and on the floor under the tongue. Sometimes the pharynx is involved. Spray freely, using a good atomizer—with peroxide of hydrogen and water equal parts, flush away the resultant foam with the antiseptic solution already recommended and then, with a small curette remove the false membrane: scratch it away lightly and persist till the spot bleeds or until all the growth is destroyed. Cleanse again with the antiseptic drug and then swab areas with iodoglycerole—iodine in glycerine. A dilute tincture might serve. Drop into the nares with a fine dropper a minim or two of oil thuja one part, Antiseptic Oil (A. A. Co.) one part, liquid petrolatum three parts. Thymol, gr. 2, may be added to each ounce in bad cases. Swab the pharynx with the same preparation. Medicate internally and feed as in catarrhal roup. Calx iodata, gr. 1-3 may be added to the other remedies with advantage. Treat each bird thoroughly and daily. You may lose a fowl now and again, but you can save ten out of
If the birds' droppings are at all hard give ten drops of castor oil and add epsom salts to the drinking water for a few days. Usually however, the droppings are fluid; here the sulphocarbolates must be used as directed. Drop-
pings should be removed and turned every other day and perches, nest boxes and walls sprayed or swabbed with kerosene and carbolic acid (one ounce of carbolic to the quart of kerosene) or some good commercial disinfectant. A good coat of white wash serves the pur-
pose, but lime should not be put upon the roosts. These should be treated with the selected antiseptic and then rubbed dry. Sawdust or dry sand should be thrown under the roosts to catch droppings.

INDIGESTION AND THE STOMACH TUBE

At nine p. m. Thanksgiving day, I was called eight miles into the country to a case of colic, with the request to hurry as the owner feared the horse would die within a short time if not relieved. When I arrived I found there was sure enough need for haste, the poor brute was about done for, was terribly bloated, as wet as sweat ever makes a horse, and exhibiting that expression of agony so familiar to us all. He was regurgitating every few seconds, the stomach contents being discharged through the nostrils, as near to vomition as a horse usually gets.

I left my team to the care of others and passed the stomach tube as quickly as possible and a description of what I got out through that tube is hard to give; it was quite thick, very bloody and frothy, so bloody that I believe there was between one and two pints of blood in the stomach and it gave the appearance of having been energetically churned for some time. There was but a small amount of injesta mixed with this. While we did not take time to measure the quantity taken from the stomach, yet I believe we got considerably over a common bucket full, and the odor, well, it drove one man out of the barn and another had to take a chew before he could stay longer and help.

Before removing the tube I pumped in nux, turpentine and eucamphol. While this gave considerable relief, both from pain and symptoms, yet it was by no means complete. I gave heart stimulants, hypodermically, also a small dose of arecoline, hoping to hurry things on and get relief through the natural passage, but in this case I believe that was a mistake because of the pain, the depression of the heart, and the abundant secretions which the tired and distended stomach could not handle so soon after its engorge-
ment. There being no particular bowel trouble, I now think areco-
line was not indicated.

The patient continued in pain with frequent retchings, as though choked until three a. m. when I again passed the tube and got something more than a bucket full of liquid, which though bloody,
was much better in appearance than at first; after this the horse was very quiet and depressed but recovery was very rapid.

While this case is neither new nor startling to most of you, and I could recite the history of many cases somewhat similar, I selected this one in order to emphasize the use of the stomach tube, which I believe is one of the greatest mechanical means of treating disease that we have. I am convinced that no amount or kind of medicine that could have been emptied into that stomach or injected hypodermically into that particular horse would have effected a cure. Nevertheless in conversing with different veterinarians at recent association meetings I have been surprised to find so many who seldom if ever use a stomach tube. The fact that so little has been written and said about the use of the tube I think accounts for so many being timid or slow about beginning its use.

It is now six years since I began using the stomach tube and I have had quite a varied experience with it in that time. The first tube I used was the hose of my injection pump, although only about six feet long, it did some very effectual work on a few cases. Other tubes have varied from soft rubber tubing to small garden hose. One of them of course was a $15 one. Right here I will say just a word about the Knisely tube. I cannot agree with the Doctor’s claims of great superiority for his tube over the single tube, all things considered, but I do think the Doctor deserves great credit for bringing the use of the stomach tube in general, so prominently before the profession. He has done more than all others to popularize its use and a vast amount of good has been accomplished thereby.

The first few times I used the Knisely tube, I was disgusted, to say the least, it being so unhandy to carry the cumbersome speculum along for a case of colic, besides the patient would breathe much harder and resist the procedure much more vigorously than when passing a tube through the nose. Later I used a method (which I have reported before) of strapping the jaws together and passing the tube through the inter dental space. This method I used altogether as long as I used the Knisely tube. It is too large to make a practice of passing it through the nostril in all kinds of horses, it is also so large the esophagus often holds quite a firm grip upon it making it necessary to have a stilet in order to pass it at all. So many appliances all for one operation of the kind is rather unhandy, if you count the convenience of carrying, handling, passing, etc. I prefer the single tube.

