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CANADA LANCET

L'Union Medicale

A Monthly Journal of Medical and Surgical Science, Criticism and News.

THE OLDEST MEDICAL JOURNAL IN THE DOMINION.

Vol. XXXII. No. 1 | TORONTO, SEPTEMBER, 1899. | Price, 20 Cents. $2 per Annum.

LACTOPEPTINE (POWDER)

Contains the five active agents of digestion—*Pepsin, Ptyalin, Pancreatin, Lactic Acid, and Hydrochloric Acid*—combined in the same proportion as they exist in the human system. These digestive agents comprise all known substances employed by nature in the preparation of food for assimilation.

LACTOPEPTINE ELIXIR

Represents Lactopeptine in an elegant liquid form, combining the *digestive properties* of Lactopeptine with the *stimulativy effects of an aromatic cordial*, acceptable to the most delicate stomach. Each fluid ounce contains 40 grains of Lactopeptine.

LACTOPEPTINE ELIXIR

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A valuable remedy in the various forms of Dyspepsia, Constipation and Nervous Debility. Containing:

Lactopeptine, 40 grs. - -
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Strychnia, 1-16 gr - - -
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Gentian, 8 grs. - - - -
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with Phosphates of Iron, Quinia and Strychnia

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Phosphate Iron, 4 grs. -
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In addition to Lactopeptine, these tablets contain the digestive principle of pineapple juice, which recent researches have shown to possess considerable digestive power. This substance also enhances the palatability of the tablet. **Lactopeptine Tablets** can be carried upon the person and taken at regular intervals with greater facility and convenience than is possible where the powder is prescribed.

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In all forms of catarrhal hypersecretion Blennostasine is indicated. It is superior to quinine as a remedy for Acute Coryza, Chronic Nasal Catarrh, Influenza, Hay Fever, etc.

Blennostasine, unlike quinine, is a vaso-motor constrictor, and speedily stops excessive mucous secretions. It will almost invariably arrest the sneezing and the mucous discharges of ordinary influenzal colds.

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Blennostasine is supplied in crystalline form, and in 1, 3 and 5 grain Gelatine-coated Pills. Samples and complete literature on request.

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As an antiferment, to correct disorders of digestion, and to counteract the intestinal putrefactive processes in the summer diarrhœas of children, **Listerine** possesses great advantage over other antiseptics in that it may be administered freely, being non toxic, non-irritant and non escharotic : furthermore, its genial compatibility with syrups, elixirs and other standard remedies of the Materia Medica, renders it an acceptable and efficient agent in the treatment of diseases produced by the fermentation of food, the decomposition of organic matter, the endo-development of fetid gases, and the presence or attack of low forms of microzoic life.

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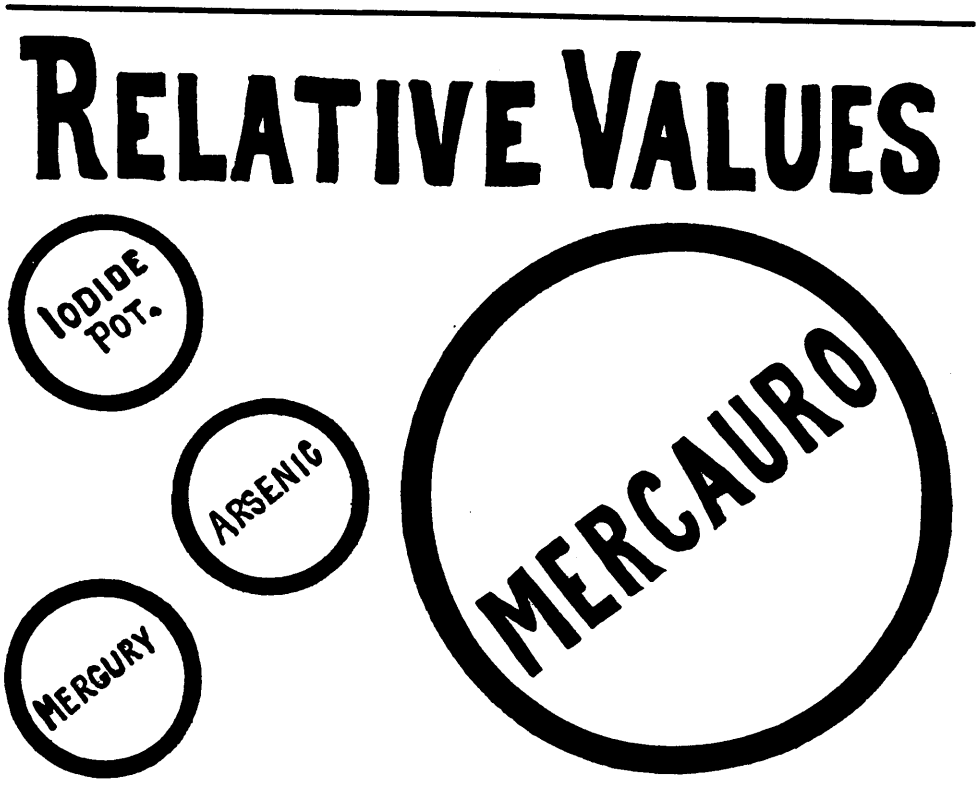

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In metal boxes convenient for the pocket. These Lozenges will be found extremely nutritious, and being put up in a portable form will be found of the greatest value to Tourists, Cyclists, Sportsmen, and others who at times are called upon to undergo long periods of abstinence from regular meals.

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FOR EARLY INFANT FEEDING.

The "Allenburys" Milk Foods so closely approximate in composition to the natural food as to supply an artificial diet almost identical with, and in practice found to be a reliable substitute for, the mother's milk. So much so is this the case that an infant can take these Foods and the breast alternately without any disturbance to its digestive organs.

All ordinary substitution for the mother's milk fail in some important attribute. Thus the usual substitute, cow's milk, differs materially in composition, which no amount of mere dilution can correct, being deficient in fat, albumen, and lactose, whilst the casein is in excess. Further, as obtained in towns, cow's milk invariably swarms with bacteria, many of which are pathogenic to the alimentary canal of the infant.

ALLEN & HANBURYS, whilst accepting sole responsibility for the processes of manufacture and the chemical composition of these Foods, wish to add that the further statements above made are based not on their own *ipse dixit*, but on the accumulated experience of members of the Profession who have been good enough to communicate the results of their observations.

THE
"Allenburys" Milk Food
No. 1

Affords, when prepared for use, a correct substitute for human milk. It is manufactured from fresh cow's milk, so modified as to present all the constitutents of human milk in their true relative proportions. Being in a desiccated and sterilized form, it requires only the addition of *boiled* water to obtain a pure and sterile food suitable for infants during the first three months of life.

THE
"Allenburys" Milk Food
No. 2

Is identical with No. 1, with the addition of small quantities of maltose, dextrine, and soluble phosphates derived from the digestion of whole meal with Malt Extract. These ingredients are a valuable adjunct to the increasing needs of digestion, yet the Food is readily and easily assimilated, there being no unconverted starch present. The No. 2 Food is designed for children between three and six months of age.

THE
"Allenburys"
MALTED FOOD
No. 3

Is not a *milk*, but a purely *farinaceous* Food, prepared by improved methods after Baron von Liebig's formula. The basis is fine wheaten flour, which has been thoroughly cooked and partially digested by an active Malt Extract, so that a large proportion, but not all of the starch has been converted. It is particularly rich in soluble phosphates and albuminoids.

This Food should be given from six months and upwards. For the first month or so after the change of diet it is generally advisable, instead of using cow's milk, to employ the "ALLENBURYS" MILK FOOD No. 1 or No. 2 in preparing it. The demand on the child's digestive organs is less abrupt, and a humnized milk is used in place of the more indigestible cow's milk. This precaution is specially recommended in the case of delicate children.

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Pil. Antiseptic Comp.

(W. R. WARNER & Co.)

℞ Sulphite Soda, 1 gr.
Salicylic Acid, 1 gr.
Nux Vomica, ⅛ gr.
Powd. Capsicum, 1-10 gr.
Concentrated Pepsin, 1 gr.

DOSE—1 to 3.

PIL. Antiseptic Comp. is serviceable in atonic dyspepsia, nervous dyspepsia—in fact, all forms of this disease, because it strengthens the lowered digestive vitality.

The Nux Vomica and Capsicum, besides promoting involuntary contraction of muscular fibre, relieve flatulence and constipation.

The digestive properties of the Pepsin, assisted by the action of the Salicylic Acid and Sulphite of Sodium, in addition to the above, make this an effective remedy.

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A SOLUBLE ACTIVE PILL.

℞ EXT. BELLADONNA, ⅛ gr. Peristaltic stimulant to the bowels.

GINGERINE, ⅛ gr. To prevent griping and for its carminative properties.

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CASCARIN, ¼ gr. Removes and prevents constipation.

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Renews Peristalsis.
Relieves Hepatic Torpidity.
Mild in Action.
An Intestinal Tonic.

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Pil. Chalybeate.

(W. R. WARNER & Co.)

A Most Satisfactory Method for Prescribing Iron as Indicated in

ANEMIA, CHLOROSIS, PHTHISIS.

℞ Ferri Sulph.
Potass. Carb., aa 1½ grs.

DOSE—1 to 2.

PIL. Chalybeate produces Ferrous Carbonate in the stomach, and mingling with the gastric juices is more quickly assimilated than any other preparation of iron.

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The same formula as Pil. Chalybeate with ⅛ gr. Nux Vomica added for its tonic effect.

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℞ Acid Salicylic. Ext. Phytolacca.
Quinina. Ext. Colchicum.
Res. Podophyl. Pv. Capsici.

DOSE—1 to 2.

AN ANTIDOTE FOR

..RHEUMATISM AND GOUT..

PIL. Arthrosia combines pure drugs, accurately subdivided, scientifically compounded, a quickly soluble coating (hermetically sealing and protecting contents indefinitely). Upon administration, Pil. Arthrosia will disintegrate rapidly and release a combination of remedies whose known therapeutic properties at once recommend this pill to the profession.

A marked improvement in rheumatic diseases follows almost immediately after taking Pil. Arthrosia.

W. R. WARNER & CO.,
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FROM THE VENTRICULUS CALLOSUS GALLINACEOUS.

SUPERIOR TO PEPSIN.

A POTENT, reliable remedy for the cure of Indigestion, Dyspepsia and Sick Stomach. Also a Specific for Vomiting in Pregnancy. Prof. Roberts Bartholow, M.A., M.D., L.L.D., in his work on *Materia Medica and Therapeutics*, says: "It is a Stomachic Tonic, and relieves Indigestion, Flatulence and Dyspepsia. It can be administered in inflammatory diseases of the mucous membrane, as it has no irritant effect." Physicians throughout the world have forwarded us testimonials of the reliance they place in Ingluvin, and state that the anticipated therapeutic effect is always forthcoming. If you are not familiar with it, we will forward you sample.

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Lithia Tablets

(W. R. WARNER & Co.)

NORMAL alkalinity of the blood is secured by prescribing WARNER'S LITHIA TABLETS (W. R. W. & Co.). Rheumatism, Kidney Diseases, Gout, etc., are directly due to abnormal acidity of the blood—lactic acid in the former, and uric acid in the two latter. Treatment therefore should be directed to produce alkalinity of the blood.

Lithia is one of the foremost eliminants of the day, and is especially valuable for above diseases, but best of all in the form of Lithia Tablets (W. R. W. & Co.). The dose is accurate, convenient for administration, economical and efficacious. Garrod writes: "One of the most remarkable properties of Lithia is its power of imparting solubility to uric acid."

Tono Sumbul Cordial

(W. R. WARNER & Co.)

℞

Nerve-tonic properties of Sumbul.
Blood-making " Iron.
Antiperiodic " Cinchona.
Acid Phosphates.
Aromatics, Sherry Wine, q. s.

Sig. Tablespoonful to be taken before meals.

Sumbul is particularly valuable in cases of a low, depressing character, and is the remedy par excellence for nervous, hysterical females who need building up. As will be seen, Tono Sumbul Cordial does not contain coca or any ingredient which might induce a drug habit, but is a superior tonic, used to advantage and discontinued with no after effects.

