Western Canada Medical Journal

A MONTHLY JOURNAL OF MEDICINE
SURGERY AND ALLIED SCIENCES

TWO DOLLARS A YEAR

WINNIPEG, CANADA

VOL. II. JULY, 1908 NO. 7

Western Canada Medical Journal

GEORGE OSBORNE HUGHES, M.D., *Editor.*

REGINALD PHILLIPS, *Business Manager.*

Commonwealth Block, Winnipeg, Man.

Published on the Fifteenth of Each Month

VOL. 2. JULY, 1908 NO. 7

INDEX TO CONTENTS

NOTICES

Subscription price Two Dollars per annum in advance, postpaid. Single Copies 25 Cents.

Advertising rates to be had on application.

Remittances at the risk of the sender, unless made by Registered Letter, Cheque, Express Order or Postal Order.

Subscribers not receiving their Journal regularly would confer a favor by reporting such to the "Business Manager."

Original Articles, Letters and Reports should be addressed to "The Editor," P. O. Box 450 Winnipeg.

All Business Correspondence should be addressed to "The Business Manager," P.O. Box 450, Winnipeg.

WESTERN CANADA MEDICAL JOURNAL

VOL. II. JULY, 1908. No. 7

ORIGINAL COMMUNICATIONS.

*INFANT MORTALITY

BY

W. G. BROCK, M.B.; D.P.H.

Medical Officer of Health, Germiston, South Africa.

Dr. Freeman enclosed the following list of requirements for the certification of dairies, which will give an idea of the elaborate precautions taken to keep the milk pure and protect it from contamination.

Circular of Information Concerning the Requirements of the Milk Commission of the Medical Society of the County of New York for "Certified" Milk.

The Milk Commission appointed by the Medical Society of the County of New York, to aid in improving the milk supply of New York City, invited the co-operation of milk dealers and farmers in attaining that end.

The sale of pure milk is of advantage to those furnishing it as well as to those who use it. The Milk Commission has undertaken to assist both the consumer and the producer by fixing a standard of cleanliness and quality to which it can certify, and by giving information concerning measures needful for obtaining that degree of purity.

*Refer to June, 1908.

The most practicable standard for the estimation, of cleanliness in the handling and care of milk is its relative freedom from bacteria.

The Commission has fixed upon a maximum of 30,000 germs[1]) of all kinds per cubic centimeter of milk, which must not be exceeded to obtain the indorsement of the Commission. This standard must be obtained solely by measures directed towards scrupulous cleanliness, proper cooling and prompt delivery.

The milk certified by the Commission must contain not less than four per cent. of butter fat on the average, and have all other characteristics of pure wholesome milk.

Milk must not be sold as certified more than 24 hours after its arival in New York City.

DEALERS.—In order that dealers who incur the expense and the precautions necessary to furnish a truly clean and wholesome milk may have some suitable means of bringing these facts before the public, the Commission offers them the right to use caps on their milk jars stamped with the words "Certified by the Milk Commission of the Medical Society of the County of New York." The dealers are given the right to use these certificates when their milk is obtained under the conditions required by the Commission and conform to its standards.

In accordance with a law passed at the last legislature, the word "certified" may be used on the cap only when accompanied by the name of the Society which certified it.

The tin sealed cap, authorised by the Commission, must be used on all the certified milk passing through the hands of dealers selling milk other than certified. These caps are sent by the makers only to the farm where the milk is bottled.

---

[1]) This seems an unnecessarily low standard of purity. Some demand that it shall not contain more than 10,000 germs per C C at 12 hours; others again require that the milk shall not contain more than 5,000 germs at time of delivery to consumer. Even the last standard, to judge from results of examination of samples, could be met with ease here and leave a margin in favour of producers.

The name of the farm from which the milk comes must appear on either the paper cap or the tin cap.

Each bottle of milk must be dated on the date of bottling.

The Milk Commision looks to the dealers for its fee.

The dealer is expected to send a bottle of milk each week to the Research Laboratory of the Department of Health, taken at random from the day's supply for examination by experts for the Commission.

The dealers are to furnish deep, covered boxes for the certified milk.

The required conditions are as follows:—

1. THE BARNYARD.—The barnyard should be free from manure and well drained, so that it may not harbour stagnant water. The manure which collects each day should not be piled close to the barn, but should be taken several hundred feet away. If these rules are observed, not only will the barnyard be free from objectionable smell, which is an injury to the milk. but the number of flies in the summer will be considerablv diminished.

These flies are an element of danger, for they are fond of both filth and milk, and are liable to get into the milk after having soiled their bodies and legs in recently visited filth, thus carrying it into the milk.

Flies also irritate cows, and by making them nervous reduce the amount of their milk.

2. THE STABLE.—In the stable the principles of cleanliness must be strictly observed. The room in which the cows are milked should have no storage loft above it; where this is not feasible the floor of the loft should be tight, to prevent of sifting of dust into the stable beneath.

The stables should be well ventilated, lighted and drained. and should have tight floors, preferably of cement, never of dirt.

They should be whitewashed inside at least twice a year, unless the walls are painted or of smooth cement finish which can be washed frequently.

The air should always be fresh and without bad odour. A sufficient number of lanterns should be provided to enable the necessary work to be propely done during the dark hours.

The manure should be removed twice daily, except when the cows are outside in the fields the entire time between the morning and afternoon milkings. The manure gutter must be kept in a sanitary condition. All sweepings must be finished before the grooming of the cows begins, so that the air may be free from dust at the time of milking.

There should be an adequate supply of water, warm and cold, and the necessary wash-basins, soap and towels.

3. WATER SUPPLY.—The whole premises used for dairy purposes, as well as the barn, must have a supply of water absolutely free from any danger of pollution with animal matter and sufficiently abundant for all purposes and easy of access.

4. THE COWS.—No cows will be allowed in the herd furnishing certified milk except those which have sucessfully passed the tuberculin test. All must be tested at least once a year, by a veterinarian approved by the Milk Commission. Any animal suspected of being in bad health must be promptly removed from the herd and her milk rejected. Do not allow the cows to be excited by hard driving, abuse, loud talking, or any unnecessary disturbance.

FEED.—Do not allow any strongly flavoured food like garlic to be eaten by the cows.

When ensilage is fed, it must be given in only one feeding daily, and that after the morning milking, and the full ration shall consist of not more than twenty pounds daily for the average-sized cow. When fed in the fall small amounts must be given, and the increase to the full ration must be gradual.

If fed otherwise ensilage and cornstalks are liable to cause the milk to affect children seriously.

CLEANING.—Groom the entire body of the cow daily. Before each milking wash the udder with a cloth used only for the udders, and wipe it with a clean dry towel. Never leave the udder wet and be sure the towel and the water used are clean. The tail should be keept clean by frequent washing. If the hair on the flanks, tail, and udder is clipped close, and the bush on the tail is cut short it will be much easier to keep the cow clean.

The cows must be kept standing after the cleaning until the milking is finished. This may be done by a chain or rope under the neck.

5. THE MILKER.—The milker must be personaly clean. He should neither have nor come in contact with any contagious disease while employed in handling the milk. In case of any illness in the person or family of any employee in the dairy, such employee must absent himself from the dairy until a physician certifies that it is safe for him to return.

In order that the Milk Commission may be informed as to the health of the employees at the certified farms, the Commission has had postal cards printed, to be supplied to the farms, and to be filled out and returned each week, by the owner, manager, or physician of the farm, certifying that none are handling milk who are in contact with contagious disease.

Before milking the hand should be washed in warm water with soap and nail brush and well dried with a clean towel. On no account should the hands be wet during milking.

The milkers should have light coloured, washable suits, including caps, and no less than two clean suits weekly. The garments should be kept in a clean place, protected from dust, when not in use.

Iron milking stools are recommended and they should be kept clean.

Milkers should do their work quietly and at the same hour morning and evening. Jerking the teat increases materially the bacterial contamination of the milk and should be forbidden.

6. HELPERS OTHER THAN MILKERS. — All persons engaged in the dairy and stable should be reliable and intelligent. Children under twelve should not be allowed in the stable or dairy during milking, since in their ignorance they may do harm, and from their liability to contagious diseases they are more apt than older persons to transmit them through the milk.

7. SMALL ANIMALS.—Cats and dogs must be excluded from the stable during the time of milking.

8. THE MILK.—All milk from cows sixty days before and ten days after calving must be rejected.

The first few streams from each teat should be discarded, in order to free the milk ducts from the milk than has remained in them for some time and in which the bacteria are sure to have multiplied greatly. If any part of the milk is bloody or stringy or unnatural in appearance, the whole quantity yielded by the animal must be rejected. If any accident occurs in which a pail becomes dirty, or the milk in a pail becomes dirty, do not try to remove the dirt by straining, but put aside the pail and do not use the milk for bottling, and use a clean pail.

Remove the milk of each cow from the stable immediately after it is obtained to a clean room and strain through a sterilized strainer of cheese-cloth and absorbent cotton.

The rapid cooling is a matter of great importance. The milk should be cooled to 45 Deg. F. within an hour and not allowed to rise above that as long as it is in the hands of the producer or dealer, in order to assist in the rapid cooling the bottles should be cold before the milk is put into them.

Aeration of milk beyond that obtained in milking is unnecessary.

9. UTENSILS.—All utensils should be as simple in construction as possible and so made that they may be thoroughly sterilized before each using.

Coolers, if used, should be sterilized in a closed sterilizer, unless a very high temperature can be obtained by the steam sent through them.

Bottling machines should be made entirely of metal with no rubber about them, and should be sterilized in the closed sterilizer before each milking or bottling.

If cans are used, all should have smoothly soldered joints, with no places to collect the dirt.

Pails should have openings not exceeding eight inches in diameter, and may be either straight pails or the usual shape with a top protected by a hood.

Bottles should be of the kind known as "common sense,"

and capped with a sterilized paraffin paper disc, and the caps authorized by the commission.

All dairy utensils, including the bottles, must be thoroughly cleansed and sterilized. This can be done by first thoroughly rinsing in warm water, then washing with a brush and soap or other alkaline cleansing material and hot water, and thoroughly rinsing. After this cleansing they should be sterilized by boiling, or in a closed sterilizer with steam, and then kept inverted in a place free from dust.

10. THE DAIRY.—The room or rooms where the utensils are washed and sterilized and the milk bottled should be at a distance from the house so as to lessen the danger of transmitting through the milk any disease which may occur in the house.

The bottling room where the milk is exposed, should be so situated that the doors may be entirely closed during the bottling and not opened to admit the milk or take out the filled bottles.

The empty cases should not be allowed to enter the bottling room nor shall the washing of any utensils be allowed in the room.

The workers in the dairy should wear white washable suits, including cap, when handling the milk.

Bottles must be capped as soon as possible, after filling with the sterilized discs.