Many times while using the double tube I have discarded the secondary tube and used only the large one as a syphon, believing it worked better that way. A short time ago the small tube on mine sprung a leak and I peeled it off and now I have the best working tube I ever saw. It will allow a whole grain of corn to pass out and yet it can be passed through the nostril without the use of a stilet except in a few cases, and is
not at all cumbersome to carry in the buggy all the time.

As to the technic of passing the tube, I will say a few words for the benefit of those who have had little or no experience. The first step is to make the tube slippery; as oil is very hard on rubber it is advisable to use an infusion of slippery elm bark or in most cases one can, by inserting the hand into the mouth get enough saliva to answer the purpose very nicely. Next have an assistant hold the head firmly, pass the tube up along the floor of the nostril. It is very important to keep down on the floor, well into the groove below the superior maxillary bone and thus avoid injuring the turbinated bones and consequent hemorrhage. When the tube reaches the pharynx the patient will involuntarily swallow, then, if you are "Johnny on the spot" and quickly shove in about four inches of tube it will seldom fail to enter the esophagus, but if you are too slow it will usually enter the trachea. When this occurs remember the old adage "if at first you don't succeed, try again." Then by proceeding slowly the patient will usually swallow it without much trouble, though occasionally it has to be pushed clear down.

Another difficulty is sometimes experienced in cases of engorgement of the stomach with grass, oats, or similar food, just before the tube reaches the stomach, it will stop, owing to the pressure on the esophagus by the stomach itself, and you will be unable, any way you choose, to pass the ordinary tube any further without a stilet or something to answer that purpose, a small wire used double, the double end first, makes a very satisfactory stilet and is very convenient to carry. In such cases this is very important because if the tube does not fully enter the stomach and water is pumped in, the water readily finds its way on into the stomach and you will be unable to get any return and it will consequently only aggravate the trouble already there by increasing the quantity of liquid in the already over-distended stomach.

There is another condition which is often baffling, when one pumps into the stomach a considerable quantity of water and fails to get a proportionate return, the water disappears and I have been led to believe in several cases that the stomach was ruptured, but learned it was not for such patients have sometimes recovered. I believe the tube enters the stomach in such a way that the water passes direct into the intestines much the same as when a horse drinks several times the quantity of water that his stomach will hold.

There is another use to which a tube can be put, while I have never employed it in this way myself, my brother, Dr. A. J. Treman, has in several cases so used it with very gratifying results, that is, in impaction of the bowels; simply pump three to six gallons of water into the stomach and follow with a full dose of eserine or arecoline, thereby more fully liquefying the bowel contents and wash the offending obstruction on out.

H. B. TREMAN, D. V. M.
Rockwell City, Ia.
Roup, Swelled Head or Diphtheria in Fowl

Roup in fowls is an infectious disease, the lesions of which first appear on the mucous membrane of the nasal passages, eyes, mouth, pharynx, larynx, and may extend to the trachea, bronchi and air sacs. The disease is accompanied by a grayish yellow exudate which forms upon the mucus surface of one or more of the parts mentioned. The exudate may be so abundant as to obstruct the air passages.

In many cases or outbreaks, the loss is very great, and may destroy all or nearly all of the birds in the flock.

There are cases on record which indicate that the diphtheria of fowls may be communicated to children and cause a serious and even fatal sore throat. The disease is usually introduced into a flock by the exposure of the birds to sick ones at shows, or by bringing affected fowls on the premises. There is a general belief that the disease may be developed by exposure of the birds to draughts of air or by keeping them in damp, filthy and badly ventilated houses; and these are certainly important contributing factors.

My experience in showing birds has been that very frequently they are returned from shows suffering from this disease. I attribute the prevalence of the disease in such birds largely to exposure, as express agents, during show periods, which is almost always in winter, carry the birds around perhaps for hours before they are delivered. I have seen birds shipped to shows in perfect condition, that, due to the exposure en route, would, on reaching the show exhibit a watery discharge from the nostrils and the eyes—the first symptoms of roup, and progressively show the later stages—weakness, arching the back, roughness of the feathers, more or less obstructed respiration and difficulty in swallowing. There is a frequent shaking of the head and sneezing, and expectoration of mucous secretions. The tongue is pale and shows grayish spots. The appetite disappears and there follows a diarrhea of a greenish or yellowish color. The eyes are unnaturally dilated, projecting, and possibly partly covered with a thick secretion which accumulates between the lids; the nostrils are obstructed by a similar exudate.