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Elixir Salicylic Comp.

(W. R. WARNER & Co.)

AN active and reliable remedy in Rheumatism, Gout, Lumbago and kindred complaints, combining in a pleasant and permanent form in each fluid drachm the following:

℞

Acid Salicylic (Schering's), grs. v.
Cimicifuga, grs. i¾. Potass. Iodid., grs. iss
Tr. Gelsemium, gtt. i. Sodii Bicarb.

The advantages of Elixir Salicylic Comp. are afforded by the combination of Salicylic Acid with Soda in excess, thus forming a salt less corrosive and irritating, and more readily borne by the stomach. Avoid imitations and substitutes.

W. R. WARNER & CO.,

Philadelphia. New York. Chicago.

Eff. Sodium Phosphate

(W. R. WARNER & Co.)

An active, palatable form of Sodium Phosphate, which, on account of its bland, gentle action and efficacy as a cholagogue, has become a widely prescribed preparation.

It is useful in

CONSTIPATION AND TORPID LIVER.

Its refrigerant saline action recommends Eff. Sodium Phosphate (W. R. W. & Co.) in all exanthematous fevers.

Used to advantage in all Nervous Diseases where the system is sub-normal.

DOSE.—One or two dessertspoonfuls. As a purgative, two dessertspoonfuls. As an alterative, one dessertspoonful. It is more efficient taken before breakfast or at bedtime.

"SPECIFY WARNER'S."

Eff. Bromo Soda

(W. R. WARNER & Co.)

For Sick Headache caused by indigestion and over-indulgence.

Headache resulting from protracted mental effort and close confinement.

Headache due to loss of sleep and rest.

Dull Throbbing Headache from over-work and disordered stomach.

Headache from excessive use of tobacco or over-eating.

Bromo Soda will quickly relieve Neuralgic and Rheumatic Headache.

Where nervous depression follows deprivation of alcoholic stimulants, opium, etc., when habituated to their use, BROMO SODA is recommended with the utmost confidence as a prompt and certain remedy.

SEE THAT YOU GET NO SUBSTITUTE.

Eff. Kissingen

(W. R. WARNER & Co.)

AND

Eff. Vichy

(W. R. WARNER & Co.)

Afford an innocent remedy for the successful removal of superfluous flesh.

Acting on the suggestion of Dr. W. T. Cathell's recent contribution to medicine, we are offering to the profession Eff. Kissingen and Eff. Vichy as a convenient and economical method of administering these remedies, while the advantages over the natural waters lie in the fact that each dose is accurate and is composed of fresh water.

DOSE.—Heaping teaspoonful Eff. Kissingen, after meals, alternating every other day with same doses of Eff. Vichy.

We also put these remedies up in the form of an Effervescent Tablet, two tablets being one dose. To be taken after meals.

"SPECIFY WARNER'S."

Lithia Salt Alkaline

(W. R. WARNER & Co.)

℞ Lithia Citrate, 5 grs.
Potass. Bicarb., 15 grs.
Soda Bicarb., 10 grs.
Acetanilid, 3 grs.
In each dose or two teaspoonfuls.

Lithia Salt Alkaline affords a most excellent means of ridding the blood of an excess of those acids upon which the above diseases depend.

The physician is cautioned not to confuse this remedy with those of similar sounding names, and in prescribing it would be well to specify *"Warner & Co."*

W. R. WARNER & Co.

PHILADELPHIA
NEW YORK
CHICAGO

Pil. Peristaltic

(W. R. WARNER & Co.)

FOR CONSTIPATION
BILIOUS DISORDERS

SMALL
EFFECTIVE
EFFICACIOUS
NO GRIPING
NON-IRRITATING TO
HEMORRHOIDS

℞
Aloin, ¼ gr.
Ext. Bellad., ⅛ gr.
Strychnine, 1-60 gr.
Ipecac., 1-16 gr.

DOSE—1 to 2.

Pil. Peristaltic Mercurial

(W. R. WARNER & Co.)

Same formula as Pil. Peristaltic, with 1-10 grain Calomel added.

Nervitone Tablets

(W. R. WARNER & Co.)

℞
Phosphorus, 1-100 gr.
Ferri Carb., 1½ grs.
Asafetida, ½ gr.
Ext. Sumbul, ½ gr.
Ext. Nux Vomica, 1-10 gr.

DOSE—2 tablets before meals for adults.

BY glancing at the above it will be seen that in Nervitone Tablets we offer a combination of well-known nerve tonics and stimulants. It is a tablet that will cover a wide field of usefulness in physicians' prescribing. When the indications are for a prescription to correct conditions due to asthenia, neurasthenia or nerve exhaustion, whether the result of debilitating diseases or excesses, we have in Nervitone Tablets a remedy which will give satisfactory results.

The drugs used in the manufacture of this pill are pure and active.

Liquid Pancreopepsine

(W. R. WARNER & Co.)

THIS preparation (sometimes termed "Digestive Fluid") contains in an agreeable form the natural assimilable principles of the digestive fluids of the stomach, comprising Pancreatine, Pepsin, Lactic and Muriatic Acids.

The best means of re-establishing digestion in enfeebled stomachs, where the power to assimilate and digest food is impaired, is to administer remedies capable of communicating the elements necessary to convert the food into nutriment.

SEE THAT YOU GET THE ORIGINAL.

Pil. Digestiva

(W. R. WARNER & Co.)

COMPRISES a combination of remedies for the treatment of all forms of indigestion, whether due to an enfeebled digestive tract, faulty secretion of gastric juices, or indiscretion in matter of diet or stimulants.

℞
Pepsin Concentrated, 1 gr.
Pv. Nux Vom., ¼ gr.
Gingerine, 1-16 gr.
Sulphur, ⅛ gr.

DOSE—1 to 2.

AN EXCELLENT AFTER-DINNER PILL.

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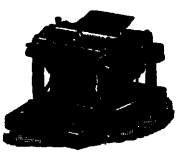

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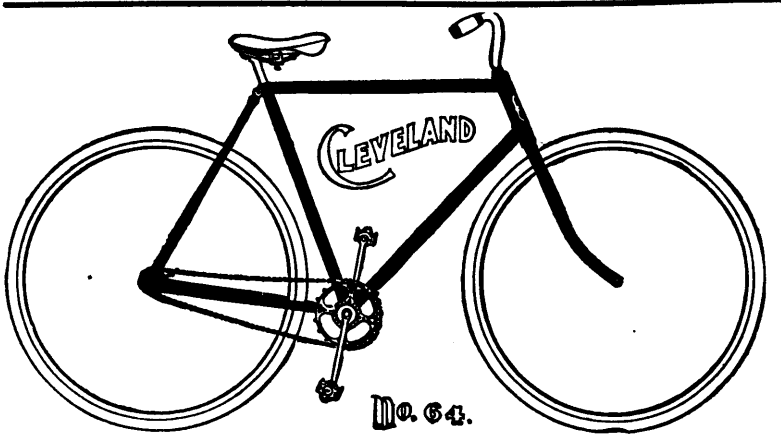

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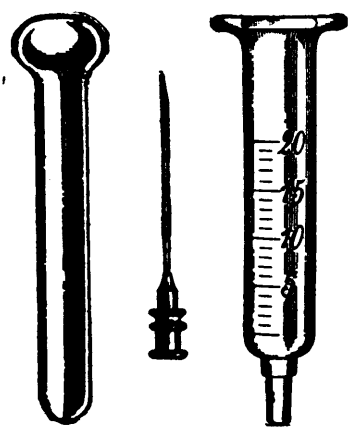

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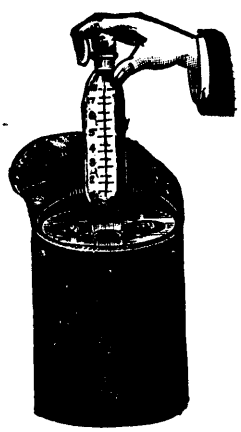

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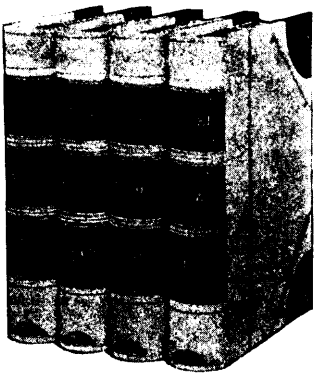

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℞ Olei Morrhuæ (opt) ℥vii.
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Phosphori gr. i.
Glycerini, etc., q.s., ad. ℥xv.
Sig.—Take as directed by attending physician.

TRADE MARK Ferrol REGISTERED

With Creosote

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Phosphori gr. i.
Creosoti (Beechwood), min. cxii.
Glycerini, etc., q.s., ℥xv.

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BECAUSE . . .

IT IS THE BEST.

It is the only perfect Emulsion of Cod Liver Oil, Iron and Phosphorus obtainable.

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We fully guarantee every ingredient to be strictly first class, the oil being of a specially fine quality.

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THE CANADA LANCET.

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CANADIAN MEDICAL ASSOCIATION.

HELD AT TORONTO, AUGUST 30TH, 31ST AND SEPTEMBER 1ST.

The thirty-second annual meeting of this Association was held in the theatre of the Normal School building, Toronto, on the above dates, Mr. Irving H. Cameron, Toronto, the President of the Association, in the chair, and Dr. F. N. G. Starr acting as General Secretary. The meeting was called to order by the President at 10.30 a.m., and the minutes of the last meeting at Quebec were read and adopted. About eighty members were present for the first session, which numbers were swelled to about 275 before the completion of the meeting.

Dr. A. J. Johnson, Toronto, the chairman of the Committee on Arrangements, submitted his report for the guidance of members, which, on motion, was received and adopted.

The General Secretary then read telegrams of regret from Dr. J. M. Beausoliel, Montreal, Dr. E. A. Farrell, Halifax, and Dr. A. Lapthorn Smith, Montreal, stating that the latter was unable to be present on account of the death of his daughter.

The President informed the meeting that he had already despatched a letter of sympathy to Dr. Smith.

The following gentlemen were elected members of the Association: G. Henderson, Strathroy, Ont.; L. M. Sweetnam, Toronto; J. L. Bradley, Creemore, Ont.; Frank Porter, Toronto; P. Howey, Owen Sound, Ont.; L. Laberge, Montreal; Geo. W. Badgerow, Toronto; C. N. Laurie, London Junction; A. W. Heaslip, Hillsdale, Ont.; S. G. Storey, Blenheim, Ont.; F. O. Lawrence, St. Thomas: C. E. B. Dunscombe, St. Thomas, Ont.; A. Stewart, Palmerston, Ont.; W. T. Connell, Kingston, Ont.; T. H. Stark, Toronto; A. Stark, Berwick, Ont,; J. M. Jory, St. Catharines, Ont.; J. W. S. McCullough, Alliston, Ont.; E. Meek, Port Rowan, Ont.; J. H. Mullin, Hamilton, Ont.; J. F. Uren, Toronto; A. H. Halliday, Traverse City, Mich.: O. J. McCully, Moncton, Ont.; George Elliott, Toronto; R. J. Trimble, Queenston, Ont.; W. S. Harrison, Toronto; W. H. Harris, Toronto; W. O. Stewart, Guelph, Ont.; J. M. Hart, Toronto; F. Winnett, Toronto; E. Sisley, Maple, Ont.; A. R Gordon, Toronto; E. H. Stafford, Toronto; A. T. Macnamara, Toronto Junction; D. H. Hogg, London, Ont.;

A. T. Hobbs, London, Ont.; E. T. Snider, Brussels, Ont.; C. E. Stacey, Toronto; L. Bentley, Toronto: C. H. Thomas, Gormley, Ont.; Beattie Nesbitt, Toronto; Chas. Trow, Toronto; R. H. Green, Embro, Ont.; R. N. Fraser, Thamesville, Ont.; Thomas Kerr, Toronto; William Kerr, Cayuga, Ont.; B. Spencer, Toronto; D. W. Gordon, Lucknow, Ont.; J. P. Kennedy, Wingham, Ont.; W. J. O. Malloch, Toronto; W. H. Groves, Burnhamthorpe, Ont.; H. H. Sinclair, Walkerton, Ont,; D. B. Bentley, Sarnia, Ont.; A. W. McFaul, Stayner, Ont.; D. King Smith, Toronto; J. H. Cotton, Toronto; F. Montizambert, Ottawa; Hugh Bain, Prince Albert, N.W. T.; J. H. Elliott, Gravenhurst, Ont.; J. Montgomery, Oshawa, Ont.; Dr. Hodgkin, Deer Park, Ont., Julia Thomas, Toronto; Dr. Jackes, Eglington, Ont.; W. H. Clemes, Toronto; W. T. Sherris, Toronto; R. O. Snider, Toronto; Ernest Hall, Toronto: W. J. McCollum, Toronto: J. M. Henwood, Toronto; A. G. Ashton Fletcher, Toronto; B. Z. Milner, Toronto; W. J. Wilson, Toronto: Graham Chambers, Toronto; Lelia H. Davis, Toronto; C. J. O. Hastings, Toronto; Geo. H. Carveth, Toronto; Fred Fenton, Toronto; C. L. Starr, Toronto, and J. P. Russell, Toronto.