11. EXAMINATION OF THE MILK AND DAIRY INSPECTION. — In order that the dealer and the Commission may be kept informed of the character of the milk, specimens taken at random will be examined weekly by experts for the Commission, at the Laboratory of the Department of Health, the use of the laboratories have been given for that purpose.

The Commission reserves to itself the right to make inspections of certified farms at any time and to take specimens of the milk for examination, and impose fines for repeated and deliberate violations of the requirements of the Commission.

The Commission also reserves the right to change its standards in any reasonable manner upon due notice being

given to the dealers.

The names of the dealers with their addresses are printed on cards and enclosed with the monthly bulletin of the Medical Society, which is sent to about 1,700 physicians. For this one Dollar is charged each month.

'A list of the signatures of the members of the Commission follow here.

Research Laboratory,
Floor of E. 16th Street,
January 1st 1905.

As will have been observed, the main object of the "Milk Commissions" has been to supply pure milk. The "Milk Laboratories", as stated in Dr. Griffith's letter quoted above "were the plan of Dr. Rotch of Harvard University, and were put into practice by the Walker-Gordon Company..' The following extracts from a letter of Mr. Yates, the Company's General Manager in New York City, gives an interesting sketch of their methods:—..... For our milk "mixtures we use the milk that is produced on our own farm. "This milk has special care so as to prevent any form of "contamination. The cows before purchase are thoroughly "examined in respect of their physical condition, also as to "the quantity, quality and character of their milk; with this "guarantee they are received on the farm and placed in our "quarantine barn, held there for two weeks, then re-tested, "and if then pronounced satisfactory to our veterinarian and "our farm superintendent they are admitted into the herd. "By the time they are in the quarantine barn two weeks they "are fairly clean, and from then on they receive the usual "routine which each cow requires, and are cleaned thoroughly "each day. The barn in which they are kept holds 40 cows "each. The barns have cement floors without cellars, and "no loft overhead. Each barn has a continuous line of wind-"ows on the west and east sides, that is to ensure an abund-"ance of sunshine and perfect ventilation. Each barn is "cleaned daily, the cows are groomed once and cleaned twice; "the udders and bellies moistoned before being milked, and "the manure removed several times a day and spread at once

"on the fields. All food is kept in separate barns and brought "to the herd as needed daily.

"The milk is drawn by men who take their milk suits "and utensils from the sterilizer. As soon as the milk of "each cow is drawn it is placed in a receptacle and than taken "to the milk house distant about 500 feet, and then strained "through a sterilized cotton and gauze on to a cooler which "reduces the temperature in about a minute from 85 to 38 "Deg. F. It is then put in a glass bottle and then put in a "shipping case and thoroughly iced. So much for the milk "supply."

"This is the only method that we have found, that will "ensure a safe clean milk; all other methods tried by us have "failed to produce consistent results. This system insures a "clean safe milk 365 days every year, and that is, what is "necessary for a successful laboratory.

"The modifications are made up on physicians pres- "criptions only: In each case supplies are prepared for 24 "hours and delivered each morning at the residence of the "customer. For the modifications we use materials of a "definite known composition. This composition is determined "each day by a test, thus by using different amounts with "these different percentage materials we can get the modifieds "desired. For this purpose we have at considerable expense "had the different amounts for the different percentage "figured out....

"These Laboratories are operated by the Walker-Gor- "don Laboratory Co'y. The ones at New York and Boston "are owned by the Company, the others are operated by "separate Companies acting under a licence from the Walker- "Gordon Coy. to use their methods, tables etc. The Company "was organized to supply clean milk and definite percentage "cream for the use of physicians and infant feeding, and to "provide a place where milk prescriptions could be had at "any time. Shortly after the organization of the Company, "and as soon as it had determined the matter of its milk "supply, the Company invited the Physicians of New York "City to suggest to them some method of supervision which "would be satisfactory to them, and by which they could be

"daily assured of our product and of our method. The phy-
"sicians selected a committee, and the committee selected their
"experts. The committee is known as the Walker-Gordon
"Commission, and the Commission serves without pay."

"All expenses of the Commission and their experts are
"paid by the Company. The experts consist of a Veterinarian,
"Bacteriologist, Physician and Chemist. Examinations of the
"milk and of the farm are made at regular intervals, and at
"such other times as the Commission elects. Shortly after this
"a Commission was appointed to look after the City milk
"supply. This Commission certifies as safe such dairies as
"come up to their requirements. This milk is known as
"certified milk. Our milk is known as guaranteed milk.....
"We think that each City Commision wants to enforce every
"desirable requirement with reference to the milk supply;
"but a lack of funds compels them to limit their supervision
"to examinations of the milk and only occasional exam-
"inations of the farm. As the expense of the Walker-Gordon
"Commission is paid by the Company they do not hesitate
"to insist upon regular examination often. This of course
"insures regular work and clean systematic methods."

Both methods clearly show what great importance is attached to have a pure milk and keeping it pure from cow to infant. The second does more, it is an attempt to supply food for the infant as similar to human milk as possible, the percentage method allowing of a mixture being made to meet the requirements of each individual child according to its strength and age and such as the medical attendant finds most suitable for each case. The doctor writes a mil' prescription, sends it to the milk laboratory, where it is made up and sent out one feed in a flask and such number of feeds as may be suitable for the age of the child for 24 hours, the prescription being sent just as an ordinary prescription for medicine is sent to a chemist to be dispensed. The prescription is sent out in separate sealed flasks as a protection against contamination of any kind, each flasks being opened only when it is required for use. The reason for the use of percentage mixtures is seen when the composition of human and cow milks are compared, thus:—

Roughly—	Human Milk %	Cow Milk%
Fat	4.00	4.00
Lactose	7.00	4.75
Proteid (Casinogen	0.40	3.40
(Albumin and Extracts	1.60	0.60
Mineral Salt	0.25	0.75
Water	86.75	86.50

Comparing the most important constituent,[2]) it is seen that cows milk contains twice as much proteid as human milk. When the types of. the. proteids. are. compared the amount of casinogen in human milk is very small as compared with that of cows milk, while the albumin is proportionately very high in human milk.

It is clear that no method of simple dilution of cows' milk can make it in any way closely resemble human milk; but when percentage solutions are used this can be done. This may be illustrated by comparing two prescriptions given by Vincent which are exactly the same save in one the whole proteid is used, in the other the proteids are divided.

Prescription No. 1.		Prescription No. 2	
Fat	3.00%	Fat	3.00%
Lactose	6.00%	Lactose	6 00%
Proteids	1.00%	Whey Porteids	0.75% } 1.00
Lime Water	5.00%	Casinogen	0.25% }
		Lime Water	5.00%

When these are converted into actual mixtures this difference is very marked, thus:

Prescription No. 1. Mixture.		Prescription No. 2. Mixture.	
Cream 16%	3¾ ounces.	.....	3¾ ounces.
Fat free milk	2¼ "	.....	½ "
Lime Water	1 "	.....	1 "
Whey	nil	.....	14¾ "
Distilled Water	13 "	.....	nil
	20 ounces.		20 ounces.
Added lactose	7½ dr.		2½ dr.

When these are converted into actual mixtures their difference is very marked, thus:

[2]The important differences in the nature of the fats are not referred to, as these cannot be corrected.

Such are some of the methods resorted to and successfuly carried out in other countries for the reduction of infant mortality from epidemic diarrhoea by providing a food free from the organisms that produce this fatal disease, and by the supply of a food closely resembling human milk, to increase the chances of life to those infants who are from one reason or another deprived of their natural food. It is to remember also that this is done as a business undertaking.

From these conditions to those which prevail in this district is a "long journey" and one that cannot be accomplished within anything like reasonable time without outside aid. The only outside aid that can be looked for is from Government. A model dairy run on the above lines at some convenient spot on the Rand would be an immense help as an educator in this particular branch of the agricultural industry. Considering its importance from more than one point of view, it is one that is reasonable to hope would receive the sympathetic consideration of a Government that seems particularly anxious to aid in the development of such industries. It is one too that after a little time would at least pay its own way. In the meantime, however, the public are by no means helpless in the matter. It is quite within their power to do much to improve the unsatisfactory condition of most if not all the milk sold in the district. To ascertain to what extent this might be done and get some knowledge of the condition of the milk sold in the district at the time of its delivery to the consumers, that is about two to four hours after milking, samples were taken from vans from various dairies while delivering milk to consumers. These were at once put in an ice box and forwarded without delay to the Government Laboratory for bacteriological examination. The results with others are shown in the following table:

Table X.

No. of Sample	No. of Organisms growing at 37 C. per c.c.	REMARKS.
33a	1,344,000	Both Streptococcus and B. Coli were present in 0.00001 c.c. but B. Enteritidis Sporogenus was not isotated from 10 c.c.
34a	1,248,000	Streptococcus was present in 0.000001 c.c. B. Coli was present in 0.00001 c.c. but not in 0.000001 c.c. B. Enteritidis Sporogenus was present in 1 c.c. but not in 0.1 c.c.
32a	640,000	Both Streptococcus and B. Coli were present in 0.000001 c.c but B. Enteritidis was not isolated from 10 c.c.
35a	1,000	B. Coli not isolated from 1 c.c B. Enteritidis not isolated from 01 c.c. B. Streptococcus present in 0.01 c.c.
35a1	4,300	B. Coli not isolated from 1 c.c. B. Enteritidis Sporogenus not isolated from 10 c.c. Streptococci present in 0.01 c.c.
36a1	2,000	Neither B. Coli or Streptococci ' isolated from 1 c.c. B. Enteritidis Sporogenus not detected in 10 c.c.
37a	260	B. Coli present in 5 c.c. but not found in 1 c.c. Streptococcus present in 0.1 c.c. but not found in 0.01 c c. B. Enteritidis Sporog. enus not isolated from 10 c.c
37a1	170	B. Coli present in 5 c.c. but not found in 1 c.c. Streptococci present in 5 c.c. but not found in 1 c.c. B. Enteritidis Sporogenus not isolated from 10 c.c.

The samples 32a, 33a and 34a were collected as stated from the vans during distribution of the milk. To ascertain the condition of the milk at the dairy your Medical Officer collected 35a, 35a1, 36a1. under the following conditions: The cow's udder was cleansed, moistened, and wiped with a clean cloth, the first four or five stream discarded, the following milk drawn direct into sterilized bottles. 35a1 and 36a1 being placed at once in ice. 35a being kept exposed in the manner that the ordinary milk in course of delivery is exposed, for two hours, and then put in ice and forwarded at once to the

Laboratory. These samples were collected without any warning to the owner of the dairy, the shed being in the condition in which it is fair to suppose was the condition in which milking of the cows is usually done. It may further be noted that during the filling of sample bottle 35a1 the cow kept switching her tail. The tails were not fastened during the taking of these three samples.