There are various other lesions too numerous to mention, but it is not my intention to detail the pathology and lesions to be found and postmortem changes. The main object in writing this article is to call the attention of veterinarians to the exceedingly great loss from this disease and to the fact that effective treatment is so very simple. Many think to destroy the affected birds the quickest method of checking the spread of this disease. This is a very expensive method, especially where a man has a flock of birds, used for show purposes, that average in value anywhere from fifteen dollars up to a few hundred dollars a head. Under such conditions shall our advice be to destroy? From my experience which has been large with this disease, I say, No.
My method is to isolate all birds showing symptoms of the disease and to disinfect the premises. If the number affected is not too large cleanse the eyes and nostrils with mild antiseptics. Due to the acute inflammatory condition of the larynx and pharynx the birds will show great thirst. I use a solution of about a three to five percent potassium permanganate and allow no other water to drink and keep the birds in a dry, warm place. I find this treatment which is simple gives the best results I have ever seen or heard of. I recall cases in birds which cost me quite a considerable sum that were unable to hold up their heads, and I was compelled to administer the solution with a small syringe, and by keeping the parts cleansed and the birds in a warm place, I have had wonderfully quick recoveries.

The shows have already started and the cold weather is here, which means that this trouble is now with us. I am sure that any who follow this very simple line of treatment will be, as I am, wonderfully pleased with the results.

E. T. Booth, V. M. D.
Philadelphia, Pa

Success in a Puzzling Case

In the December issue of Veterinary Medicine, I notice an inquiry from Dr. Wallace W. Herron of Silver Creek, New York. It is my pleasure to answer this inquiry, as I have had a very similar case brought to my attention. My patient was easily fatigued. Appetite, temperature, and pulse normal; the bowel action apparently normal; urine of a milky color, but normal in quantity.

This mare was not in as good condition as she should have been from amount of feed given. She was more or less constantly in heat. I attributed the unthriftness and the lack of strength to the unnatural condition of the generative system. My treatment was one dram of calomel and one of aloin to get the liver and bowels to acting properly, and then Fowler's solution of arsenic. An eight-ounce bottle of Fowler's solution was all that was necessary.

She was then served by a stallion, conceived and was all right afterwards. I gave one tablespoonful of Fowler's solution three times daily in oats. Giving a bran mash occasionally and entirely eliminating corn.

I hope this may be of some benefit to the doctor.

J. D. McFarland, M. D. C.
New Berlin, Ill.

Diaphragmatic Hernia; Intestinal Strangulation

The following history of a very unusual case should be of great interest to all veterinarians. It is the first that I have ever seen in twenty-seven years' constant practice, and I do not remember ever having seen a complete description of one. The subject, a large, nervous, clean-built horse, one of three that hauled a fire truck of large size, and he had the reputation of being
a most terrific puller. In his exercise about 8:30 a.m. he was suddenly taken with severe pains, the perspiration pouring from him. From the description over the telephone I thought it a case of azoturia, but saw that the pains were of intestinal origin as soon as I got to the engine house.

I gave one-half grain of arecoline which produced very little result, in twenty minutes repeated it with less results than I expected. The first dose was given at 9:20, at 10:20 I gave one grain of eserine; this produced a few thin evacuations, but not as much as I expected. However, it did not increase the pain a great deal.

About 11:30 I decided to try to quiet him and gave about five grains of morphine, this quieted, but did not stop the pain. The arecoline and eserine increased the peristaltic murmur but slightly.

Soon after noon I led the patient to my hospital and gave him very moderate doses of morphine through the afternoon and evening. He was never free from pain and was slightly delirious, continually walking the stall, but seldom lying down. I left him in the care of my assistant and went home. I had very little hope of his recovery and suspected a ruptured stomach; the pulse was almost imperceptible and the ears warm, but rigid.

About 2:30 a.m. in response to a call from my assistant I went to the hospital and we passed the stomach tube but got nothing. There was no belching or vomiting, but the patient sat upon his haunches like a dog, much of the time.

He indicated the location of pain by constantly pointing with his nose to the right side just back of shoulder. On listening at this point I could hear a slosh as of water at every beat of the heart. I made up my mind that there was a rupture of something, and that he was going to die.

When morning came I notified the fire chief to that effect. He wanted me to call in consultation which I was only too glad to do. The consulting veterinarian diagnosed it ruptured stomach, although all the symptoms of this condition were not present. About 3 p.m. the patient died after a hard struggle and in ten minutes he was cut open.

We found a hernia of the diaphragm at about the point he had indicated with his nose; six feet of gut had passed through into the right thoracic cavity. The intestine was nearly severed at the point of strangulation. The right lung was pushed to the top of the cavity and plastic adhesions had begun to form between lung, gut and chest wall.