Tuberculosis in Canadian Cattle and its Prevention.

Dr. J. George Adami, Montreal. At the outset, he stated that there were three questions to be asked and answered:

1. Is tuberculosis in cattle a source of danger to other cattle, so as to seriously affect their well-being and to be a source of loss to the owners?

2. If infectious from animal to animal, is it infectious from animal to man and thereby a grave source of danger to the human race?

3. If infectious from animal to man, what are the commonest modes of infection and, as a sequel to this, how are we to diminish the danger?

If the first can be answered in the affirmative, how can the disease be erased? To do this we should employ all the means in our power; what organization and official steps should be taken in our country to stamp it out? In regard to the question is it dangerous to other cattle when in cattle, there is abundant evidence to show that the introduction of an infected bull into a herd has been followed in a short time by symptoms of the disease in old members of the herd. Most of us see very little of its results. The learned professor quoted from slaughter house statistics taken from Professor Conn, showing the increase of tuberculosis in European countries within the last ten years; those from Leipsic being especially important on account of the marked increase reported there. In 1885 the rate was 11%, and in 1895 it had risen to 33.3%, and it is still increasing. At this rate of going, in a few years there will be no breeding herds left unaffected. We can thoroughly rely upon the tuberculin test. In Germany they have come to the conclusion that the amount of tuberculosis is over 50% of the animals in the land. Stringent regulations should be carried out by the Government. The animal should be seen before permitted to enter Canada. If once an animal has been inoculated with tuberculin, you will not get a secondary reaction until a month has elapsed. Nor even in the Eastern States of

America is the condition more satisfactory. In Massachusetts the disease has been found very common. The cattle imports for that State show in several large herds as high as 100%. What are the results and dangers from this extreme prevalence of the disease elsewhere? First, the effects upon the animal itself, milk, breeding, etc. Sooner or later the disease progresses. Second, there is danger to the community in employing the milk and meat in such an animal. In 1893 Professor Wright estimated that tubercle in cattle caused an annual loss of $2,000,000, *i.e.*, loss in milk and butter. In regard to his second question if infectious from animal to animal, is it infectious from animal to man, we generally give an affirmative answer to this. The amount of reliable evidence of direct transmission from animal to man is singularly slight. It would be easy to determine this if we could make a direct experiment, but we cannot do that; we cannot inoculate man from the diseased meat. We can do the other, though, *i.e.*, inoculate cattle from the sputum, and we find that they are slightly susceptible to human tubercle. That obtained from man, however, tends to be localized, and leads to transient results. We have distinct evidence that the bacilli obtained from fowls differ widely in properties from those obtained from man, than do the bovine bacilli. Fowls may with impunity be fed with human sputa without becoming infected. Man may be infected from birds but we cannot legitimately apply that to immunity to bovine tuberculosis except that in the main they resemble each other, and that is about all we can say; they are identical. Even in butchers and children fed upon the meat and milk of tuberculous cattle, there is lack of positive evidence. In them we must exclude every other possible mode of infection, and such exclusion is a matter of extreme difficulty. Thus, to obtain any authentic case is a matter of great difficulty. The frequency of tubercle amongst children would appear to be a strong argument in believing that the milk of cows affords the most likely source of infection. He quoted Stillé in the British Medical Journal, out of 269 necropsies on children one-third showed tubercular lesions; 43% occurred at the milk drinking period of life and 56.2% occurred in the first three years of life. The mortality from tubercle in early childhood is not decreasing, and the opinion that the prevalence is due to infection from milk from tuberculous cows seems to be well founded. Examining Dr. Stille's statistics there is difficulty to make out which are the older and which are the recent lesions. Large cheesy masses in the mesenteric glands indicate that the intestinal lesion is the older, and if in the bronchial glands the lesion is older; this was the source of the infection. Thus, of the 269 cases above referred to, the channels of infection were found as follows: respiratory, 57.2%; intestinal, 23.4%, probably directly and so from milk; bones, joints, etc., the balance, altogether about fifty cases out of the 269. In 1890 the testing of cattle was encouraged to the utmost possible extent by the Government. In 90,000 inspected cattle at Montreal in 1894 only eighty were rejected, and only two of these were recognized as suffering from tuberculosis, and even in them the disease was only limited. Pleuro-pneumonia is absolutely non-existant in Canada. Out of 2,000 post mortems at Montreal there were only fourteen cases in which tubercles were detected in

the lungs, *i.e.*, 0.6%. He advocated the appointment of inspectors to kill off or buy and place on Government reserves all infected cattle, and then in a very few years Canada will become practically free from the disease and become a great centre for the breeding of high class cattle and other countries will have to come to us for their stock.

Professor Oldright, University of Toronto, asked whether the statistics quoted by Dr. Adami were slaughter house statistics or otherwise.

Dr. J. J. McKenzie, bacteriologist to Ontario Board of Health, spoke of the effect of climate in reducing the amount of tuberculosis amongst our cattle, and stated that our climate is favorable for this. The difficulty is that the cattle that ought to have the benefits of the climate, in winter time as in summer, are shut up and housed in small stables in which every breath of fresh air is kept out, as their owners think more of keeping them warm. Here we have a very favorable condition for the spread of tuberculosis. As to the presence of tubercle bacilli in the milk, some six years ago, he investigated some twenty-five cattle that reacted to the tuberculin test. He examined the milk of all these cows, using the specimen after passing through the separator, and in only two cases were any bacilli present, and in these two cases he only found six or eight bacilli in the whole specimen; and in the post mortem afterwards we were unable to find any tuberculosis in the udders. Probably these passed into the milk from the leucocyte.

Dr. Clarence Starr, Toronto, stated that in the fall of 1897 he had done some experimental work for the Ontario Government along the same line, and it was then the intention of the Minister to introduce the Bang's system. In the United States, he said, he understood that the slaughter house statistics were about 33%. In Canada it is very much smaller; in fact, very small in comparison with other countries. Statistics taken from cattle for export are not fair; those are cattle taken from the herd and free from disease as far as possible The Dominion Government, some time before that referred to, had passed an order-in-council recommending that all cattle reacting to the tuberculin test should be slaughtered. That, of course, put a stop to the hunting of statistics, on account of the fact that the farmers would only suppress it if it were in their herds. He thought, possibly, that the per centage in cattle in Canada was even larger than Prof. Adami stated, though freer than any other country in the world. In regard to the seven weeks quarantine, that is a rather radical step, and objections may be offered. All cattle imported into this country should have a certificate of freedom from tuberculosis by means of the tuberculin test given by the breeder, and no cattle should be imported into this country unless such has been done. Prof. Nocher, of Paris, has instanced a number of cases in which herdsmen sleeping with their herds in the same stables, poorly ventilated and a great many cattle in the building, developed tuberculosis. The question in his mind was whether Prof. Bang's theory could not be more easily carried out than the wholesale slaughtering of the cattle. We should make a distinction between clinical symptoms and cattle reacting to the tuberculin test. We necessarily leave a larger portion of the herd which will, possibly, later on, show clinical symptoms.

Dr. Turnbull, Pennsylvania, said he had listened with a great deal of pleasure to the able paper of Prof. Adami, and thoroughly agreed with the writer in making a long period of quarantine for animals imported. In Pennsylvania recently a law was enacted, within the past two years, that breeders within the State are not to bring into the State any animals for dairy or breeding purposes unless they have been tested for tubercle by the health authorities from the State in which they were bought. It was an excellent law, but the law was not stringent enough in that the breeders had got on to the fact that if an animal reacts to tuberculin a period has to elapse before it will react again, and a great many of the breeders are unscrupulous enough to keep injecting their animals with tuberculin. He was in favor of a seven weeks' quarantine, or longer would be better. Make the quarantine period just as long as you can. It is better for your breeders.

Dr. P. H. Bryce, Toronto, Secretary of the Provincial Board of Health, spoke of the powers bestowed on health boards by the Ontario Government in 1896, and said that the regulations were practically those of Bangs.

Dr. Roddick, Montreal, said that he had taken occasion recently during the past session of the Dominion Parliament to direct the attention of Parliament to this fact in connection with a series of resolutions passed by the Medico-Chirurgical Society of Montreal, to impress upon the Government, if possible, the practice of allowing only veterinary surgeons to inject tuberculin,—to make it impossible for farmers to do so, and in that way to prevent the fradulent methods now-a-days practised by them. That is, veterinary surgeons should alone be allowed to use tuberculin upon cattle before they were sold. We have several illustrations in the Island of Montreal, where a farmer is known to have injected his cattle, sold them to a gentleman-farmer, and all of these cattle turned out to be tuberculous, reacting later on to the tuberculin test. He quite agrees with Dr. Turnbull that as long a time as possible for quarantine should be enforced. He thought byres were not as thoroughly looked after as they should be, and spoke of some parts in Lower Canada where they were very badly looked after. In some stables, there is only 200 feet of air space where there should be 2,000 feet of air space. Then care is not taken to cleanse the stable as it should be done. He promises upon some future occasion to bring the matter up in Parliament as he wants the Government to take a more strong hand in this matter. He has the promise of the Minister of Agriculture that he will discuss the question of the Bang's System and the slaughtering of the animals, in order to eradicate this terrible disease from among our cattle.

Professor Adami, in reply, said, in regard to the question by Dr. Oldright, these figures from Leipsic are not all from selected animals. The slaughter-house inspection is very scientific in Germany; they are slaughter-house statistics. With regard to Dr. McKenzie's interesting experiments, one can find absolutely, tubercle in the milk and no tuberculosis in the udders, but one does find fibrosis of the glands, but no sign of tubercle in the glands. As to the question of quarantine, the Government of Canada has made regulations to the effect that cattle imported

from England, a certificate shall be brought in regard to the tuberculin test with them. The tuberculin test can be employed by those willing to employ it frauduently. He advocated the adoption of the Bang's system and felt assured that in three or four years, we can get rid of tuberculosis, at any rate aid it by a more extensive slaughter than in the old country. We should set the example and lead the world in the matter of this eradication.

The Results Already Achieved at the Gravenhurst Sanitarium.