On account of the excellent condition of these samples it was determined to have the milk collected by the daily attendants under conditions which required only care and cleanliness, and not more of these than might reasonable be required of dairymen in the collection of milk for a public supply. Arrangements for this being done were made with Mr. J. J. van Niekerk, owner of Lake Vista Dairy, who took the liveliest interest in the experiment. These samples were collected under the following conditions under the direction of your Medical Officer. The milking can, one with about a 5 inch opening, was "scalded" thoroughly with boiling water the lid being in position, the water poured out and the lid again put on. the cow's udder was cleansed and moistened and the tail made fast. The native milker having washed and dried his hands before beginning to milk, the fore milk being discarded, the rest being milked into the milk can, which had now got cool. As soon as sufficient quantity had been drawn, the lid was put on the can, and it conveyed to the kitchen, where the sterilized sample bottles were filled from a 'scalded' cup, 37a1 being at once placed in an ice box and 37a taken to office and kept exposed for two hours after time of milking, then put into ice box along with the other sample and at once sent to the Laboratory. The results of the examination were extremely satisfactory and clearly proved that under the simple and easily followed precautions stated, a sample of

*This was recognised in ancient times, Lauzun-Brown, in a paper entitled "The Ancient and Modern Methods of treating Infantile Diarrhœa—a Comparison," states that "In Egypt the disease was well known before Abraham visited Pharaoh. it was then treated with lactated milk . . ." and quotes the Arabian author Rhazes (832-923 A.D.): "In continued looseness adminster draughts of Al-raib (sour milk) . . ." By some South African Natives sour milk is given to babies "to keep them healthy," Metchnikoff, too, gives many instances of its use for this purpose by various peoples.

milk can be delivered to the consumer in a condition that, so far as the number of organisms present is concerned, can only be classed as one of very high purity indeed, and shows a far higher standard bacteriologically than is demanded by either of the milk commissions mentioned.

The results of the examinations show clearly that with very moderate care constantly practiced in the collection, clean utensils and clean handling, a very excellent milk can be delivered to the consumer, and when the milk is quickly cooled after the milking and kept cool, its purity is preserved. Of the necessity of this constant care it is exceedingly difficult to convince producers, and very few indeed could be relied upon to take the necessary "trouble", as it is called, to insure delivery of a satisfactory article.

On the milk being received, usually it is either set aside in its raw state, or heated to various degrees up to boiling, and then set aside — sometimes in an open vessel in the pantry or even on the kitchen table—allowed to cool and is drawn upon as required for feeding their child. During this period it is as a rule exposed to many dangers. Some of these are most easily brought into prominence by considering some of the natural properties of the milk. The chemical composition of the milk has been roughly given above. It is believed that when milk is obtained sterile it contains a ferment, by the action of which it undergoes self-digestion. Its proteids, as mentioned above, are chiefly casinogen and lactalbumin, along with small quantities of substances called extractives, which latter are of great importance to the nutrition of the infant. Heat destroys the ferment, breaks up the extractives, and if over 161 Degr. F. begins to coagulate the lactalbumin. At higher temperatures other changes are produced.

Vincent says:—"But the most serious objection to sterilization is that it irretrievably injures the food of the infant, definitely destroying vital elements essential to nutrition.' Various diseases follow the use of such milk.

Heating milk has other results. Ordinary milk contains many varieties of organisms; but for the present purpose it is only necessary to mention two.

1. Bacilli causing lactic acid fermentation, the common "turning" or souring of milk. These cause fermentation of lactose with the production of lactic acid. Their presence is held to be beneficial.[3])

In their presence butric acid fermentation is greatly retarded and the growth of peptonizing bacilli prevented. These bacilli are destroyed by a temperature of 130 Degr. F. in 10 minutes.

2. Peptonizing bacilli. These are everywhere.

This class of organisms decomposes proteids, often with the production of very poisonous substances, a very small amount of which may cause "serious gastric and intestinal disorder." These organisms are not destroyed by ordinary boiling — they do not grow in the presence of lactic acid.

Thus boiling milk destroys it as an infant food. and renders it liable to produce disease in infants fed on it. It destroys the "protective" bacilli and then brings about putrefaction of the milk by peptonizing organisms, at the same time making it an excellent medium for the cultivation of all organisms, those responsible for summer diarrhoea as well as others deposited in it by air currents, flies, etc.

The following table will help to bring this into prominence[4]) :—

The following table will help to bring this into prominence* :—

No. of Sample.	When taken, and how treated.	No. of Organisms growing at 37° C per c. c.	Organism found and in what Quality of Sample.			
			B. Coli.	Streptococcus.	B. Enteritidis Sprogenus.	B. Mycoides, &c.
7a	During delivery	11000	Not found in 0.01 c.c.	Not found in 0.01 c. c.	Not found in 10 c.c.	
7b	After 24 hours standing (raw)	8980000000	Found in 0.001 c.c. not in 0.0001 c.c.	Found in 0.00000001 c.c.	Not found in 10 c.c.	Not in 0.0001 c.c.
7c	After 24 hours standing (boiled)	4000000	Not found in 0.01 c.c.	Not found in 0.01 c.c.	Not found in 10 c.c.	Found in 0.000000001 c.c.
8a	During delivery	18000	Not found in 0.01 c.c.	Present in 0.01, not in 0.001 c. c.	Not found in 10 c.c.	
8b	After 24 hours standing (raw)	890000000000	Found in 0.001 c.c. not in 0.0001 c c.		Not found in 10 c.c.	Not in 0 001 c.c.
8c	After 24 hours standing (boiled)	800000000	Not in 0.001 c.c.	Found in 0.000000001 c. c.	Not found in 10 c.c.	Found in 0.00001 c.c.
9a	During delivery	220000	In 0.001, not in 0.0001 c. c.	In 0.001, not in 0.0001 c. c.	Found in 1, but not in 0.1 c.c.	
9b	After 24 hours standing (raw)	120000000	Not found in 0.1 c. c.	In 10 c. c. not in 1 c. c.	Found in 10 c.c but not in 1 c.c.	Not found in 0 01 c.c.
9c	After 24 hours standing (boiled)	Sterile.	Not found in 0.001 c. c.	Not found in 0.001 c. c.	Not found in 10 c.c.	

The three samples were taken during delivery, each sample was divided into three portions and marked as follows: 7a, 7b, 7c; 8a, 8b, 8c; 9a, 9b, 9c. . The "a" portions were put into an ice box and sent to the Laboratory at once, the "b" portions were put into cups and allowed to stand for 24 hours in kitchen or pantry, the "c" portions were treated in exactly the same manner as "b" but were first raised to the boiling point. In regard to this part of the experiment, having been carried out in cool weather it does not bring out the growth of the variety of organisms which would have occurred in hot summer weather, although it will be noted by the group B. Mycoides, etc., were found in very small quantities of milk in both 7c and 8c. The result of the examinatinos of samples 9b and 9c strongly suggest the presence of some preservative.

There can be little doubt therefore that a pure milk should not be heated save under very exceptional circumstances, and then not above 150 Degr. F. Only milk of high purity should be used for infant feeding.

Heating does not remove dirt already in the milk and it does not destroy toxins that may have been formed before boiling. The raw milk is much more easily preserved, all that is necessary being to keep it cool and protected against contamination. The first can in great measure be successfully done by placing the bottle in a suitable arranged water-cooling canvas bag, familiar to all, and placed in a cool draughty place. The second is met by not allowing the milk to remain exposed or uncovered. Care and intelligence being all that is required of the consumer. Pasteurization of milk is only rendered necessary by the neglect of the most elementary requirements of "dairy cleanliness."

Such are some of the dangers to which milk in the house of the consumer is liable to be, and often is, exposed, with subsequent disastrous results to the infant fed on it.

It is in evading this particular form of danger that a

---

*Your Medical Officer is much indebted to Mr. McCrae, the Government Analyst, for the care with which he has made all the examinations, and the interest he has taken in the subject, and for directing his attention to an important paper on the subject. In examining this table medical readers are requested to kindly refer to letter covering this report

"Milk Laboratory," something on the lines of the Walker-Gordon system, might be expected to be particularly useful in protecting infant life against that dangerous form of disease, zymotic, epidemic, or summer diarrhoea.

In following some such methods as may be open to a local authority, in trying to reduce this excessive waste of infant life, it should never be forgotten that these are only aids in that direction and that the true and only rational solution of the problem lies in the production of healthy children and keeping them healthy when you have got them. This can only be attained by the State assuming and discharging its duty of preserving the stamina of the race, and in maintaining a race of mothers capable of feeding their offspring. It necessitates the supply of rational education to all senior children in personal hygiene and matters closely affecting their own welfare and that of the community. As stated above, girls should be taught to understand the principles which govern the proper discharge of the duties and the responsibilities which must be theirs in time—the managment of children, etc., in fact trained to be good house-wives. Such training should in no way necessarily interfere with the ordinary intellectual training of children, indeed it should be a suitable means of focussing and applying practically their general education.

It is to be hoped that in arranging the details of school study, the Education Department will give this subject the prominent position which its great importance merits.

Of the third group little need be said, its contribution to the infant mortality will vary with the seasons. There is one cause of increased mortality from all causes, however, that deserves the serious attention of the government, viz.: the unrestricted sale of patent medicines. The administration of many of these to children, there can be no doubt, is responsible for a considerable number of infant deaths.

These pernicious drugs have also a very direct influence on the birth-rate. To such an extent has this evil grown in Australia that towards 1906 a Royal Commission was appointed to investigate the subject in all its bearings and to

suggest legislation, if need be, for its suppression. Action of a similar kind is by no means unnecessary in this country.

LICENSED PREMISES.

Dairies.—There are 39 licensed premises for dairies within the Municipal Area. These places meet very indifferently the requirements of the By-Law controlling such places. They are open to and are periodically inspected by the Sanitary Inspectors. In a few there is a rough cleanliness, but not of the type necessary to ensure the production of clean wholesome milk. With one or two exceptions it would be correct to say that at none of these places is any attempt made to go beyond the minimum requirements of the By-Laws, and just sufficient to shield them from prosecution; the quality of the milk delivered is of such a nature that pasteurization, undesirable though it be, is perhaps the safest means to adopt to keep the milk in a usable condition for young children.

Six licences are held for premises outside the area; there is no authority for inspecting or imposing any standard as to the suitability the cleanliness. or general conduct of these places. Still their owners, under these licences, are permitted to introduce and sell milk within the Municipality. From the appearance of the general "outfit" of these people, it is not to be accepted that their premises are in a satisfactory condition.

The whole circumstances of this trade are against the production of a satisfactory milk. It is to be feared that only by a weeding out of indifferent places is there much hope of improving this state of matters. The quality of the milk is dealt with in some detail under Infant Mortality.

UEBER die CONJUNCTIVALE TUBERKULIN-REACTION

BY

DR. FRITZ LEVY

(Extract by Dr. Rorke, Winnipeg, from the Deutsch Medizinische Wochenschrift, No. 3, 1908.)

A new epoch in the diagnosis of Tuberculosis opened when Koch found that the Tuberculous gave a specific reaction to the toxins of the Tubercle Bacillus. This was used by subcutanious injection and caused a febrile reaction.