The unaccountable "sloshing" sound had been produced by the beating of the heart against the gut partially filled with gas and fluid.

The hernia in the diaphragm was an old one about one and one-half inches long, the edges completely healed. The pressure from the edges of the hernia was so great that theserous coat of the intestine was cut through.

Now it appears to me as if one of two things had taken place. A large hernia had taken place from
ILLINOIS VETERINARY ASSOCIATION

R. T. WHITTELS, D. V. S.
Los Angeles, Calif.

ILLINOIS VETERINARY ASSOCIATION
ENTERTAINED BY THE ABBOTT ALKA-LOIDAL COMPANY

A most enjoyable feature of the twenty-ninth annual meeting of the Illinois State Veterinary Medical Association, held in Chicago December 7th and 8th, was the afternoon spent in an inspection of the laboratories of The Abbott Alkaloidal Company at Ravenswood, and the annual banquet held in one of this company's buildings in the evening. The members of the Illinois Veterinary Medical Association were guests of The Abbott Alkaloidal Company on this occasion; to this banquet were also invited veterinarians in the city attending the annual meeting of the United States Live Stock Sanitary Association, which held a meeting in this city the two days preceding. Members of the Chicago Veterinary Society were likewise invited to the banquet.

More than one hundred and fifty Illinois veterinarians were present at this banquet and a most delightful dinner, excellent toasts and interesting discussions brought out by the question box, were enjoyed by all.

Among the veterinarians from out of the state who attended may be mentioned, Prof. Robert W. Ellis, editor "American Veterinary Review," New York City; Dr. Peter Bahsen, state veterinarian of Georgia; Dr. C. M. Neibert, inspector in charge of the Federal quarantine service in South Carolina and Georgia; Dr. G. Ed. Leach, the irrepressible secretary of the Minnesota State Veterinary Medical Association; Dr. A. T. Kinsley, pathologist of the Kansas City Veterinary College; Dr. W. H. Hollingsworth, president of the Central New York Veterinary Medical Association; Dr. P. K. Nichol, city veterinarian of New York City; Dr. J. G. Wills, state veterinarian of New York; Dr. J. M. Smily, city milk inspector of Little Rock, Arkansas; Dr. J. H. Blattenburg, of Ohio; Dr. W. L. Boyd, University of Minnesota; Dr. Chas. H. Leavitt, district veterinarian, Manila, P. I., and others.

Speeches on various topics of interest to veterinarians were made by all visiting veterinarians and also by a goodly number of the Illinoisans, among whom were Drs. A. H. Baker, E. L. Quitman, D. Arthur Hughes, L. A. Merillat, J. H. Crawford, J. F. Biehn, and many others, including, of course, Doctor Abbott, who always has much of interest to talk about whenever he is with users of drugs.

At the close of the meeting in an eloquent peroration, in which he reviewed the growth of active-principle therapy among veterinary-
ians during the past dozen years and paid a glowing tribute to The Abbott Alkaloidal Company and to its President, and complimented it highly on what it has accomplished for this system of medication, Dr. J. M. Martin of Kankakee, called for a rising vote of thanks, upon which every veterinarian in the house voted in the affirmative.

A Proprietary for Removing Warts

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J. W. Smith, V. S. Le Sueur, Minn.

"Recurrent" Parturient Paresis Explained

In regard to the case reported by Edgar Heiny in the November number entitled "Recurrent Parturient Paresis", in my opinion his treatment was good, and in my own experience in cases that prove fatal after such heroic treatment, can be explained satisfactorily only by a post-mortem examination.

I have usually found heart trouble, fatty degeneration, and in one case a large darning needle embedded in the heart. I would like to hear what other practitioners say.

Thomas D. Goundry, V. S. Beaver Dams, N. Y.

[If we concede that parturient paresis is due to a circulatory disturbance—to anemia of the brain—it is reasonable that a weak heart would render recovery less certain. The doctor’s findings may accord well with the theory that parturient paresis is due to anemia of the brain.—Ed.]

The annual meeting of the Ohio Valley Veterinary Medical Association will be held in Evansville, Indiana, January 24th and 25th. Dr. C. T. Howard of Sullivan, Indiana, is secretary, and promises a good meeting.

Veterinary Colleges

C. H. D., Sumter, South Carolina, requests information as to addresses of veterinary colleges, which, while rather out of the line of pharmacy, we cheerfully furnish him and others who may be interested. The University of Pennsylvania, Philadelphia, Pa.; Harvard University, Boston, Mass.; Johns Hopkins University, Baltimore, Md., and the University of Chicago, Chicago, Ill., all have veterinary departments and furnish complete instruction in this science. There are a number of smaller institutions that have a veterinary department, the addresses of which can be obtained by request from the Bureau of Animal Industry, Department of Agriculture.

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