Dr. J. H. Elliott, Medical Superintendent of that Institution, reported on this subject. He first gave a description of the founding of the sanitarium, the gentlemen who had interested themselves in its establishment, such as Sir Donald Smith, Chief Justice Sir William Meredith, Mr. W. J. Gage and Dr. N. A. Powell, Toronto, and then proceeded to enlighten the membership of the Association as to its management. In no sense has it been erected for speculative purposes. It is intended to be in every respect a public institution and to make at least half of the beds free. Already $70.000 has been expended on the place. He then described fully the construction of the administration building and the several cottages. In his classification of cases when admitted, he had followed the methods of Trudeau, "incipient," "advanced" and "far advanced." On discharge, they are classified as: "apparently cured," "disease arrested," "improved," "stationary," "failed" or "died." "Apparently cured" signifies absolute absence for three months of any expectoration. "Disease arrested," cases in which bacilli are still present, but all constitutional disturbance gone for some time. "Improved" are cases in which there has been some marked improvement in the condition of the lung. The first year's report shows that 116 were admitted during the first year. Of these 33 remained at the close of the year, 83 having been discharged. There were 12 "apparently cured"; 23 "disease arrested"; 29 "marked improved"; 11 "unimproved"; 5 "failed" and 3 died. The average stay of each patient was 98 days. Making a selection of 30 patients in three months, 6 being "incipient" cases, 16 "advanced" and 8 "far advanced," of the 30, 22 gained in weight, 4 lost weight, and 4 neither gained nor lost. One patient in four months gained 41½ pounds. These results were obtained while the sanitarium was undergoing development. The sanitarium year ends on the 30th of September. Taking the first nine months of the year, ending at the 30th June. Of 17 "incipient" cases, 11 were "apparently cured," 6 "improved" or "disease arrested," none "stationary," none "failed" and none died. There were three cases of doubtful evidence of phthisis, 1 was "much improved" and 2 "apparently cured." The average stay was 152 days. Of the 72 cases discharged 61 had bacilli when admitted and 47 had bacilli when discharged. Of the 72, 60 or 83 per cent. gained in weight. One patient gained 18 pounds in the first month. He drew especial attention to the fact that of 17 "incipient" cases, 11, or 65 per cent. were "apparently cured." With a longer stay 80 per cent. could be got. From 12 to 18 months have elapsed since the discharge of the patients of the first year.

Twelve were reported "cured" and in none of these has there been any return of the trouble, and all are in perfect health. Of a number who gave promise of a speedy cure, several have progressed favorably since discharge. It is important not to tell the patient that the lungs are weak; and do not send far from home, patients in whom the disease is far advanced; it is not right. It is impossible at this time to outline the treatment in detail. Broadly speaking, it is rest when pyrexia is present, regulated exercise in apyretic cases, suitable diet and hygiene and fresh air the entire twenty-four hours daily and constant supervision of the patient's daily life and the special facilities provided in all seasons and in all weathers.

Dr. Powell, Ottawa, asked what important advances have been made by separating cases of phthisis from the general community and putting them under proper conditions, i.e., those cases of incipient phthisis. Then he would like to know broadly on what the diagnosis was based, in order to place them in that class. In every case was it based upon the sputum, or to what extent on the clinical symptoms given, in order to say, was the person in the tuberculous state at all. He further stated that he had been very much interested in this sanitarium and would like to ask what the charges were to those patients for admission. What proportion are "pay" and what "public" cases? How does the sanitarium derive its income, by public subscription; and whether the Ontario Government subsidizes it?

Dr. Lafferty, Calgary, spoke of a case of phthisis from the town of Berlin, Ont., "far advanced" which was refused admittance to the Gravenhurst Sanitarium and afterwards sent to the North-West Territories and ultimately recovered.

Dr. N. A. Powell, Toronto, stated that Dr. Stewart, Montreal, and himself had been responsible for a large proportion of the diagnoses in these cases. The examinations have been checked over by the late Dr. J. E. Graham and Dr. J. L. Davison. Since the death of Dr. Graham, Dr. W. Britton, Toronto, has been appointed on the staff. It was quite proper to place them under treatment before bacilli could be found in the sputum. There must be a breaking down of the lung tissues before you can get the bacilli. Bacteriological examinations are always made and made repeatedly. He stated that he had to accept the responsibility for there being at the present time, a sanitarium at Gravenhurst. There is no desire that there shall be any financial return. There are no salaries excepting to the superintendent.

Dr. E. H. Adams, Toronto, asked whether persons are sent to the Gravenhurst Sanitarium in which the pathological examinations are not made, and whether they are kept in the same part of the sanitarium as the rest of the patients.

Dr. Elliott, in reply, all the incipient cases we were very careful to classify as incipient cases. He stated he had mentioned three cases of doubtful diagnosis. In the majority of the other 17 cases, the bacilli were present. There were other cases, however, of localised deposit or an

evening rise of temperature with most of them some sub-normal temperature in the morning. The tuberculin test has not been used. The rate is $6.00 per week for all patients. The Ontario Government gives us help to some extent as other hospitals. We get our share of the $110,000 grant, the total grant for the year being about $1,900. Each patient has a separate room; two patients are not crowded together into one room. There are two double rooms only. All the expectoration is collected either in a box or in a handkerchief and is destroyed by fire. Last year there was a deficit which was not met.

FIRST DAY—AFTERNOON SESSION.

"Christian Science."

Prof. J. H. Richardson, Toronto University, stated that when it was suggested that he should read a paper on this subject, he willingly consented, not because the subject was worth five minutes talk, but because we should have a more definite knowledge of it. He quoted extracts from "Science and Health," and other of Mrs. Eddy's writings. It received its name in 1876 and was a conglomeration of spiritualism, homœpathy, mesmerism, deceit and avarice. In 1862, Mrs. Eddy, then Mrs. Patterson—she has had four husbands—had been a helpless invalid for six years, though the illness is not stated. She then came under the care of a Dr. Quinbe, who, unlike all medical practitioners, made no outward applications, simply sitting by the patients and talking to them about the disease. This man said, "I change the fluids of his system and establish the principle of his health." In that same year Mrs. Eddy met with an accident which brought back her old disease. In 1866 she again received "the treatment" and her friends were frightened at her being restored to health. Such was the commencement of this so-called "Christian Science." In the opinion of the essayist Eddypathy was "ridiculous muss."

President's Address.

Mr. I. H. Cameron first expressed his thanks at the honour conferred on him and then thanked the members of the Association for their unprecedented attendance at the meeting. "The burden of my lament to-day is the over-crowding of our ranks and the absence of scholarship in the profession." The same thing is equally true of the other professions; the church and the bar suffer from the same plethora as ourselves. To site an illustration; it was formerly considered that 1,000 souls were enough to keep one doctor alive, now in the city of Toronto, there are over 400 doctors to a population of 200,000, and other cities will reveal like conditions. He frequently quoted the opinions of Mitchell Banks and spoke of the small fees often paid, disproportionate to the service rendered. The difficulty of making a living in medicine is steadily getting greater, whilst at the present time as an honourable profession medicine never took such high rank in all its history. A quiet life in the country

is not in accord with the spirit of the times, and this leads often to a multiplication of our numbers in the cities. Still our business is not to lament the past, but to do the best for the present. There is no profession that tries to be more honest. There are those who should not be in the profession at all, being better fitted for other walks of life. One told him that he just wanted money, and that he did not care anything about the profession. Another fault is, no doubt, the growth of specialism. He deplored the fact that the old-fashioned practitioner is dying out, the decadence of the doctor's horse and the introduction of the automobile. Defect in scholarship and manners came in for notice; the pupil no longer meets his master with terms of respect, but on terms of equality. He quoted Mitchell Banks again in regard to lack of scholarship. There was eternal cramming and loss of power of thinking. What is the remedy? Stiffen up entrance examinations. We should have this rough sieve at the very beginning. It was a great mistake to allow inferior men to enter upon a course of studies, as after matriculation they usually got through somehow, even though they took separate subjects for a period of ten years. He outlined the course of studies according to his light, and stated that the course should conclude with three year's clinical experience. The diminution of the ranks of the Association were feelingly referred to by the departure to the silent majority of Drs J. E. Graham, Toronto; H. P. Wright, Ottawa, and J. H. Mullin, Hamilton. In concluding his admirable address, he referred to the high honour conferred on the profession of medicine, when Her Majesty bestowed the honour of knighthood upon three members of the profession in England, Burdon Sanderson, Michael Foster and Mitchell Banks.

An Experience with Formaldehyde Disinfection.

Dr. F. Montizambert, Director-General of Public Health, Ottawa, related an experience with the employment of this disinfectant in an out-break of smallpox on board the steamship Lake Huron, 25 days out from port on the Black Sea, with 2,400 Doukobors on board. On the 6th of June last, the vessel was ordered into quarantine and all of the passengers were landed by the ninth inst. and the vessel was fully and completely disinfected by Monday and Tuesday following, the 12th and the 13th. A new crew was in charge on Wednesday the 14th at 4 p.m. Formaldehyde in solution was used for the saloons and state-rooms and in all parts where the fittings would be destroyed by steam. Steam is not suitable for large rooms as the temperature cannot be kept up. Formaldehyde, therefore, was used on this occasion and the total measurement of surface on which it was employed was 200,000 feet odd. Twelve ounces of this solution was allowed for each 1,000 cubic feet of space. Two new sets of men paraded, occupied, lived and slept in the vessel from two to four days after 17 cases of smallpox had been removed and there were 2,400 people on board. That was a severe test. He was happy to be able to state that there has not been reported a subsequent case of the disease during two and one-half months that have since elapsed.

Massage and the Relief of Eye Strain in the Treatment of Glaucoma.

Dr. George M. Gould, Philadelphia, in reading this paper stated that glaucoma will first come into the hands of the general practitioner for treatment. Four years ago he wrote concerning glaucoma, that massage properly applied would seem to be a good process stimulating and arousing normal functions generally. He instanced one case in which vision had been reduced to 21/100 and there had been no considerable response to esserine, he determined to try massage and the vision steadily rose to 20/30. During the last four years he has tried the same plan in a number of cases and then proceeded to relate his experiences and results. In the first case there were typical symptoms of glaucoma with the exception of pain. Tension, right plus 1; left plus 2. Massage was employed and for three years the eyes have remained normal. Massage may prove prophylactic in incipient cataract. In the second case, massage also was performed and the vision remains perfect and the tension perfectly normal, now for three years. Several other cases were also stated and the Doctor has yet to see any bad results. By this treatment all venous and lymph spaces with stasis are cleared and broken. Massage may be of great service, especially if seen early. In many cases it may prevent enucleation and in sub-acute attacks it is invaluable, and is promptly prophylactic as well as therapeutic.

Dr. R. A. Reeve said that glaucoma is such an insidious and dangerous disease that one hails with pleasure any new treatment, or anything looking towards its prophylaxis. Taxis exerts beneficial results in this disease and fortunately it is a very rare disease. He congratulated Dr. Gould upon the wisdom he displayed in laying such great stress on the scientific correction of errors of refraction.

Dr. Burnham. Glaucoma often baffles us, and one addition to its treatment such as Dr. Gould has given us is very acceptable and comforting to us all.

Dr. Burt, Paris, Ont. said that the profession would welcome any new treatment so easily performed, as massage seems very simple and easy of operation. Glaucoma, however, is rare, and he hopes he will never have to put this treatment into practice.

Treatment of Acute Digestive Disorders of Infancy.

Dr. A. R. Gordon, Toronto, contributed a paper with this title and said that it was his purpose to discuss the treatment of these troubles in previously healthy infants. In these attacks we must have a knowledge of the functions of the saliva, gastric juices, bile and pancreatic fluids as well as that of the succus entericus, together with peristalsis of stomach and intestines. We must also be able to classify and diagnose the separate and distinct processes, their cause and results. When the intestinal epithelium is impaired, the circulation in the liver becomes sluggish and then we have all the symptoms from malaise and headache to those of alarming intoxication. We should begin our treatment with the suspension of all the regular articles of diet and the employment of substitutes,

and if the attack is in the stomach, the reason for this is all the more pronounced. Witholding of foods must be absolute, from 8 to 10 or 12 or even 24 hours with the administration of water alone. In the simpler forms suppression of food may be all that is necessary for a few hours. After this, rice water, etc., may be used. Liquid peptonoids he has found very satisfactory. It may be necessary to persist in the use of this diet for days, until all the symptoms have disappeared and the child practically convalescent. Cow's milk should be the very last to be allowed. Some of the malted foods answer very well at first. When milk is to be allowed it is safer to peptonize it, although sterilized milk is sometimes more easily borne. Purgation and repeated purgation is indicated at the commencement of an attack. Calomel is the best drug to employ with soda bicarb. to prevent griping, with divided doses when vomiting is troublesome. Thus the liver is restored to its normal condition and activity and the bile flows more freely. The alimentary canal is emptied by an abundant flow of nature's antiseptic. Castor oil is safe and effectual and soothing. If vomited, a second dose ought to be administered at once; a child rarely vomits the second dose. During convalescence, the aromatic syrup of rhubarb or the phosphate of soda are satisfactory. Daily purging should be continued with these remedies until the temperature falls to normal or nearly so and until the offensiveness of the discharge ceases. Initial doses of calomel and castor oil have the effect of bringing away matter which has been lodged in some crypt or recess of the bowel. We may feel safe when we see the characteristic calomel stool. In regard to flushing, warm water with sufficient salt added should be employed and if vomiting be present that is no contra-indication. It serves for the purpose of lavage and should be used except in the continued vomiting of acute gastritis. Water and normal saline solution per rectum is even more important and should be used in all cases. The quantity should be large and used three or four times daily, and the temperature of the water should be about the normal body temperature. A long rectal tube or catheter should be used (20) and the patient placed in the lithotomy position, turned slightly to the left and allowed to lie comfortably. You will sometimes have some difficulty on the right side of the rectum in getting the tube passed, but if you rotate it you will succeed in accomplishing it. As to sedatives, they are local and general. Bismuth and opium, the former used in large doses, 2 drs. in 24 hours are the best. Opium should be used to allay excitement, to remove pain and to control peristalsis; but it is unfortunate if it is required before the bowel is cleansed. While the temperature remains high its use should be restricted. It should be used separately and is contra-indicated in cases where there is any cerebral excitement. Dr. Gordon said he was skeptical of antiseptics. The extent of surface and the poison to be neutralized is great, but after the affected surface is cleansed, they may then prevent putrefaction and irritation of the membrane. If used, they should be given in the food or after it. Asepsis should be secured to prevent decomposition. In the administration of antiseptics in the late stages, much benefit may be had from them, especially HCl. Astringents should never be used.