A serious disadvantage was that it appeared to cause an acute recrudense of the Tuberculosis and occasionally a miliary form of the disease.

This new method avoids a general reaction and therefore the danger of propegating Tuberculosis.

The development of this method began in 1902, when Richet described a toxin from actinomyces which had the property by repeated injection of producing over-sensitiveness instead of immunizing.

Arthus studied the analogus property of repeated injections of horse serum in rabbits.

Wolf Eisner formulated the law governing hypersensitiveness due to repeated injections of a foreign proteid into another animal. He injected extracts from the organs of a calf into rabbits and found that the first and second injections caused no reaction, but between the third and fifth of the same dose the animal succumbed. The same experimenter found that this applied also to proteids from bacteria. This has been corroborated by others investigating especially the over-sensitiveness due to Tuberculin and its analogy to the same reaction from serum.

Von Pirquet and Schick studied the clinical phenomena of this so-called revacination and applied the results of their investigations to methods of subcutaneous injections of tuberculin in children already suffering from tuberculosis. They found that a papule appeared at the site of injection, but no systemic reaction occurred. Afterwards v. Piquet demonstrated in Berlin the results of his investigations upon several hundred children. During the discussion following this Wolf Eisner

stated that by dropping a drop or a 10% solution of tuberculin into the conjunctival sac a similar reaction was brought about, showing itself in redness and swelling of the conjucativa. However, the diagnostic and and prognostic value needed much wider investigation as the conjunctival reaction did not always coincide with the subcutaneous reaction. Wolf Eisner was led by his observations on patients with hay fever who showed this hyper-sensitiveness caused by the albumin from Pollen.

Several weeks later i. e. in June 1907 Calmette reported the use of a 1% solution free from glycerine. He used it on 16 tuberculous patients and on 9 non-tuberculous. This led him to recommend the method as of diagnostic value, at the same time saying it was without danger and called it the Ophthalmo-reaction.

Many investigators took up the reaction and a great deal has been written particularly by French and German authorities.

The author of this article investigated the question upon 330 adults attending the Gitschiner-Strasse Hospital, some were tuberculous, some tuberculous suspects and some healthy.

Calmette employed a 1% solution free from glycerine in order to avoid any irritation from that source. Levy following the method of Citron and Eppenstein used Koch's old tuberculin, made by Hoechst, making a 10% solution to keep in reserve and from this as required prepared 4% and a 2% solution diluting with normal salt solution containing 0 5% carbolic acid. These weaker solutions were made fresh every few days. Control experiments were made to see if a solution identical in all respects as to glycerine and carbolic acid, but without the tuberculin would prove irritating to the conjunctiva. The results were negative.

Levy's procedure was to use the 2% solution first in the left conjunctival sac and if results were negative after a few days, the 4% solution was used in the right eye.

The positive reaction consists of an inflammation of the conjunctiva and may be divided into three classes according to their severity.

Class I. Redness of the carnuncle and palbrabal conjunctiva.

Class II. More pronounced redness extending to the scleral conjuctiva, with swelling and increased secretion.

Class III. Intense redness of the whole conjunctiva, chemosis, marked fibrinous or purulent secretion, small echymosis.

The mild form does not attract the attention of the subject and it is necessary for the examiner to draw down the lower lid at the same time having the patient look upwards to see the reaction, using the other eye for comparison. In the second class there is slight burning, and feeling of sand in the eye as well as tears.

The third form causes considerable discomfort and requires treatment for relief. The author has only found this form in one or two cases after the first use of a 4% solution In most cases the reaction is that of grade I, in a small number grade II. Fever or a general reaction has never been observed.

Calmette found the time of appearance of reaction as 3 to 5 hours. Citron, Eppenstein and Schenk & Seiffert as well as Levy, all using the preparations from the old tuberculin, found the time of onset in a few cases 6 to 8 hours, but in most cases 12 to 24 hours, reaching its height in from 24 to 36 hours, finally disappearing in from 36 hours to 4 days. An occasional case of well marked II grade remained visible for 6 to 8 days and in severe forms of III grade required 2 to 5 weeks' treatment. Following the rule of other investigators, Levy divides his cases into three classes—Tuberculous, Tubercular suspects and Non-tuberculous.

I. **Tuberculous.**—In this class were only such persons in whom Tubercle Bacilli or other undoubted clinical evidences as cavities were to be demonstrated.

Among the 35 who reacted positively were three who did not react to a 2% solution, but did to a 4%.

Of the six negative five were those of severe progressive tubercular cachexia which have since died. This coincides with writer's experience in the other cases. Those who earlier in the disease reacted somewhat vigorously a short time before

their exitus reacted very feebly or not at all. The author is inclined to draw some prognostic conclusions from this fact. The strong reaction indicating a favorable prognosis, the weak an unfavorable outlook in those already known to be tuberculous. In keeping with this the reactions from the II group was on the average more marked than in the I. group. This also corresponds on theoretical grounds when one remembers that the reaction is the production of an over-sensitiveness which goes parallel with the production of the anti-body.

The sixth case that gave no reaction was that of a well-nourished girl of 19 years, no hereditary tuberculosis; a year earlier after lifting a heavy weight suffered a pulmonary hemorrhage. Had not been under treatment and especially not for tubercular Lungs, on examination showed at right apex a slight degree of dullness and constant moist rales, purulent sputum containing an acid fast bacillus, identical in appearance with tubercle bacilli. Conjunctival reaction negative in both eyes and to both solutions, given in the usual way. Subcutaneous injections of old tuberculin remained negative until the sixth injection, when 10 mg. was used, temperature rising to 38.5 C.

Author thinks the leison may be due to a bovine type of tuberculosis or perhaps to some other departure from the normal species. The investigation in this case is not closed and writer suggests that it may lead to the recognition of tuberculosis produced by the bovine type of the bacillus.

In order to report from a larger number of tuberculous cases, Dr. Daus, who conducts a sanatorium for consumptives, contributed tests made upon 66 patients, 64 giving the positive reaction and 2 negative. One of the latter was a doubtful case. The higher percentage of reaction obtained is explained by the absence of those advanced cases which so often fail to react.

II. Tuberculous Subjects.—In this group were placed all cases in which repeated examination of lungs, history of hereditary tendency or tuberculous habit, as glands, or scars from glands or scrofula as would lead the unprejudiced observer to suspect tuberculosis; cases which gave a credible history of having had catarrhal processes in the lungs,

hemorrhages, etc.; 'persons previously under treatment in Sanitoria, also pleuritic exudates not the result of infectious diseases. In this class were 54 patients reacting as follows:—

Positive reaction 32 = 60%.

Negative reaction 22 = 40%.

Of this class the cases of pleurisy with exudation are of interest. Eleven such cases gave 8 positive and three negative reactions. Of 4 cases showing pleural rubbing, 3 were positive and 1 negative.

One man, who 10 years previously had had a well ascertained apex tubercular leison with tubercle bacilli in he sputum, but who had made a good recovery, looking particularly healthy, gave no reaction.

To control the doubtful cases, subcutaneous injections were made. Of the 22 cases 14 with positive and 8 with negative conjunctival reaction.

Of the 14 positive all reacted after injection of 0.3 to 3 n g. tuberculin. Of the 8 negative ones, 6 did not react; one doubtfully after 2 mg. and one of pleurisy after 2 mg. reacted definitely.

There is a fairly good correspondence between the old and the new methods, but in some few cases the old seems to be the more sensitive. Others have had the same experience.

III. Non-Tuberculous.—To this class belong those who were healthy and such ill persons who clinically gave no evidence of tuberculosis. The writer endeavoured to make this group as large as possible in order to prove the practical diagnostic value of the reaction. For this purpose it is more important to know if the reaction occurs in the non-tuberculous than if it fails in the tuberculous. In order to do this, the author systematically tested the eyes of all patients under his control with the 2% to 4% solution besides a number of healthy persons. The only exceptions among the patients being such as had a conjunctivitis especially elderly people with ectropion and chronic conjunctival catarrh, whose condition it was feared would be made much worse.

Eppenstein warns against false conclusions from observing such cases.

This group contained 235 persons.

Six gave a positive reaction = 2.5%,

229 gave a negative reaction = 97.5%.

Of the six cases which gave a positive reaction, the first was a woman, 64 years old, with diagnosis of diabetis. Gave a positive reaction. Died in coma. Post-mortem gave no sign of tuberculosis.

Second case a girl, 18 years old, diagnosis Inflammatory retroflexed uterus, no evidence of tuberculosis. Reaction to both solutions was positive.

Third case, girl, 15 years; diagnosis, heart weakness following a febrile catarrh of the bowels. Positive to 4% solution, also to subcutaneous injection.

Fourth case, healthy man, who was rather thin, but no evidence of tuberculosis. Positive to 2% solution.

Fifth case, girl of 17 years, very pale; diagnosis, universal adepositas. Positive to 2% and subcutaneous injection.

Sixth case, healthy birl, 28 years old, who had in October 1907 typhoid fever. Reaction positive.

In two cases the conjunctival corresponded to the subcutaneous reaction. In 3 cases subcutaneous could not be used. In one case where the conjunctival was positive and subcutaneous negative at, P. M. there was no evidence of tuberculosis to be found.

Cohn found in 192 cases who could not be suspected of tuberculosis, 10 positive reactions. Among these 10 was one case of Diabetes and five cases of Typhoid. A remarkable phenomena which Cohn explained by assuming that those who had recently gone through an attach of typhoid had an increase of hypersensitiveness to proteids of bacteria in general. With this the author's case agrees being convalescent from typhoid for six weeks, also perhaps the one with heart weakness following a febrile condition of the bowels, though no proof of typhoid or paratyphoid. Eppenstein reports a lack of reaction in a similar case.

Among the negative cases were two who were at the height of illness with typhoid. It was not possible to test for the reaction again in these cases during the convalescence on account of the following reasons: Levy noticed that after

using the solutions in the prescribed way in both eyes without reaction and then a second time with a 4% solutinon in the left eye, there resulted a severe inflammation. He got the same result in a number of cases who were certainly non-tuberculous, where a third test was made the others being negative. This shows that the non-tuberculous can react when a second test is made within a certain time, i. e. through repeated instillations of tuberculin even in the healthy a specific hypersensitive reaction of the conjunctiva may be obtained.

This over-sensitiveness of the non-tuberculous which may be called a hypersensitiveness of the second order has been considered only by Cohn as far as the writer knows.

This condition appears to have been overlooked by the other investigators, making their results less reliable. in so far as they have used repeated instillatinons.

Seiffert and Schenck report experiments with 52 non-tuberculous, in which the first instillation gave three positive, the second 11 and the third 12 positive reactions, making a total of 50%, while Citron, who used only one instillation in each of 45 cases, got one positive = 2.2%.

That the reaction does not depend upon a chemical irritant is proved by the fact that it may be produced many weeks after the first instillations.

A further control experiment consisted in putting a 2% solution in the left eye, and then, after several days, putting a 2% solution in the left eye again and a 4% solution in the right. This, in the four cases tested, gave a reaction in the left eye, but not in the right.

Author has examined 60 non-tuberculous in this way, of these 45 or 75% showed the reaction. In only a few cases were three or four instillations needed to produce the reaction. These probably are the border line cases which amount to about 25% who are entirely refractory to even 3 to 5 instillations in the same eye. In these refractory cases were 2 or 3 who were cachetic but in most of them there was no relation to their age or disease.

When we only think that the subcutaneous reaction is positive in nearly all adults, though this is not in its totality admitted by Lenhartz. Pirquet explains the reaction by the

great extent of the tubercular infection. One might assume that the 75% who react to repeated instillations constitute a class of latent or those recovered from the disease.

Of interest is the question, "What time does it require for the hypersensitiveness of the non-tuberculous to develop." Cohn noticed it first in three days. Author observed it carefully in 8 cases and the over-sensitiveness of the second order appeared in 3 cases the first day after the first instillation. Perhaps the difference between the writer and Cohn is due to the fact that Cohn uses a 1% solution and Levy a 2%.

The longest time Levy has found the over-sensitiveness to remain is 3 months, but author does not consider that point decided.

Another interesting point was brought out in testing those who gave a positive conjunctival reaction with the sub cutaneous method to control the results.

In two cases almost instantly it was found that after the subcutaneous injection a conjunctival reaction occurred even if the inflammation of the eye had almost or quite disappeared. This reaction occurred several weeks after the positive conjunctival reaction, in one case 45 days. It came on more quickly, reaching a higher degree and disappeared more promptly. In those cases which did not react to repeated instillations the reaction did not occur.

One may say that by a single instillation in the tuberculous and repeated instillation in 75% of the non-tuberculous, a focus is formed that outlasts the proper reaction time and which, inside a certain time, by a subcutaneous injection, even if it causes no febrile reaction, brings about a new reaction in the eye.

The results of experiments on animals do not support the favorable results found in men. Both methods are negative in tuberculous Guinea pigs, according to Joanovics and Kapsammer. Author got negative results with a 10% solution in tuberculous Guinea pigs and dogs.

EXTRACT FROM "NOTES OF TRAVEL"

BY

DR. HOWARD LEWIS

(In The Lancet-Clinic, May 9ht)

Aside from the attraction of the great city, peculiar unto itself, and which soon endears it to the stranger, London's admirable hospital facilities make it seem remarkable that it is not more patronized as a centre for medical, and particularly surgical, study. It should certainly appeal to the man unfamiliar with the German tongue, a factor of paramount importance in comparison with Berlin and Vienna. The hospitals are not less numerous than those of continental cities; in fact, they seem to stand on nearly every corner. They are large, many of them strictly modern, and all excellently conducted. Connected with many of them are the teaching clinical departments of many colleges, and there is developed as no place in our own country the "out-patient" departments, where thousands of ambulatory cases of every variety receive daily attention. As a result of these two features, a visiting physician, with little effort, can put himself in a position to secure a great deal of theoretical and clinical information. By joining some college or university course on the payment of a few dollars per quarter of a year, he may attend bedside classes conducted by some of the best men in England, and he can be present at all autopsies and subsequent demonstrations. He is always welcome in the operating room, where he does not often crowd behind the rail in one corner of the room, but can have a close view of proceedings. So far there has been no particular effort to attract American post-graduate students, but a little exertion will surely reward the man who may wish to develop the opportunity.

Some of the principal London hospitals are as follows:

St. Thomas' general hospital on the Thames opposite the Parliament Buildings and quite as large, and the London General Hospital, situated in a crowded section of the city,

each with close to one thousand beds and large out-patient departments. At the latter place is carried on the Finsen light treatment with interesting results. There are also twenty operating-rooms equipped in the most approved fashion, including a workshop for the manufacture and repair of their own instruments.

Guy's Hospital is one of the oldest in London, and contains an elegant museum of pathological and anatomical specimens, many of wax casts, there being a most complete collection in wax of skin diseases.

St. Bartholomew's, dating back nearly a thousand years, claims to be the ancestor of all existing hospitals. It has a large modern building devoted to treating ambulatory cases, being provided with many separate examination, treatment and operating-rooms for minor cases.

The University College Hospital is as handsome and modern an institution as can be desired. Here Mr. Barker continues his spinal anesthesia with such modifications as to make it an ideal anesthetic, according to his views.

St. Mary's Hospital contains over five hundred beds and excellent laboratories, where Mr. Wright conducts his opsonic researches and practice.

The Great Ormond Street Hospital is given up to children's diseases; the National Epileptic, as its name implies, to neurological cases, while the Royal Ophthalmic is supplied with an immense amount of material.

So dozens of institutions could be named, occupied in general or special work with an abundance of material such as only a great city can supply. Space does not permit of detailing the work of such surgeons as Lane, Barker, Horsley, Robson, Freyer, Fenwick and others, who are most cordial in welcoming visitors, and who do an excellent class of surgery, a delight to the eye and a revelation for ingenuity and originality.

Leaving London behind the traveller may cross England to any one of several seaports, passing many cities of beauty and interest. Between London and Liverpool is a region of country in which the English people take great pride and which is worthy of every praise—a district of romance and

deed, to which nature herself has been most kind and where man has not neglected her charms. Following each other in rapid succession are Windsor Castle, Oxford and its score of colleges, Stratford-on-Avon, Warwick and Kenilworth castles, in the heart of a romantic region. Little is left of Kenilworth except a few battered walls and towers, but Warwick castle is well preserved, and situated in the midst of an exquisitely gardened reserve, its facade stretching along the little Avon River, it presents an inspiring example of the times of chivalry and conquest. A little farther north is the English lake country, and a short trip into Wales, wild as our own West Virginia, only more refined, may tempt one to remain and enjoy its restful fascinating beauty.

A man actively engaged in medicine cannot devote much time to an European tour, but in a few months he can cover much territory and learn many things not in history nor story-books. To a physician such a trip is doubly attractive in the opportunity to study various peoples, their customs and development—furnishing material for after-thought and a constant source of pleasure. Considered from the standpoint of benefits obtained in the pursuit of medicine or purely from an educational side, the reward is sufficient to repay almost any effort.

WESTERN CANADA MEDICAL JOURNAL

GEORGE OSBORNE HUGHES, M.D. *Editor*

With the collaboration of the following Local Editors:

DR. E. C. ARTHUR.....Nelson, B.C.
DR. ANDREW CROLL...Saskatoon, Sask.
DR. C. J. FAGAN.....Victoria, B.C
DR. W. D. BRYDONE JACK Vancouver, B.C
DR. GILLIES..... .....Vancouver B.C.
DR. DAVID LOWE.....Regina, Sask
DR. E. G. MASON.....Calgary, Alta.
DR. J. S. MATHESON.....Brandon, Man.
DR. A. E. NICHOLLS.....Edmonton, Alta.
DR. J. S. POOLE .....Neepawa, Man.
DR. R. S. THORNTON...Deloraine, Man.
DR. J. R. MATHESON.....Prince Albert
DR. D. A. LINEHAM..... .Dauphin.
DR. A. G. WELSFORD.....Rome, Italy

Editorial and Business Offices
8 Commonwealth Block, Winnipeg, Man.

EDITORIAL NOTES

We are glad to hear of the formation of another western society, namely: "The Carrot River Valley Medical Society"—of which details are given under "Societies." The progress of medical organization in Western Canada is steadily advancing and many who considered when the journal was first started that between Winnipeg and the Coast no interest was taken in matters pertaining to the profession must have awakened to the fact that in proportion to the number of qualified men there is less apathy than elsewhere. Wrong conclusions have been drawn because of the small number of western men attending Conferences in the East. The reason for this was the great distance, the expense and the difficulty of securing good locum tenens consequently Western needs were litte considered. These needs often are peculiar to the West and if Western men are to have the best legislation for their provinces and territorry it is necessary they first consider them alone—hence one great argument for the formation of

all the smaller societies in a greater one. The Western Medical Association — of which they would be the parts — the large association to meet annually and the others as each decides. The annual meeting would finally discuss matters which had been previously considered by the district societies —and the members would have opportunity of hearing papers read by leading men. The great growth of quacks in the West is greatly due to the lack of organization of the profession and the apathy of our legislators to the requests of a few—individually we all talk about these conditions and feel very strongly the harm being done; but individually we exert little influence. Collectively we should be a power. Hence it is a matter for rejoicing to find every month by the report of the work of societies and the formation of new ones that we are drawing nearer to the time when we shall have a united profession in the West. A good organization means quicker and better discharge of the affairs of the society and greater opportunities for the consideration of the scientific contributions. When our Unity of interest becomes complete by the formation of the Western Canada Medical Association and the enrolment of all reputable men in the West in its membership the western profession will be able to secure its proper position in the Community and obtain its rights. Then we can look forward to just legislation and the profession will not be misunderstood for condemning the various humbug varieties of pseudo-science and from attempting to save the ignorant from those imposters who take their money and promise what they know to be impossible cures. It is hoped the various societies will at the earliest opportunity discuss the advisability of the western professional Union.—Individually as usual we have many who say they see the great necessity for it—but what we need now is the collective opinion of the societies and then quick action in forming it and a meeting held to map out its work.

The B. M. J of June 20th is devoted to the hospital question and should be read with interest by both the profession and the general public in the West owing to the evolution now taking place in hospital managment. Both the public and

the profession need a much better understanding of this serious question and the public could greatly aid the profession by studying the needs for improvements. The B. M. J. considers hospitals from the standpoint of a partnership between those who are necessary to its existence.— (1) The patient. (2) The doctor. (3) The subcribers. That this partnership has not been working harmoniously in Winnipeg is evidenced by the fact that recently the whole question was discussed by the Medical College, the hospital staff and the profession as a whole, each of which drew up resolutions which were to be presented to the directors of the General Hospital. These resolutions appear to have been shelved showing that for some reason the most important partner has been ignored.—It would have been well if the Staff had followed the example set by Sir Victor Horsley and the Staff of Queens Square Hospital, London, when on their request being ignored they tendered their resignations. The result of this dignified action can easily be imagined. A united profession in the West would obtain its rights and privileges and control such vital questions.

We have just received the first number of a little monthly Journal which should be welcomed by all interested in the welfare of the children—namely—"School Hygiene." The Editor is Dr. George Badger, Boston, and the publishers Heath & Co., 120 Boylston Street, Boston. Subscription 50c per annum. This Journal should be very helpful to all men occupying administrative positions with reference to education. The movement on behalf of School Hygiene first started in European countries and is now being taken up enthusiastically by the American people. The permanency of this Journal depends entirely on the subscribers as it has no other financial resources. The subscription is low and as such a Journal can be an immense benefit to the nation we hope it will have many subscribers. The first number contains among other matters articles on the following interesting subjects:—

1. Artificial Lighting and Color Sheme.
2. School Baths in Sweden.
3. Prevention of Tuberculosis among School Children.
2. Playground Legislation.
5. Education of the Public in Scientific Medicine.