Dr. Benedict, Buffalo, spoke in regard to antiseptics inside the body and said that he was very skeptical of such remedies. If the bowel is full of fæcal contents it is a difficult matter to ascertain whether they are any good or not; but following the purgation, after the fæcal mass has passed through the bowel, antiseptics can be used and then you will find them valuable. Beta naphthol was no good. The condition was one of toxæmia. Opium he practically never gives to children. There is, however, one drug that acts as a powerful sedative and that is catnip tea.

Dr. Holmes, Chatham, Ont., spoke of the mortality and said that it was a fatal disease, and doubted if there was any branch of treatment that had improved more than the treatment in these classes of cases. The relief of pain by opium he thinks is a mistake. The pain that these children suffer from and the uneasiness they manifest is due to the abnormal contents of the alimentary canal or to the high temperature usually accompanying these conditions. Opium will relieve the pain but does much harm in other ways; it obscures the symptoms. In former years he used to employ it, but it was accompanied with so many drawbacks that he abandoned it many years ago. He said he had reverted to the temperature but the essayist had not referred to the therapeutic measure of hydrotherapy; putting the child in the cold bath. Remember it is through some error in diet that the child begins to vomit; the bowels move frequently; sunken eyes and depressed fontanelle can be observed. The condition of that child will be that its hands and feet are cold and blue; and if the temperature be taken in the rectum you will find it 103 to 106 degrees. You can reduce this temperature by the cold bath and then administer the calomel and the castor oil, and that may be all the treatment necessary. Abstain from the administration in these cases of opium, but you may use it as the condition becomes chronic; that is a different thing. In these the child wastes away from mal-nutrition and there is a condition of chronic marasmus supervening. In these cases small doses of opium prove beneficial.

Another member of the Association spoke of using the ice cap and cold sponging in these cases.

Dr. Gordon in reply, said that small doses of paregoric are of great benefit still, one should be very guarded in the use of opium in these cases. In regard to the cold bath, he states that he invariably resorts to the use of the cold sponging and lumps of ice to the spine.

A Case of Sub-Cutaneous Emphysema.

Dr. Fred. Fenton, Toronto, exhibited a specimen of tubercle in the lung of a child six months old, and proceeded to give a history of the case. The child was described to him as having been well, until it had reached the age of five months, except for an attack of bronchitis at the third month On Dec. 23rd, last, five days before death, the baby was very restless, but there was no cough to any degree, in fact it was not a marked feature at any time. Swelling was noticed in the greater part of the neck, chest and shoulders passing upwards over the head so that you

could see a large projection over the vertex and then it spread downwards over the chest and abdomen. It was limited to the neck behind. Over the parotid region, it advanced upwards spreading forwards over the cheeks. Passing down the chest wall in front, it became limited at the lower border of the pectoral majors. It passes forwards and backwards to the spine and downwards to the crest of the ilium and over the inner half of poupart's ligaments it escaped. It also spread down the arms to about half-way to the elbow. A post mortem examination was made about six hours after death. The body was not greatly emaciated. The sub-cutaneous tissues were dry and bloodless and the left pleural cavity showed no fluid and no adhesions. The left lung showed many emphysematous blebs of varying sizes and the point of entrance of the air into the pleural sac could not be discovered. The liver and spleen were large and grayish tubercles were scattered over the surface of the latter. There was no gas formation in any of the internal organs. Microscopic examination of the tissues determined tubercle bacilli in the lungs, a few in the liver and spleen and none in the kidneys. The emphysematous blebs could be traced into the root of the left lung. In the right thorax, there were pleural adhesions everywhere especially over the lower and middle lobes and the balance of the lung was literally studded with yellow tubercles. The father, a man of fifty, has suffered from winter cough for years because of chronic bronchitis. No direct evidence of tuberculosis was obtained in the mother, but she is poorly nourished and looks a fit subject for the disease. The production of emphysema is usually described to prolonged and violent coughing, but this was never a feature of the case. The question of infection arises and the history of the whole case points very strongly to such an origin. The presence of tubercle bacilli in the father's sputum, is quite ample to account for the child's infection.

The Successful Treatment of Three Important Cases by the Combined Form of Treatment.

Dr. G. H. Burnham, Toronto, spoke of the different forms of iritis with paralysis of the third nerve from specific disease and the great value of the combined form of treatment. These cases often lead to total destruction of vision in the eye and he used this treatment for the sole purpose of putting a stop to relapses. The first case cited was an unmarried woman, 58 years of age. In 1896, the right eye became inflamed and one month later, the left eye also became inflamed. She consulted a specialist in the spring of 1897 and he used the combined form of treatment. In the summer of 1898, there were thirty injections of pilocarpine given. Dr. Burnham stated that with his experience regarding her case, the treatment was wrongly given, and so failed. The left eye had no perception of light, there were tension and blindness and a very shallow anterior chamber. The combined form of treatment was begun at once and it has proven very beneficial in this case. Two other cases were cited and then the doctor detailed his plan of treatment. Pilocarpine

was given hypodermically, the dose being 1-10 to ¼ of a grain at each injection. This is administered in a series of sittings of from ten to fourteen injections, given once a day as a rule. The interval between the series ranges from three to eight weeks, during which time the patient is taking the iodide of potash and the bichloride of mercury internally. Then another series of injections is begun. Before each injection, the patient is prepared in a room with a temperature of seventy-five degrees, lying between flannel blankets and lies on the left or right side as convenient. If he feels chilly and uneasy, the effect is lessened. In winter Dr, Burnham uses a hot water bottle to the feet. The proper effect of the injection is shown by the perspiration and a free flow of saliva, the latter varying from six ounces to a pint. At the end of an hour the patient gets up and dresses. Two hours afterwards he can take his food. The injection is usually given about two hours after the mid-day meal. The iodide and mercury must be given regularly between the series. As to the length of time consumed in this treatment, in some a few months will suffice. In others it is continued for three or four year; and no relapses occur in this treatment. The nervous centres especially of the perceptive system are acted upon in this treatment, especially seen a few hours after the injection. Having then been able to produce an effect upon the diseased tissues, it follows that to keep up this desired action, we must go on using the remedies. In cases of old iritis where there is much damage to vision, the Doctor never does an iridectomy; instead he causes absorption by this method. In other organs of the body it ought to be tried in the same way, and its influence may be as pronounced as on the eye. After ten years of close observation, he thinks he can speak with authority on the subject and of its assured position.

Best Method of Dealing with the Consumptive Poor.

Dr. E. J. Barrick, Toronto, addressed the Association on this subject. He spoke first on the establishment and maintenance of rural sanitaria in connection with the municipality or with a group of municipalities. Then the erection and maintenance in connection with the above, of suitable buildings for the reception and treatment of such advanced cases of the disease as are unsuitable for treatment, was contended for and lastly, the co-operation of the Dominion Government, provincial legislatures, municipalities and philanthropic and charitable individuals in providing funds therefor, should be secured.

Dr. Britton, Toronto, took exception to a remark of the previous speaker, that the door of no sanitarium in this country, was open to poor people, and further stated that it was only a very short time ago since the Medical Health Officer of Toronto had sent a public patient to the sanitarium at Gravenhurst. He thought that a great many of the hospitals of the province should receive and care for these patients in a proper manner. It would be much better if the hospitals did this work instead of building sanitaria for these advanced cases.

SECOND DAY—MORNING SESSION.

Skin Clinic at St. Michael's Hospital.

The skin clinic at St. Michael's Hospital was an important feature of the meeting. Refreshments were served and the members of the Association, spent a very pleasant and profitable hour examining the patients. There were about thirty cases shown, and amongst them were several rare skin diseases such as Dermatitis Herpetiformis, Larva Migrans, Urticaria Pigmentosa, Hydrocystoma, Hydradenitis, Favus, Molluscum Contagiosum and Exfoliative Deramtitis, following psoriasis. Drs. A. R. Robinson, New York, Shepherd, Montreal, Graham, Chambers and A. McPhedran, Toronto, took part in the discussion.

Erysipelas, with Treatment by Marmoreck's Serum.

Dr. A. de Martigny, Montreal. In opening this paper, Dr. de Martigny said that he had occasion to try during the last fourteen or fifteen months this treatment in cases of erysipelas of the face and the result was very good as a rule; but the result also is generally very good by the ordinary treatment. One case in particular was noted, in which for four or five days, tonic treatment with iron and quinine had been tried and a thirty per cent. solution of ichthyol applied to the face, without any good result. The temperature was 105° and the pulse 148, the patient very weak and the face very much swollen. There was also very much suffering, from headache, trembling and fainting fits all the time. 20 c.c. of the antitoxine (Marmoreck's serum) were injected. She was then put to bed and a solution of bichloride, 1:4,000 applied to the face. On the next morning, the temperature was normal and the pulse ninety-six and the pulse was normal on the following days. In five days she could go back to work, though the face was still darkened in some places. Another interesting case was cited in an old lady of sixty-five years of age. She had generally had one or two attacks in the spring or in the fall. Last spring she was given two injections of antitoxine, 20 c.c. each at two week's interval. That case was cured and during the fall she had no attack and this spring no attack either. She was seen two weeks ago and she has never been like that for fifteen years back. He believes this treatment is more powerful in its curative power than the local applications. If we use the treatment as soon as we do for diphtheria, *i.e.*, on the first day, we would get as good results as from antitoxin in diphtheria. This is not a very severe affection, but we sometimes see deaths occurring in erysipelas of the face. Some friends in Montreal stated that we have two cases of death. In the first case not reduced by the ordinary treatment, it would not have been cured by that treatment as quickly as if the old treatment had been continued. He was satisfied with the results and asked the members of the Association to try this treatment when they had a case of erysipelas of the face and report at the next meeting of the Association, twelve months hence.

Dr. R. W. Powell, Ottawa, asked the writer of the paper about the dose of this particular serum, whether 20 c.c. was the standard dose or

whether the dose is altered by the severity of the case, or by the age of the patient, or what rules there are about this treatment.

Mr. Cameron confirmed Dr. de Martigny's findings. He had employed the treatment lately in four or five cases of erysipelas of the face with very prompt results. One patient in particular had seven attacks or relapses in fourteen months, and since using this serum injection, no relapses have occurred.