PROCEEDING OF THE WINNIPEG CLINICAL SOCIETY

The Winnipeg Clinical Society met in the Medical Library, June 2nd, the president, Dr. Milroy, occupying the chair.

Dr. Hughes presented three cases in which bone injuries were present that were suffering from eczematous conditions, which were related to the injury.

Dr. Galloway—All three of these cases present many points of great surgical interest. I regard to the younger man, my opinion from the cursory examination I have made is that he suffered from a impacted fracture of the neck of the femur.

I believe an X-ray would substantiate that. The shortening which is approximately 1½ inches, is confined to the part of the limb above the trochanter. The trochanter is markedly elevated in relation to the anterior superior spine. There is considerable limitabon of movement. a great deal of which is not due to muscular spasm, but is a purely mechanical condition, due to the altered condition of the bones.

We have what might be called a case of traumatic coxovara. In regard to treatment the shortening could be made up to some extent and the limb made more useful by a wedge shaped osteotomy, performed almost opposite the small trochanter, which, if properly done would restore the angle of the neck to shaft of the femur and correct the faulty position which the limb occupies at the present time. If the X-ray evidence justifies it, it might be well to make the attempt to improve the movement of the joint by removing some of the osteophytes which perhaps are present there and interfere with the movement by coming in contact with the acetabulum.

Dr. Lehmann—I agree with Dr. Galloway, except for his remarks re impacted fracture. I would call it a traumatic coxavara. I would expect very slight changes or osteophites at the present time. The limitation of movement being due to the coxavara, namely the trochanter striking the bone surrounding the acetabulum. The symptoms are those of traumatic coxavara.

I agree with Dr. Galloway's treatment, the higher the osteotomy the better. The shorter the upper shaft of the angle which results from the corrected position of the leg the less will be the shortening. Osteotomy of the neck is the operation by choice, but is impractical in all advanced cases because the neck is so encroached upon by the head as to have very little left. An intertrochanteric linear osteotomy gives the best result and is the operation that should be done. The results are good. The shortening is reduced to the actual descent of the head which measure in inches is not great. The function is restored, except in so far as reduction of abduction and adduction. In this case, I believe, the resulting of shortening will not be more than half to three-quarter of an inch, instead of one and a half as at present.

Dr.Speechly—May I ask if the original diagnosis in the Hospital at London was not of the separation of the epipysis? If so, that would possibly modify Dr. Galloway's statement about it being impacted fracture of the neck. The young fellow himself understood the diagnose to be separation of the epiphisis in the hospital in London, where he was originally treated. My own opinion is that it is a case of coxavara of a traumatic origin.

Dr. Galloway—My conception of traumatic coxavara is a depression of the neck produced by some mechanical violence.

Dr. Lehmann—There are many differences between the symptoms of impacted fracture and coxavara traumatica. The former presents all its symptoms at the time of injury with a distinct tendency to improvement. The symptoms of the latter may not come on for some time after the injury (often at adolescense) with a distinct progression. The one is stationary, the other is a gradual and increasing deformity. I admit that at any one given time the diagnosis may be hard to make one or the other.

without a history, but with one we can make a definite diagnosis of

Dr. Milroy—Is osteotomy a common operation and would you advise it?

Dr. Galloway—I would, distinctly.

Dr. MacDonald—You think the results would justify you in operating? What cause the wasting of the limb in proportion to the other?

Dr. Galloway—There are two elements. A man with a limb as disabled as that, instinctively demands of it the smaller share of work than it is supposed to give and he puts more on the other. So there is an over development of the healthy limb and an atrophy of the other. Then there is that peculiar atrophy which almost always accompanies a joint lesion.

Dr. Milroy—Do you think there is any relation between the varicosity in the abdomen?

Dr. Lehmann—I don't. It is a well recognized fact that those suffering from caxavara usually with feeble circulation, suffer as evidence by cyanosis of the hands and feet withw ww chany extremities, but in this case I don't think it would have any bearing on the hip lesion.

Dr. Munro Presented.

A girl, aged 11. History negative. No nervous diseases. Has brother who is quite bright, but in this case it was noticed early that both physically and mentally she had not developed normally. She was three before she tried to walk. Dentition was delayed and she could do nothing in the way of caring for herself until she was nine. Since that she has developed with greater rapidity than previous. She will now help to dress herself, but that is about all she could do. The gortre appeared about five and has gradually grown since. These are about the only features of the case that I want to present to you.

Dr. Hunter—This case does not fall under any of the well known divisions of imbecile children. The child is not a Cretin—there being an absence of the Cretinoid appearance of the skin and hair changes, etc. Nor the Mongolian type, for there is no obliquity of the eyes, no flush over the malar bones and the head has not the straight "cut-off" posterior surface of that type. There is no spasticity or parisis of the extremities and that excludes the group of imbecile children, due to cerebral halmorrhage before or at the time of birth. I can only put down the case as an imbecile without managing to place it under a special group.

Dr. Rorke—The head seems rather small. I measured it, it is 19½ inches over the braids of hair. There is nothing further to add.

Dr. Speechly—The case might be taken as a text for a rather interesting discussion on "What is goitre?" This appears to be a case of goitre in a very young child and is quite unusual. In England I was led to regard goitre as the result of drinking water associated with certain lime stone formations. But on the prairie I also find many

cases of goitre. In one locality I know of 30 or 40 women who are suffering from goitre. Goitre appears to me as a standing disgrace to the medical profession at the present time. Some treat with iodid potassium and iodine external; and some dietetically and others by proper methods of elimination, but a great number don't seem to get better. It would be interesting to know why the failure occurrs so often. My own treatment of well established cases of goitre is: I give iodine of potassium, coupled wit hvery powerful elimination and careful attention to diet and also careful attention to the action of the skin by baths. I advocate the use of baths, the purification of skin action and best elimination of the bowels and kidneys it is possible to get. One physician in the States claims to secure good results with fifteen minims of Tincture of Digitalis, coupled with the eliminative methods I suggested. This case suggests that this child may not have had extensive eliminative methods. I would suggest that elimination of bowels, kidneys, and skin should be attended to and that with the iodine. I have tried thyroid extract, but it is of very uncertain value indeed.

Dr. Munroe—An English writer claims between 1-3 and 2-3 of all cretins have goitre and belong to one morbid family. As to cause it is generally associated with the drinking of water in certain districts, especially Switzerland. Blebb has found infusoria as the cause, but not confirmed. I have treated three cases with administering iodine internally in increasing doses and iodide of mercury externally. They recurred when treatment was stopped. The point about this case is whether there is any relation between the goitre and the mental development.

Dr. Sharpe corroborated what Dr. Speechley said about goitre being very prevalent in Southern Manitoba. This case reminds me of a girl 14 years old who was mentally defective. Had a goitre and treated by the removal of a portion of the gland with good results. There are 5 or 6cases of exophthatince goitre in the district from Carman to Plum Coulee, and I had an analyse of the water and found it was the hardest sample of water the chemist had examined, but couldn't point out any feature unusual apart from that.

Dr. Young—Treatment with iodine is sometimes attended with excellent results. Renol Lille, France, is treating exophthalmic goitre with blood of De Thyroid goats and extract from the thyroid gland, which he claims is a specific, and extract of pituitary gland increased the nutritional activity system and he gets good results.

Dr. Moody—Referred to a girl who had very little treatment except iodine and arsenic and a little iron for her anemia. She has slight thyroid enlargement to-day, while three years ago it was quite a size.

Dr. Milroy—In regard to the removal of the thyroid and its relation to the parathyroid, what is the experience and what do the authorities claim the constitutional results of total removal of the thyroids?

Dr. Hunter—It is generally admitted that a complete excision of the thyroid gives myxedema. If the four parathyroids, if the lower are left it gives no results; if you remove the fourth it gives tetany. Dr. Vincent's experiments do not seem to answer the clinical results and if physiological experiment is not in line with that, I should say so much the worse for physiological experiment.

Dr. Milroy: Dr. Vincent's lecture rather upset our opinion as to the existence of the thyroid and parathyroid, but I agree with Dr. Hunter.

Dr. Speechly—One is liable to lay this condition of goitre to the sexual senses. Girls at puberty become careless about their physiological elimination. First place, their mothers don't teach them concern-

ing it, and their organs become obstructed. Under those conditions goitre could appear later when they learn to take care of themselves and visit a doctor who improves their eliminative condition, the goitre disappears. Thompson's Dietetics advises an egg and milk diet, is one where these conditions are improved.

Dr. Young—Presented a child showing slight signs of chondro dystrophy. There was a peculiar enlargement of the back of the head. The child was bright and had no evidence of idiocy, mongolian idiocy the first thought that strikes one from observation is that the eyes and nose are a little flattened. The bones in the base of the skull are shortened, it has a rather chunky figure, but the arms and legs seem to be rather normal.

Dr. Rorke—The limbs are certainly about the normal length. The marked shortened condition of the upper arms and thigh are not present. The head is rather prominent about the panetal and frontal region, but it is not sufficient to diagnosis of achrordoplasia..

The Winnipeg Clinical Society met June 16th, in the Medical Library, with Dr. Nichols in the chair.

Dr. Lehamann presented a case of scoliosis and a series of Radiograph in connection therewith.

Afterwards Dr. Lehmann reported a very interesting case of strangulation in which the bladder was a complication. The results of the operation were very satisfactory.

Dr. Rorke—Dr. Hughes, who was unable to be here this evening, asked me to present this case. Male, aged 28, has convulsive seizures, lasting a few minutes, about once every two weeks, of nine years duration, with the exception of two years of remission. They begin with a peculiar feeling in his stomach, as of a ball coming up, he has time to get a chair, and then losses consciousness. Has never bitten his tongue, but has fallen once injuring his eye. He has passed urine during the convulsion. After the convulsion is more or less drowsy, then brightens up. Had a soft chancre, but there are no signs of specific lesions. His father died at 55 from asthma. His mother died at 57 from diabetes. He has three brothers and three sisters, all healthy. Owing to the peculiar sort of seizure and the aura somewhat of the nature of globus hystericus makes the diagnosis of some importance and that is the reason he is brought up. These systoms last for a few minutes. He has had some attacks at night, but they occur mostly ruding the day. He does not feel the night attacks at all, and only on account of feeling sore in the morning does he know he had ever had them. The first attacks were very light and passed off quite easily, and only had one in sixmonths. Now sometimes they are as often as three in a day. Has had no injury. Occupation is bookkeeping. No history of a similar affliction in the family.

Dr. MacKay—Do you notice any trouble with your stomach or bowels before the attacks?

The patient replied that his bowels moved regularly. He never experienced any attacks of indigestion. The only warning is this peculiar feeling in the stomach and the ball coming into the thoat. Am unconsciousness for 15 or 20 minutes. Last attack was just before six o'clock. Had supper and went off into a deep sleep, awakening about three hours later. Always wants to sleep afterwards. When falling utter a prolonged "oh." Finds it impossible to ward off an attack. Attacks now return regularly about every two weeks.

Dr. Rorke—The eyes are all right, the reflexes are there, the stomach is in its proper position and not dilated.

Dr. Sharpe—The fact that of having marked soreness of the muscles is an indication of a tonic condition of the muscles, suggesting tetany if he had not lost consciousness. I have seen them take the characteristic convulsions which stimulate epilepsy markedly. I presented a patient who never lost consciousness and we could produce the convulsions at will, and she also had soreness of the muscles, the micturition, falling, injuriny herself, but never bit her tongue, but she frequently fell and burnt herself and the diagnosis was tetany, and probably hystero-tetany, but undoubtedly it was epilepsy.

Dr.. Hunter—It is absolutely impossible for a case of tetany to regularly have the seizures described above. It is a case where there is a tendency towards the hystero epilipsy all coming together, the same indication proposed here that the same condition of the lower extremities more common . in children perhaps. but the tendency is not to tonicity, and it is possible to bring on tetany by pressure on the arteries if you wish to bring it on during the period the patient is subject to the attacks. It is rare, however, to affect the genito-abdomin the region affected. It is rare, however, to affect the genito-abdominal muscle. I remember cases in which the patient may be both conscious and unconscious, but these are cases taking hours or days to develop. I remember one case of a girl subject to asthma. She was certainly of a hystero-tetany. She developed the typical tetany, hand and foot. It is also seen in children which are rachitic. I know of no cases of tetany in which one could get the very rapid seizure in which the patient would fall instantaneously and rapidly to the ground. I would agree with Dr. Rorke as to the diagnosis of epilepsy and that raises the point of the best treatment of epilepsy in these later days.

As to the treatment of the diet it is generally admitted that in a certain number of cases the lacto-vegetarian diet is considered to be absolutely curative when continued. In forty or fifty per cent. of the cases there is no effect. It is generally admitted that an excess of meat is to be deprecated. Very little salt with food, as the bromide acted better where the amount of sodium chloride was reduced. General hygenic measures and regular hours, no excitement and the general psychical influences on the patient himself. As to drug treatment, the doses of bromide formerly given are too large.

At Queen's Square cases that were not controlled within 60 grains of bromide were not treated. I notice also that digitalis was frequently given, especially in night attacks, although it was not infrequently combined with the use of bromide. As to ultimate cure they are not very encouraging.

Dr. Sharpe—Dr. Murray recommends the use of nitrate of silver very emphatically.

Dr. Knight—I have heard of blood-letting in full-blooded epilsptics. I had a patient two or three years ago from whom I took 4 or 5 ounces of blood from his arm every week, and he was of the opinion that it was doing him considerable good.

Dr. Rorke—I think the later ideas are about what is laid down by Dr. Hunter.

Dr. Redlick, of Vienna, said the prognosis was very bad, when prolonged very long, as the habit becomes established. When they go along in a series for a number of days they are not so amenable to treatment. As to salt, bromine is substituted for chlorin in making bread for these patients, but it seems necessary to have a certain amount of sodium chloride in order to relish one's diet, consequently it is pushing the effect too far. We should lay more stress on the dulling effect of the disease than the stupifyinp effect of the bromides. Dr.

Dedlick recommends the bromide of potash one part, and bromides of ladumn and ammonium one half part, and giving enough of these to control the convulsions and keep them continuously controlled. He does not favor the use of belladonna and opium.

Dr. Kenny—In New York they have a large farm or colony, and there chronic cases, who are in a fair state of health, work in the open air, and when they have attacks they have proper habitation. Mr. Stratton, the director of that colony, has written a book on the subject, in which he has gone pretty extensively into the pathology, but with very negative results.

Dr. Munroe—As to diet, I have seen a vegetarian diet given very little result. My experience is that we must rely on bromides to allay the severity of the attacks.

Dr. Nichols—I remember an Indian quack visited the neighborhood and put all the epileptic patients who came to him on a starvation diet for two or three weeks and the fits certainly diminished.

Dr. Rorke—I remember two sisters in Montreal who tried the starvation treatment and their fits got less for a time, but later increased.

Dr. Grieveson—In regard to the vegetarian diet. I have tried that in some cases and I have found that in two cases it was distinctly satisfactory. but I don't think that it is by any means the whole of the question, as Haig would lead up to believe. As to the case in which the blood pressure changed I found digitalis only for a short time prohibited the fits; after a short time you pave more digitalis or gave up.

GENERAL MEDICAL NEWS

MEDICAL SOCIETIES

The Alberta Medical Association holds its annual meeting at Banff — August 11th and 12th.—The Interior Medical Association will also meet in August—place and time of meeting is not yet settled.

The Saskatchewan Medical Association holds its annual meeting at Regina — July 20th and 21st.—Papers are to be read by Dr. Bryce, Ottawa; Dr. Bingham. Toronto; and Dr. Blackadder, McGill.

The B.C. Medical Association holds its annual meeting at Vancouver August 20th and 21st. It is hoped the western medical men will make an effort to attend as important matters are to be discussed.

The Saskatchewan Branch of the British Medical Association held its annual meeting at Regina — May 6th. The following were elected officers for the year 1908—1909—

President—Dr. W. Dow.

President-Elect— Dr. Jas. McLeod.

Vice-President—Dr. D. S. Johnstone.

Sec.-Treas.—Dr. J. A. Cullum.

Sec.-Treas.—Dr. A. Shadd, Melfort.

Executive:—Drs. J. C. Black,, O. E Rothwell, A. S. Gorrell.

Dr. D. Low was elected Branch representative to the Central Council.

Carrot River Medical Association:—

The Medical men of the entire Carrot River Valley met July 1st at Melfort and formed a Medical Association. The meeting was held in the town-hall, Dr. Shadd in the chair. A uniform tariff of fees was drawn up and adopted. Confinements, office work and the giving of anesthetics for minior operations were put on the cash basis. The minimum fee was

to be charged in all cash payments, and the maximum fee on all accounts of three or more months' standing. It was decided to meet semi-annually in the town where the President resided.

The following were elected officers:—

President:—Dr. Percy Shelley, Tisdale.

Councillors:—Drs. T. C. Spence; W. A. Stuart; J. G. Grant and F. J. Hogan.

The following town and villages were represented:—Melfort, Kinistino, Birds Hill, Star City, Tisdale, Etimomi. The next meeting will be in January at Tisdale.

VITAL STATISTICS

WINNIPEG

Diseases	No. of Cases.	Deaths.
Typhoid Fever	13	..
Scarlet Fever	6	..
Puerperal Fever	..	..
Diptheria	17	..
Measles	9	..
Tuberculosis	8	3
Mumps	3	..
Scabies	..	..
Erysipelas	3	..
Whooping Cough	4	..
Chicken Pox	5	..
Small Pox	1	..
	69	3

Births 351:—M. 189. F. 162.

Marriages 225.

143 Deaths from all causes registered during the same month.

N. B. Eight of the Typhoid cases came from points outside the city.

HOSPITAL NEWS

The General Hospital at Vancouver is having a new wing erected and is enlarging the Nurses' Home also.

His Majesty, King Edward, has consented to be Patron of the B. C. Sanitarium. The plans have been accepted and work is to proceed for the new building at Tranquille.

The Winnipeg City Council has appointed Dr. J. R. Jones: Judge Mathers: and R. G. Crowe as a Commission to go into the Hospital question. Their finding will be of interest to the whole profession of the West. It might be a good suggestion for each Medical man in Western Canada to get data from every source available and see how the results compare. The British Medical Journal of June 20th was devoted to the question of Hospitals exposing their extravagances and showing how they always found it necessary to have a deficit so that the sympathy of the public might be elicited for the poor sick; the merchants and those supplying the needs getting the benefit, while the doctor, on whom the institution is wholly dependent, counts for nothing in the hands of the Directors.

Calgary General Hospital Board has awarded the contract for the building, which will cost over $100,000. It will be proceeded with at once.

The new Maternity Cottage of the Royal Columbia Hospital, New Westminster was opened in the end of June.

The Sister's Hospital at Rossland, B. C., is being thoroughly overhauled and reconstructed.

MEDICAL NEWS

At the recent meeting of the Canadian Medical Association Dr. C. J. O. Hastings of Toronto stated that 15.000 children die every year in Canada from the effects of impure milk.

The city of Westminster, B. C., is building a cottage for a Home for incurables.

In the Commons Agricultural Committee June 10th Mr. Blain, M.P. for Peel, made application that physicians be appointed on all immigration ships to study the health of the incoming settlers. Dr. Bryce favoured this suggestion. Dr. McIntyre, Strathcona, opposed it.

The British birthrate for 1907 was lower than in any other year on record — but to balance this the death rate is decreasing in greater proportion, last year also was the lowest death rate on record.

The rate of Infant Mortality in Britain for 1907 was the lowest rate on record. This has been attributed to the showery, cool weather last summer.

The population of England and Wales last year was 34.945,600.

In his address to the Canadian medical Association at Ottawa, Dr. Montizambert, Director-General of Public Health, urged the establishment of a department of public Health in Canada.

The General Medical Council of Great Britain has adopted a reciprocity agreement with the Province of Quebec whereby Medical Graduates of McGill University of Montreal and of the Laval University of Quebec will be admitted to the colonial list of the Medical Register.

Steps have been taken to secure a copyright of the British Pharmacopocia to prevent unauthorized reprints.

The British Medical Council will in November 1908 celebrate its jubilee by a friendly reunion to which all past members of council will be invited.

The physicians of Paris are now charging double fees for Sunday visits, patients already under treatment excepted.

One of the model principles of the British Medical Association is "that inability to pay for adequate treatment shall be the consideration for the admission of ALL patients for hospital treatment" — otherwise there is an unfair competition with the general practitioner.

A Society has been formed in London, England, called The Research Defence Society, the objects of which are to point out to the public by means of pamphlets, lectures and debates the value to science and medicine of experiments on animals. The President is Lord Cromer and the Secretary Mr. Stephen Paget I. R. C. S.

The College of Phycicians and Surgeons of the Province of Saskatchewan came into existence on June 12th, and Dr. G. A. Charlton has been appointed Registrar. An order in council will declare the demise of the North-West Territories College of Physicians and Surgeons. A large sum of money has to be divided between Alberta and Saskatchewan and presumably an audited statement sent to each of those registered in the old College.

An interesting case was heard at the District Court of Saskatoon on June 5th. in which a Nurse sued Dr. Eaton of Saskatoon for fees for nursing. It appears that the Doctor sent the Nurse to the case, but informed her the next day that he was not responsible for any charges. The presiding Judge was under the impression that in as much as the Dcotor had requested the nurse to go to the case, that that was equivalent to a contract. However, after hearing Dr. Croll's evidence with regard to the usual custom with Doctors and the payment of Nurses, the Judge dismissed the case.