Sir James Grant, Ottawa, stated that when this society was organized thirty-two years ago, this subject was not even in its infancy. Since then great advances have been made and the observation which has fallen from this gentleman upon this treatment, is one of vast importance and such is the efficacy of the injection, in curtailing or destroying the poisonous condition of the system that produced the erysipelas, that it was almost positive in its character. He trusted that Dr. de Martigny would continue in his observations and throw more light upon the subject. He hoped he would be excused for making a personal observation here this morning. In 1860, he received a very severe blood poisoning, and was in a very feeble state of system and near the point of death. In 1863, he was induced to try the influence of the serum of ordinary vaccine, made into solution and injected into the system, which at that time was being used for the treatment of cases of skin diseases, particularly severe forms of psoriasis, with good effect. He published this as far back as 1863. This was the initiatory stage so far as he was concerned, in which serum therapy had been employed for the cure of any disease. He was glad to know that this subject was taken up to such an extent.

Dr. Irwin, Weston, Ont., believed in serum therapy, but it will not cure all cases. He instanced a case of scarlet fever he had had recently under his care, in which the serum employed for that disease had been used, an injection of 10 c. c. After two weeks the child developed erysipelas and in twenty-four hours it was in a very bad stage. Then 10 c.c. of the antistreptococcic serum was injected on the second day but without any result and the child died.

Dr. de Martigny in reply said you can use 10 or 20 c.c.; but we must know that the streptococci are not all of the same kind. There are different families of the streptococcus. It acts on a special family very powerfully. If one of the same nature, we can use very small doses with good results; but the serum is prepared from one family, and thus we must use large doses to have any good effects. Besides that, we must be sure when we employ serum that we use a very powerful one. If we find the streptococcus in the beginning, we find the enemy itself. If we wait too long, then we come in too late, and then if we kill the microbe we have no reason to hope to have any effect upon the toxine itself, only that it must be eliminated by the natural ways, the kidneys, skin, etc. He would like for one to try the serum, the best and most powerful and fresh; and next year after fifty or sixty or one hundred of us have tried the serum and come back a year hence and relate our experiences, then

we will be able to establish a good opinion of the treatment. We will then have something certain about it. It is being discussed about in Europe, and doctors in France pretend that it has great power, and others do not pretend anything about it. It looks as if every one is going to have and expect the same opinion, *i.e.*, if we treat the erysipelas in time.

Complications and Treatment of Fracture of the Skull.

Dr. J. M. Elder, Montreal, read this paper, and stated that it referred to fractures at the base. This last summer, he had under his care in the Montreal General Hospital, a remarkable series of these fractures, no fewer than seven all told, five of them being there at the same time. These series of cases made him study up the subject; and the good results of the routine treatment followed, made him wonder whether we, as general practitioners, were not too prone to think that in this form of injury treatment was useless. Such an attitude is quite as unjustifiable as it would be in a compound fracture of the tibia for instance. The history of one case: H. S., aged eight years, came into the hospital on 30th May last, unconscious, the result of a fall of fifteen feet, striking on the head. There was a large haematoma about the parietal bone and a depressed fracture above the left ear; pupils widely dilated; blood issuing from nose and ears; pulse weak; respiration shallow. Vomiting of bright red blood in small quantities. Examination of the throat with mirror showed the blood dropping down from the pharynx. There was a fracture through the middle fossa of the skull, involving both ear and nasal fossa. Something had to be done at once. He quoted Shephard's case where he ligated the common carotid artery. He then ligated the left common carotid artery in this case and put the patient to bed. She regained consciousness on the third day and the temperature kept fairly good, but on the twelfth day she developed thrombocis in the superior longitudinal sinus, with oedema along the forehead. On the sixteenth day another rise of temyerature and thrombosis of the left cavernous sinus, followed in a day or two by thrombosis of the right cavernous sinus. A study of the consequence caused by this was very interestiug. She left the hospital perfectly well, in twenty-six days, and continues well. The child is perfectly well now. He stated that in Dr. Shepherd's case some mental trouble developed afterwards, and he is watching this case with that end in view. The other six cases are pretty much of the same nature. In all the cases the following general plan of treatment was followed out. First, absolute rest in bed; second, quiet was enjoined, and the patient should be kept, preferably, in a dark room; third, the ice pack was kept to the head continually; and fourth, the ears were thoroughly syringed out and packed with sterilized gause. The nose was sprayed every four hours with the following solution: biborate of soda and sod. bicarb. of each 3 grs., glycerine and water 1 oz. The mouth was cleansed every two hours with solution of 45 grs. chlorate of potash, 20 minims HCl, 4 drs. glycerine, in 10 ozs. of water. Food was given per rectum for several days. Peptonized beef and brandy was well borne when given in this way. Can one always be sure that you have a fracture of the base to

deal with? The signs of fracture of the base are often equivocal. Some of the evidences of severe brain injury are bleeding from cranial orifices and the demonstration of cerebro-spinal fluid, and if this latter, then you can be almost sure that you are dealing with a fractured base. Fractures of the vault, too, often extend to the base, What are the dangerous complications of fracture of the base of the skull? Hæmorrhage may result from the fracture involving some of the arteries entering the base of the skull, Treatment must be directed to the control of this by every and any means possible. The next danger, of course, is sepsis; the fracture may become compound, communicate with some of the cranial canals, thus communicating with the outer air. Most fractures involving the middle and the anterior fossae, generally communicate with these cavities. If the fractured skull is kept aseptic it will heal kindly as other bones treated in the same way. Opium is indicated if the patient is violent. It quiets him. Above all, keep the patient free from all excitement, whether of sight, sound or mental production. Exclude the pettifogging lawyer who is so anxious to have the case.

Dr. Lett, Guelph, Ont., asked how long it was from the time the common carotid artery was tied before symptoms occurred, because it strikes him that in many of these cases of injury to the skull that the injury itself, while it leaves no symptoms for a short time from the result of healing, the impinging of the membranes on the cortical substance, that years after the patient will get mental troubles, whereas there are no mental troubles during the acute stages of the injury; and he would like to know if it was a short time or a considerable interval that elapsed before the mental symptoms appeared.

Dr. E. Hall, Toronto, asked what were the causes that led him to select the left carotid in this case, and where there are symptoms of internal without external hæmorrhage what would be the surgical indications.

Dr. Harrison, Selkirk, Ont., stated that he was going to ask the same question that Dr. Lett asked. He has seen cases in which injury of the bones of the skull occurred and there was no ligation of the carotid artery and in which there was perfect restoration to health, but over a year afterwards these symptoms supervened, and when Dr. Elder was reading his paper, when he was saying that he was going to watch for further symptoms and to see whether tying the carotid artery affected the mental processes afterwards, when the result would be much more likely to happen after the injury to the brain than the tying of any blood vessel after the injury.

Mr. Cameron has tied the common carotid artery on both sides, and no mental symptoms followed. The mental symptoms are due probably to the traumatism.

Dr. Shepherd, Montreal, stated that his case which Dr. Elder referred to was a case of ordinary hæmorrhage, which came on after the accident, with gradual loss of consciousness, and then he operated and found a large

clot at the base of the skull. The hæmorrhage was so profuse that he tied the common carotid immediately. There were no mental symptoms afterwards in this case.

Dr. Elder stated that he understood that Dr. Shepherd's case had developed mental symptoms just very recently.

Dr. Atherton, Frederickton, N.B., stated that he had the good fortune to see the carotid artery tied on a medical man of St. John, N.B., and no mental symptoms followed, and if any of the gentlemen present heard this doctor speak on a medical or political topic he would conclude that his mental faculties were all right.

Dr. Bell, Montreal, spoke of this modern view of treating these cases and thought that certainly many cases can be relieved by prompt interference, and such treatment as in other cases prevents sepsis. With regard to later consequences we cannot do much to avert these at all These are produced at the time of the fracture, and he cannot see that we can really do anything to avert these. Do not let the patient die of hæmorrhage nor of sepsis. The great point is to know when to interfere and to interfere promptly.

Dr. Elder, in reply, said in regard to the question of mental symptoms, he possibly might be in error about Dr. Shepherd's case, although he had heard that Dr. Shepherd's patient had gone insane. His own opinion is that it is not likely to lead to any bad results. In children we may reasonably hope for better results. In regard to the mental symptoms following fractures, that they do supervene there is not much doubt. Adhesions form between the meninges of the brain, and will lead to convulsions and the paralytic seizures. Some of these symptoms supervene two years after the injury, and it is our duty to watch and see if there is any connection between the two. The reason the left carotid was taken was because the injury was on the left side.

Observations on Adenoids and Enlarged Tonsils and their Removal, with Notes.

Dr. D. J. Gibb Wishart, Toronto, in reading this paper said that the cases occurred in the service of the Hospital for Sick Children, and thought that few practitioners have a due conception of the enlargements of these lymphoid tissues. The cases occurred in the years from '96 to '99, and the total number of cases operated upon was 103. Of these 47 were males and 56 females. The faucial tonsils alone were enlarged in 16 females, adenoids in 14 females. Twenty-four per cent. were under five years of age; 24 per cent. were over ten years, and 52 per cent. between five and ten years. He examined some of these some years after the operations, but in only 16 cases could he get an examination and only four of these showed any return of the disease. There were five cases that had been previously operated on by other operators; then there were two deaths, both due and traceable to the anaesthetic These figures emphasize the fact that the disease is very prevalent. They were b ought for treatment because some function of the respiratory tract was being

interfered with. Perhaps a larger number still complained of uneasy or oppressed breathing, especially during the hours of sleep. Again nasal symptoms or eczema of the edges of the nostrils were most pronounced, and the child had frequently persistent continuous cold in the head. Then it is frequently difficult to get a clear history of these cases; the mother is careless; heredity can be traced. As will be seen from the figures given above, 47 per cent. of the cases presented enlargement of both third and faucial tonsils. In other words there was disease of the third tonsil in 70 per cent. of the cases and of the faucial tonsils in 53 per cent. As adenoids are concealed from view they very often escape notice. In the diagnosis of these he found the facial expression most useful; the nose is flattened between the eyes. If the nose is well formed and adenoids are present, the obstruction is only partial. The presence of the open mouth, or the constant keeping of the lips slightly apart, when the child is in repose, is also important. In the examination of the pharynx, the soft palate often presents the appearance of paresis, as if pressure were on the upper surface. Actual sight, however, is the best means of diagnosis. If you fail after the first time with the mirror it is useless to try again, because the child is frightened, and force employed means that hereafter you cannot get its consent. Never hurt the child if at all possible. Don't use the bivalve speculum. The trained eye may be assisted by the use of a long angular probe. The enlargement of the pharyngeal tonsil is as a rule easily seen. The tongue should be depressed in such a way as to prevent gagging, and it can only be brought into view when the tongue is deeply depressed. A good transmitted light should be employed. When enlargement of one or other of the glands exists, it is generally wise to attempt to reduce the condition by astringent sprays and tonic treatment. Every case requires careful consideration of all details. Don't advocate that every tonsil be removed by the knife if it protrude beyond the faucial pillars. When an operation is deemed needful it should certainly be performed under anaesthesia, and the anaesthesia should be sufficiently profound to permit examination. In the simple cases he has used nitrous oxide, but the time limit is too short as a rule—40 to 50 seconds—to secure thorough work. With regard to the position of the patient, the head should be allowed to fall over the end of the table after the tonsils are removed, and then the adenoids taken out. Severe hæmorrhage following operation has been reported, but in cases of my own no such hæmorrhage gave rise to any alarming symptoms. We might, however, meet with this at any time, because we do not know when an artery may be misplaced; in most cases, however, the loss of blood is very considerable. Out of the total number operated on, two resulted fatally; but in neither of these could the death be due to the operation. In 85 per cent. of the cases, no subsequent history has been obtained, so the percentage of cures would be over 90 per cent. As a rule, when a cure has not been obtained the Doctor feels convinced that there must have been some defect in the operation. He removes the left tonsil better than the right and a small portion of the adenoid enlargement may easily escape attention. The healing process will beslow, and in most which remain will continue large

and take on new growth. The use of the spray to cleanse the parts should always be insisted on. The tonic effect upon the patient, the results of operation, is always striking.

Dr. Snider, Brussels, Ont., asked whether the administration of an anæsthetic was more dangerous in these operations for the removal of tonsils than in other cases.