There is discussion re starting a Division of the British Medical Association in Saskatoon.

The B.C. druggists are taking action in regard to the sale of Habit-Forming drugs.

The question of Milk supply is being taken up through out the West. Winnipeg has appointed Dairy Inspectors who have brought many vendors before the court and had them fined. Calgary has certain Bye-Laws which they intend to enforce much to the consternation of the Dairymen. While the Health authorities of Vancouver and Victoria are joining forces to obtain legislation which will fully govern the milk supply of the cities of the Province.

Vancouver City Council have appointed a Meat Inspector who should also investigate the vegetable supply.

Dr. Dyer has been appointed Assistant to the Medical Health Officer of Vancouver.

Dr. Watt, of Victoria came and took charge of the Chinese Leper at Austin, Man., and returned with him for deportation to China.

There is a bill before the House of Commons regulating Proprietory and Patent Medicines.

The Winnipeg Clinical Society, in response to the kind invitation of the Alberta Medical Association, which meets at

Banff on August the 11th and 12th, appointed Dr. Rorke and Dr. Lehmann as their representatives.

A committee has been appointed to consider the question of a Canadian Ambulance Association which would be useful not only in war but in times of railway accidents, landslips etc.

Physicians' coachmen in Paris wear white hats so that a doctor's carriage can be recognized at once and the way cleared in case of accident.

PERSONALS

Dr. D. S. Mackay, Winnipeg, has been attending to his military duties at Brandon.

Dr. R. J. Blanchard, Winnipeg, has to be congratulated on being elected the President of the Canadian Medical Association.

Dr. Popham has returned after a vacation to the coast.

Dr. H. McIntosh, medical superintendent of the Vancouver General Hospital has returned after a month's visit in the East.

Dr. E. C. Beer, Brandon, Man., has returned after a month's rest.

Dr. A. D. Stewart, Rosthern, has been visiting Calgary.

Cecil A. Boyd, B. A. M. B., of the 150-Mile House, has been appointed a B. C. Health Officer of the district.

Dr. F. Lachance of Winnipeg has been appointed Gynaecologist to St. Boniface Hospital. He has gone to France for Post Graduate work.

Drs. F. Shelton, Victoria and C. Newcome of Vancouver have been taking a vacation at Cowichan Lake.

Dr. West of Vermilion is convalescent.

Dr. Braitwhite, Edmonton, spent a few days in Winnipeg on his way to Europe.

Dr. and Mrs. F. Brydone Jack have returned to Vancouver, where they will reside.

Dr. Aquilla Sweet has started practice at Scott, Sask.

Dr. Richardson, late house physician of the Jubilee Hospital, Victoria and later of Dawson City, has settled in Practice at Victoria.

Dr. Drinnan, Moose Jaw, has returned after a vacation through Alberta.

Dr. D. G. Bechlette, Nanton, Alta., has taken Dr. O'Hagan's place at the Lily Colleries. Dr. O'Hagan is going for post graduate work.

We regret to hear that Dr. Bird, of Whitewood is seriously ill. Dr. H. Cameron, Winnipeg, is doing his work.

Dr. G. H. Lansdown, late of Woking, England, has started practice in Winnipeg. He intends devoting his time to Ear, Nose and Throat work.

Dr. Bawden has started practice in Winnipeg.

Dr. Stevenson, Vancouver, has returned from Oregon where he went for his health, very much improved we are glad to hear.

Dr. Sutherland of Blain, B. C., has returned from a visit to Eastern Hospitals.

Dr. Urquart, Vancouver, has gone East for holiday.

Dr. Brydon-Jack has gone to Montreal and St. John for a month's holiday.

Dr. R. C. Lipsett, of Naramata, B. C., was on a visit to Vancouver.

Dr. Speechley, Pilot Mound, was in Winnipeg for a visit and took an active part in the discussions of the Clinical Society meeting.

Dr. G. R. Morse, from Nova Scotia has started practice in Saskatoon. He intends restricting himself to Eye, Ear, Throat and Nose.

Dr. P. D. Stewart, of Saskatoon, has gone as Medical Officer to the Govenment Party, which every year pays a visit to the Northern Indian Settlements for the purpose of doling out script.

Dr. Thomas Wilson of Leamington, Ontario, has started practice at Lethbridge.

Dr. Brown of Saranae Lake, N. Y. has arrived in Winnipeg to decide site for the Manitoban Sanatarium.

BORN

Black.—At Winnipeg, Wednesday, July 1st, the wife of Dr. W. Black of a son.

Dalby.—At Vancouver, Monday, June 15th, the wife of Dr. W. Dalby of a son.

MARRIED

Brydone-Jack—Walker.—At Elm Street, Montreal, June 11th. Dr. Frederick Brydone-Jack, son of Dr. Brydone-Jack, Vancouver, was married to Miss Margaret Walker, daughter of Rev. W. P. Walker, Montreal.

Kingston-Vankleek.—At Armstrong, B. C., Wednesday June 24th, Dr. C. M. Kingston of Grand Forks, B. C. was married to Miss Martha Vankleek, daughter of Dr. Vankleek, Armstrong, B. C.

NOTICES

"The old and reliable house of Wm. R. Warner and Co. will be incorporated under the laws of Pennsylvania, with Mr. R. Warner, Jr., retaining his connection as President of the corporation.

This move enables Mr. Warner, who has managed the entire business, to transfer to others many of the details of management and at the same ime, assures his host of friends and patrons in the Trade, of a continuation of the safe and conservative policy, which has proven the keynote of its success and which has characterized it from its foundation in 1856.'

Synopsis of Canadian North-West Homestead Regulations

Any even numbered section of Dominion lands in Manitoba, Saskatchewan and Alberta, excepting 8 and 26, not reserved, may be homesteaded by any person who is the sole head of a family, or any male over 18 years of age, to the extent of one-quarter section of 160 acres more or less.

Application for entry must be made in person by the applicant at a Dominion Lands Agency or Sub-Agency for the district in which the land is situate. Entry by proxy, may, however, be made at an Agency on certain conditions by the father, mother, son, daughter, brother or sister of an intending homesteader.

The homesteader is required to perform the homestead duties under one of the following plans:

(1) At least six months' residence upon and cultivation of the land in each year for three years.

(2) A homesteader may, if he so desires, perform the required residence duties by living on farming land owned solely by him, not less than eighty (80) acres in extent, in the vicinity of his homestead. Joint ownership in land will not meet this requirement.

(3) If the father (or mother if the father is deceased) of a homesteader has permanent residence on farming land owned solely by him, not less than eighty (30) acres in extent, in the vicinity of the homestead, or upon a homestead entered for him in the vicinity, such homesteader may perform his own residence duties by living with the father (or mother).

(4) The term "vicinity" in the two preceding paragraphs is defined as meaning not more than nine miles in a direct line, exclusive of the width of road allowances crossed in the measurement.

(5) A homesteader intending to perform his residence duties in accordance with the above while living with parents or on farming land owned by himself must notify the Agent for the district of such intention.

Six months' notice in writing must be given to the Commissioner of Dominion Lands at Ottawa, of intention to apply for patent

W. W. CORY,
Deputy of the Minister of the Interior.

N.B.—Unauthorized publication of this advertisement will not be paid for.

C.L.S. Ext.
& Glycerophs.
Stearns

"Build up the powers of resistance and you can safely neglect the Bacteriological aspect of most cases."

Pathogenic Bacteria are powerless in healthy tissues.

This combination of the true Glycerophosphates with the extractive matter from healthy cod livers, is a happy one, and has promptly shown that the above statement is well founded.

"Too Much Bacteriology" is the title of a little booklet well worth reading.

Let us send you a copy and a sample of this most excellent preparation.

Seventy-five cents per lb. bottle ; $3.50 per winchester.

FREDERICK STEARNS & COMPANY

Windsor, Ont. 7-08 Detroit, Mich.

EVERY DAY the conviction comes home to more physicians that Kasagra is the dependable aromatic fluid extract of Cascara.

Occasionally one is tempted to experiment on some other preparation for the purpose, but soon returns to Kasagra.

Nearly twenty years of unswerving fidelity to a standard of quality and strength, is a record worthy of your consistent patronage.

Kasagra is most economical in use, do not employ it in large doses, five to fifteen minims well diluted will give you better results.

Frederick Stearns & Co.

Windsor, Ont. Detroit, Mich.

ACETOZONE
IN INFANTILE SUMMER COMPLAINTS

Most powerful intestinal antiseptic known.
Freely ingested in aqueous solution.
Potent against the disease, yet harmless to the patient.

IN the summer complaints of young children the most rational agent is **Acetozone**—an agent of greater germicidal potency than mercuric chloride, carbolic acid or hydrogen dioxide.

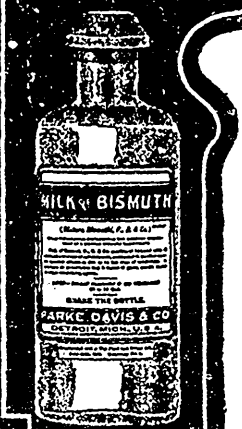
RESULTS.

Discoloration and putridity of the stools disappear. Diarrhea is checked. Temperature falls. Pain and inflammation subside. Vomiting is controlled. Irritability is succeeded by rest and refreshing sleep.

Supplied in ounce, half-ounce and quarter-ounce bottles; also in vials of 15 grains, 6 vials in a box.

LITERATURE FREE ON REQUEST.

MILK OF BISMUTH
GASTRIC SEDATIVE AND ASTRINGENT



Every possible care used in its preparation.
Contains no arsenic or other impurity.
Agrees with the most sensitive stomach.

IN the treatment of the various forms of gastritis, gastro-enteritis, gastric ulcer, enterocolitis, diarrheas, dysentery, etc., *Milk of Bismuth* (P., D. & Co.) is especially serviceable.

ADVANTAGES.

Milk of Bismuth (P., D. & Co.) is to be preferred to other bismuth preparations for this reason: it presents the hydrated oxide of bismuth in a state of very fine subdivision, which insures its thorough distribution over the alimentary canal.

WRITE FOR DESCRIPTIVE CIRCULAR.

PARKE, DAVIS & COMPANY

LABORATORIES: DETROIT, MICH., U.S.A.; WALKERVILLE, ONT.; HOUNSLOW, ENG.
BRANCHES: NEW YORK, CHICAGO, ST. LOUIS, BOSTON, BALTIMORE, NEW ORLEANS, KANSAS CITY, INDIANAPOLIS, MINNEAPOLIS, MEMPHIS; LONDON, ENG.; MONTREAL, QUE.; SYDNEY, N.S.W.; ST. PETERSBURG, RUSSIA; BOMBAY, INDIA; TOKIO, JAPAN; BUENOS AIRES, ARGENTINA.