Dr. Wishart: One has difficulty in knowing beforehand, how long a time it will take to remove the adenoids, and they may prove troublesome, and then again they may come out in one entire mass. The 45 or 50 secs. which the gas gives you will be amply sufficient for the work, but if for any reason you are not satisfied with the thoroughness of your operation, you are put in the position that the patient is bleeding and out of the anæsthetic, and you don't get as good results. With regard to the danger of the anæsthetic, of course it is certainly true, that a patient suffering from these, takes the anæsthetic badly, but that is not a sufficient reason to prevent one using the anæsthetic, if you are thereby going to secure a much more thorough operation. So far as the effects upon the patient who died under chloroform are concerned, it did not seem to be in any way due to the operation. The patient had taken it on two or three other occasions, but in this case the patient collapsed.

Dr. Ernest Hall, Toronto, spoke of the change in the mentality of these patients after operations.

Sir William Hingston: He was sorry Dr. Wishart did not confine himself to one of the two subjects, because the remarks to one do not apply to the other. With regard to adenoids, it occurs to him that as soon as we recognize these growths, we should operate on them as soon possible for their removal. There is nothing to be gained by waiting, but in the case of the tonsils it is entirely different. Some operate there altogether too frequently. He stated he had seen whole families with enlarged tonsils, and when they grew older they came down to their normal condition. He has seen the tonsils almost meeting, and yet has hesitated to remove them. While he thoroughly agrees to have the adenoids removed, with the tonsils, the thing is entirely different. He took exception to the use of the spray after the operation and would ask what can be gained by the use of the spray. The membrane of the nose is unaccustomed to it. For years, he has not used water, medicated in any shape to get at the nasal cavities; instead, he uses powders. He considered the employment of the nitrous oxide gas in these cases useless, as there was insufficient time for the operation. He is most favorable to chloroform and does not think it is more dangerous than in any other cases. We have got to see that the blood does not get down into the breathing apparatus.

Dr. Wishart said that he did not mean to infer that the tonsils should be removed in every case; it is simply a matter of judgment how far they are interfering with the breathing. With regard to Dr. Hall's remarks, with reference to the clearing up of the mental condition, every surgeon knows that there is always a marked improvement after these operations, especially after adenoids have been removed.

Tuberculosis and Insurance.

Dr. John Hunter, Toronto, discussed the affects of family history of tuberculosis and its bearing upon applicants for life insurance. Of course there can be no two opinions about it that it is the first and imperative duty of the physician to make an honest examination of the applicant for the medical director of the insurance company; it is due to the applicant as well that he should receive the benefit of the advanced medical knowledge of the day. The purport of the paper was to invite discussion that might be used to define more clearly where we are at with reference to the relationship between tuberculosis and insurance. To what degree does the presence of tuberculosis in the individual or in the family history justify the applicant's rejection. First, he spoke in reference to the tuberculous subject and the question of heredity and the family history of those under thirty years of age, especially on the maternal side, and second, of those who have an acquired physical condition that would predispose to the disease. After this class there are those over thirty years of age. He then took up the questions of environment, physical conditions and hereditary tendencies, and stated that the trend of scientific opinion of the day was in favor of the opinion that the disease was not hereditary. The direct transmission of the tubercle through parental channels is of very rare occurrence. He quoted Dr. Bryce who had made the statement 80% of all deaths from tuberculosis occurred amongst working classes, or in those working at trades.

Dr Benedict, Buffalo, thought that the heredity of tuberculosis was very much like the heredity of scarlet fever, that it was a question rather of infection, but with a longer period of incubation.

Sir William Hingston thought that the idea of heredity had done an enormous evil to society. For instance, a beautiful young girl is about to be married; a whisper goes around that the disease may be transmitted—the marriage is cancelled thereby.

Sir James Grant advocated the formation of a National Society like that promulgated by Sir William Broadbent in England, and presided over by H. R. H. the Prince of Wales.

Dr. Bryce thought that if this Association could form a society to assist the government of the country, it would be accomplishing much. Formerly it was thought that there must be some hereditary taint in the family history. Now it is a question of transmission by and through infection. The Government of Ontario ought to have inspectors in the various institutions of our country, in order to see if there is a solitary case of tuberculosis, either among the teachers or students, and have such individual removed. We know perfectly well that one small bit of sputum lodged and dried up and disseminated throughout the atmosphere may be the means of producing a thousand cases. Too much care cannot be devoted to this subject, particularly in our steamers and in the railway cars also. When we find the mortality so great in this province, it behooves every man to look carefully into the subject, and see what can be done towards it prevention and eradication. Another point, in regard to the sale of milk, licenses ought not to be granted to milk dealers until their cattle and premises have been thoroughly inspected.

Cyst of Broad Ligament.

Dr. Chas. Smith, Orangeville, reported this case and described the difficulties encountered in the removal of the tumor. At the time of the operation the woman was 53 years of age and the mother of nine children. She had been growing in girth for some years, but thought that she was getting fat only. Increasing dyspnœa however soon rendered her life intolerable; then she decided to have the operation performed. The appearance of the growth was a bluish vascular-looking tumor. There was no secondary growth. An incision five inches in length was used and even then there was a considerable difficulty in performing the operation properly. An uninterrupted recovery took place and the patient enjoyed good health until her death from apoplexy five years subsequently.

SECOND DAY—AFTERNOON SESSION.

Implantation of the Ureters in the Rectum in a Case of Exstrophy of the Bladder, with Patient.

Dr. Geo. A. Peters, Toronto, exhibited the patient and fully described the two operations he had performed on this subject. In addition to the exstrophy of the bladder, the patient had also had procidentia recti, and was therefore a great source of trouble and annoyance, disgust and loathing to his friends. The resulting deformity from this condition would be such as would be produced by taking away the anterior wall of the abdomen, below the navel. There is then exposed to view the posterior wall of the bladder, with the mouths of the ureters filling in the space between the wide separated walls. In this case he has removed the exstrophy of the bladder altogether. The scrotum is present and the testacles are descended. The condition is a congenital one, and due to defective development in the uro-genital parts. At the age of $2\frac{1}{2}$ years the boy first came under the doctor's notice; he is now $4\frac{1}{2}$ years. All the organs and limbs were perfectly formed with this exception. On the broad, flattened and shortened penis, a groove descended down to the extremity thereof, the under skin of the urethra being exposed and also the mucous membrane of the posterior wall of the bladder. A rudimentary prostate could be seen, and at the lower part of the bladder wall the openings of the ureters could be detected. Around these there were excrescences, mucous in character. The surrounding skin showed very little irritation, though it was constantly bathed in the escaping urine, though the escape of urine was not constant. When the surface was dried it would remain dry for 15 seconds to 1 minute. A fine probe was inserted into these openings of the ureters, passed almost directly backwards. Both kidneys were somewhat prolapsed as could readily be determined under chloroform. Generally speaking, in these cases, the testicles have not descended. There was an entire absence of the pubic symphysis. With the finger in the rectum, one can draw forward and easily detect that there is no symphysis pubis whatever. The projection of the prolapsed rectum came down to his knee. The mucous membrane of this was irritated and tenesmus was frequent and caused suffering.

The procidentia could be easily returned and the sphincter had some contraction, but when the hand was removed it would return. This con dition called for immediate relief. Dr. Peters here exhibited to the meeting the result of operative procedures, which certainly was very gratifying to the patient, the parents and also to the surgeon. A description of the operation for the exstrophy of the bladder followed. The operation was done extra-peritoneally, and this operation would seem to hold out hopes, but the mortality is high. The ureters were fixed into each side of the rectum and almost immediately the rectum manifested a tolerance for the urinary secretion. In 48 hours after the operation the bowels moved, and after that the child got along without any difficulty. It is now five weeks since the operation was done and the bladder has all gone. Now, his urine is passed into the rectum, and almost immediately it manifested a tolerance for the urine. He can go from three to five hours. That day he had gone from 8 a.m., then at 11 a.m., and again at 2.30 p.m., and at night he will go from four to five hours without passing anything from the bowel at all.

Dr. Cameron thought that this operation was bound to become the operation of the future. He instanced a case in which he had done this operation for a woman, in whom it had existed for 19 years. A good many of these operations have all proved failures.

Dr. Bell, Montreal, congratulated Dr. Peters upon the result of this case. He considered it a surgical triumph. The operation for the re-plantation of the uterus has been done for a good many things; and the question of the tolerance of the urine in the rectum is still a much discussed question. The results shown in this operation are good.

Dr. Shepherd thought that the operation was an ideal one and congratulated Dr. Peters upon the great success he has obtained in this case.

Dr. Peters, in reply: There is one point we must not lose sight of, that there is danger of death from ascending pyelo-nephritis. When the operation has been done in animals, that has been the cause of death. When contraction occurred the ureter in the rectum, would have a papilla. If we have a papilla projecting into the rectum, it mitigates the danger.

Co-operation of Surgeon and Physician in Abdominal Cases.

Dr. A. L. Benedict, Buffalo, in a very interesting paper discussed this question. He instanced cases where the two should co-operate, such as cancer of the cardia, etc., and then proceeded to discuss the diagnosis of these tumors. He thought that very often the patient would benefit if, after the operation, he was handed over to a medical attendant for care and attention.

Sir Wm. Hingston deprecated cutting into the abdomen before a diagnosis had been arrived at.

Gall-Bladder Surgery.

Dr. J. F. W. Ross read a highly interesting paper on this subject. He exhibited a cabinet of gall-stones taken from patients on whom he had operated, and also a mucous fistula in a gall-bladder specimen. He

dwelt upon the difficulty often encountered in extracting these stones from the common duct, and exhibited an instrument he had devised for this purpose.

Dr. Holmes and Prof. Beall discussed this paper.

Address in Surgery.

Dr. W. B. Coley, New York, delivered a classical and scholarly address on the radical operation for the cure of hernia. He traced the rise and progress of the operation from the earliest times, apportioning, as he proceeded, the credit for any improvements. Coming down to modern times, within the last decade, he spoke of the different operations of Bassini, Mitchell, Banks, Kocher and Halsted, and concluded with a special reference to the operation for femoral hernia and a word or two about umbilical hernia, which did not generally require operative measures for its cure.

Vote of Thanks.

Moved by Dr. Shepherd, Montreal, and seconded by Dr. Peters, Toronto, that this Association extends its thanks to Dr. Coley for his admirable address. Carried unanimously.

THIRD DAY—MORNING SESSION.

Anaesthesia by Chloroform and Ether.

Dr. W. B. Jones, Rochester, contributed a very interesting paper on this subject. We should know the total solids excreted in the 24 hours. Heart murmurs make no difference. The condition of the muscle and the arteries is more important, and whether filled with good blood. Any adhesions in the lungs should be ascertained. Also note any deformities and partial paralyses. It is not necessary to smear vaseline all over the face, and it is better not to administer any drugs beforehand. The hypodermic syringe loaded with a solution should always be at hand. The administrator should be thorough master of himself and permit no interference on the part of the operator. He should pay particular attention to the work he is doing and have no regard to the procedure of the operation. About eight drops per minute is the proper dose to keep up the anæsthesia. He has seen four drops per minute maintain anæsthesia for half an hour. The patient should be made comfortable, so that there will be no pressure on the chest or any interference with the breathing in any way; and the hands should not be permitted to hang over the sides of the table. He should be ever on the *qui vive* for emergencies.

Some Observations on the Treatment of Cancer.

Dr. A. R. Robinson, New York, spoke of the epitheliomata which could be better treated with a paste than with a knife, as for instance those situated around the nose and face and on the scalp—in parts where it is impossible to make a deep incision if the knife were used. The

paste employed was an arsenious acid one, with equal parts of gum acacia, made of the consistency of butter. This paste should be applied and left on from 16 to 18 hours before you get the right effect. From this you will get a complete necrosis *en masse* with a resulting inflammatory process, which however is limited and simple. Then you will get healing by the process of granulation.

Dr. Shepherd thinks that in the majority of cases the knife should be used, with the exceptions as stated by Dr. Robinson.

Dominion Registration.

Dr. Roddick introduced this question in a speech of some length and power. He traced the rise of the agitation from confederation, and proceeded to outline the scheme for a Dominion Medical Council. Each province was to have three representatives on the central board, one nominated by the Governor-in-Council, one by each provincial medical council and the third was to be the president of each provincial medical council *ex officio*. Any practitioner in good standing, who has been a licentiate for ten years, could at any time go bef re the central body and receive a license to practice in any province in the Dominion—and no practitioner could do this until such ten years had elapsed. The present provincial councils were to remain as they are.

Dr. Williams, Ingersoll, Ont., representing the Ontario Medical Council, then took the platform and moved the following resolution:

"Whereas, the standards of education for the profession of medicine and surgery and the qualifications for the practice of the profession vary in each of the provinces of Canada, and the assimilation of these standards, and, if practicable the establishment of uniform standards throughout the Dominion are desirable;

"And whereas, in consequence of the provisions of the Acts of the United Kingdom of Great Britain and Ireland, known as the 'Medical Acts,' medical and surgical practitioners, who are by the law of a province of Canada, entitled to practise the profession in such province, cannot obtain the benefits of registration under the said Acts, inasmuch as by the said provisions, the qualifications required for such registration must be regulated by the Parliament of Canada;

"And whereas medical and surgical practitioners duly registered according to the law of one province of Canada cannot legally practice in another province without being duly registered in such other province;

"And whereas, serious practical inconveniences, both to the public and to medical and surgical practitioners, have arisen from the above cause;

"And whereas it is desirable to assimilate and, if possible, to unify the various standards of qualifications established by the several provinces of Canada as conditions of admission to the study of the profession and to the practice thereof, such assimilation and unification being best obtained by the establishment of some central authority with power to

hold examinations of, and to establish and maintain a system of medical registration of, such persons who desire to practice the profession in more than one province of Canada;

"And whereas it is not within the legislative jurisdiction of the provinces of Canada to establish such central authority, the jurisdiction of such provinces being restricted to the limits of the province and to provincial objects only;

"And whereas it is expedient to constitute a corporation in which the legislatures of the various provinces may, if they see fit so to do, vest such powers as are necessary to affect the above purposes, and other purposes mentioned in this Act;

"And whereas the appointment of such an authority is for the general benefit of Canada, and would promote the advancement of medicine and surgery throughout the Dominion of Canada;

"Therefore be it resolved, that this Association heartily approves of the proposed scheme which the committee have formulated and presented at this meeting;

"And further resolved, that Dr. Roddick be empowered and requested to continue his efforts to have the scheme completed and carried into effect, by such legislation as may be found necessary."

Dr. McNeill, Prince Edward Island, seconded the motion of Dr. Williams, and stated that the movement had his hearty support.

Sir James Grant, Sir William Hingston, Dr. N. A. Powell, Toronto; Dr. Powell, Ottawa; Dr. Harrison, Selkirk, Ont., and Dr. Lafferty, Calgary N.W.T., spoke to the resolution.

It was then put to the meeting and carried unanimously amid great enthusiasm.

The President appointed George H. Carveth and J. T. Fotheringham auditors.

Dr. McNeil moved that the report of the Nominating Committee should be received now. Carried.

Dr. Roddick, the chairman of that committee then presented his report: Ottawa was selected for the next place of meeting.

President—R. W, Powell, Ottawa.
Vice-President for Ontario—A. J. Johnson, Toronto.
Vice-President for Quebec—A. R. Marsallais, Montreal.
Vice-President for New Brunswick—Dr. Myers, Monckton.
Vice-President for Nova Scotia—W. G. Putnam, Yarmouth.
Vice-President for Pr. Edward Island—S. P. Jenkins, Charlottetown.
Vice-President for Manitoba—W. J. Neilson, Winnipeg.
Vice-President for Northwest Territory—Hugh Bain, Prince Albert.
Vice-President for British Columbia—O. M. Jones, Victoria.

Local Secretaries:
Ontario—W. N. Klock, Ottawa.
Quebec—J. A. Hutchinson, Montreal.

New Brunswick—G. A. B. Addy, St. John.
Nova Scotia—G. M. Campbell.
Prince Edward Island—H. D. Johnson, Charlottetown.
Manitoba—Harvey Smith, Winnipeg.
Northwest Territory—M. M. Lyman, Q'Appelle.
British Columbia—Dr. McGuigan, Vancouver.

Treasurer—H. B. Small, Ottawa.
General Secretary—C. R. Dickson, Toronto.

Dr. McNeill, P.E.I., moved in amendment that the name of F. N. G. Starr be substituted for that of C. R. Dickson, and that the report be then adopted. This was seconded by Dr. Chown, Winnipeg and was carried unanimously.

THIRD DAY—EVENING SESSION.

Report of Committee on Inebriates.

Dr. James Thorburn, the chairman of this committee, submitted their report, which reads as follows:—

"Your Committee to whom was referred the question of the treatment of pauper inebriates, at the last meeting of the Canadian Medical Association, begs leave to report as follows:—

"At the Quebec meeting of this Association, a paper by Dr. A. M Roseburgh, was read by the secretary on this subject. This gentleman has for years taken a deep interest in the reformation of inebriates and about 18 months ago was commissioned by the "Prisoner's Aid Association of Canada to visit institutions and interview specialists with a view of enabling him to formulate a plan for the economic treatment of pauper inebriates. After visiting eight special institutions and conferring with the best known specialists in Canada and the United States, he found that about 34 per cent. of those subjected to scientific treatment appear to be permanently relieved from their infirmity. This percentage, he is convinced, may be very materially increased by the adoption of a modification of the Massachusett's Probation System—changing the environment of the patients and exercising judicious supervision subsequent to treatment. While he has for many years recommended reformatory treatment with prolonged detention for the more hopeless class of inebriates, he is convinced that, for the incipient drunkard and the more hopeful class a few week's hospital treatment will be effective in a large percentage of cases more especially if the case be followed up by judicious management subsequent to treatment.

"Since the paper referred to was read at Quebec, the matter has been considered by the Ontario Medical Association and the plan therein outlined, was fully endorsed and also commended to the Ontario Government for adoption. We learn that influential members of the Ontario Government to whom the scheme was submitted at an audience given by them to a committee of the Ontario Medical Association, expressed themselves as being very favorably impressed therewith and that they were disposed to recommend its adoption in Ontario.

"The scheme endorsed by the Ontario Medical Association and recommended by the Ontario Government briefly stated is as follows:

'A.—The appointment by the Provincial Government of an inspector of inebriate institutions. This inspector should be a qualified medical practitioner, who has made the medical treatment of inebriety a special study.

'B.—The inspector should organize in the city of Toronto, a hospital for the medical treatment of pauper inebriates of the more hopeful class, and in other cities of the Province, an inebriate department in the existing general hospitals.

'C.—The inspector should also arrange in connection with each institution, where inebriates are received and treated, an organization or agency for the adoption of the probation system and giving a helping hand to the patients subsequent to treatment for inebriety.

'D—The inspector should provide for the adoption of a rational course of medical treatment for inebriates in accordance with the tenets of legitimate medicine only, to the exclusion of the use of any proprietary remedy.'

"Under the circumstances here cited, we beg leave to make the following recommendations:

'1.—While we are of the opinion that for the successful treatment of confirmed drunkards, prolonged removal from temptation in a properly equipped reformatory is very desriable if not absolutely necessary, we would nevertheless be disposed to endorse the plan herein outlined for the economic treatment of pauper patients of the more hopeful class, either in cottage hospitals or in a special department of general hospitals.'

'2.—In case the plan of treatment of inebriates here referred to should be nndertaken either by the Ontario Government or by any of the other Provincial Governments, we bespeak for it the cordial co-operation of every member of the medical profession who is in a position to favor this important undertaking.'"

Respectfully submitted,
(Signed) JAS. THORBURN.
J. GEORGE ADAMI.
W. S. MUIR.

Dr. Thorburn moved the adoption of this report, seconded by Dr. McNeill, Charlottetown, P.E.I. Carried.

Resolution re Tuberculosis.

Moved by Dr. P. H. Bryce, and seconded by Dr. Jas. Thorburn:

"That in view of the general expressed belief of the medical profession and by members of this Association, that bovine tuberculosis is directly concerned in the diessemination of tuberculosis in man, and recognizing the practical character of the several scientific and sanitary measures, to-day available for limiting the prevalence of the disease in

cattle, the Canadian Medical Association does hereby urge, that the Federal Department of Agriculture, and the Agricultural and Public Health Departments of the several Provinces confer together with a view to elaborating a scheme whereby conjoint action can be instituted so that these several existing laws may be so harmonized as to be made operative towards the eradication of tuberculosis in Canada." Carried.

Notes on recent European Conventions.

Dr. R. A. Reeve, Toronto, gave at some length an account of the International Otological Congress, the Ophthalmological Congress and the section on Ophthalmology of the British Medical Association, paying particular attention to the addresses of the presidents and the subjects connected therewith. He also spoke of a paper in reference to the use of various silver salts in conjunctivitis, especially argentin and protargol, which are as effective and much less irritating as silver nitrate. In reverting to the British Medical and the section on ophthalmology, he referred to the address on "Injuries of the Eye" and took up the question of sympathetic ophthalmia and said that this dread disease was a sort of malignant inflammation, which with very few exceptions destroys the sight of the eye.

President-elect.

Dr. R. W. Powell, Ottawa, the newly elected President, was then introduced to the meeting and in the course of a happy and appropriate speech, took occasion to thank them for the great honour they had conferred on him that day, and said he could assure them that the profession in the city of Ottawa would spare no pains to make the meeting next year, in 1900, the most successful one in the history of the Association.

Surgery among the Insane.

Dr. A. T. Hobbs, Asylum for Insane, London, Ont., said that this was a subject that had now attained some considerable width. In order to secure successful treatment, you must have the patient's confidence and co-operation, and with the absence of trust on the part of the patient, it is difficult to produce satisfactory results. The surgeon must be ever ready to depart from the beaten track of routine treatment, and initiate new methods for dealing with these patients. We have encountered all kinds of difficulties in the London Asylum, and experience has taught us how to meet these. First, there is the difficulty of diagnosis. Very little reliance can be placed upon subjective symptoms as seen in the insane. Their suspicions are often aroused by a simple examination of the chest, so one can imagine how difficult it is to secure a gynaecologic examination except with the aid of anæsthesia. Chloroform was first used but this had to be abandoned as artificial respiration had to be resorted to, in many cases. Chloroform is a dangerous anæsthetic to use upon the insane. Ether has given satisfaction and more so when there is preliminary narcosis with nitrous oxide gas. We never remove a healthy ovary or

healthy tube. Particularly in operations for inflammatory diseases of the ovaries, tubes, uterus and cervix, there have succeeded surprisingly good results, mentally. In fibroids and in the repair of lacerated perinei, the results are not to be compared with these.

Dr. Ernest Hall, Toronto, thought that 92 per cent. of insane women have pelvic disease.

Craniectomy for Microcephalus.

Dr. W. J. Wilson, Toronto, presented the patient operated on and spoke of the conditions before and after operation. A male child, aged four years, was brought to him in April last. He had then been taking thyroid extract for nine months, commencing with five-grain daily doses and gradually getting up to 20 grains per day. He was in a very poor condition. He walked bent forward almost at a right angle, was very excitable, nervous and always on the go, restless, sleepless and could only say one word "mamma." It was "mamma" for this and "mamma" for that and for everything. The operations were done on him in four stages with the object of preventing shock. We removed a piece of bone 1 x 2 inches and the next morning he sat up in bed and tried to sing. He is very apt at picking up a tune; he can pick it up at once. Since operation, five months ago, he has learned quite a number of words. He walks in an upright position and is very much improved in many ways.

Committee on Consumptive Poor.

Moved by E. J. Barrick, Toronto, and seconded by R. W. Powell, Ottawa, that the following members together with the mover and seconder, constitute a committee and report at the annual meeting of the Association in 1900, upon the best means of dealing with the consumptive poor, including the providing the necessary funds therefor:—Drs. P. H. Bryce and William Oldright, Toronto; J. A. Williams, Ingersoll J. George Adami and H. LaFleur, Montreal; J. Lafferty, Calgary, N.W.T., and H. H. Chown, Winnipeg. Carried.

Bovine Tuberculosis.

The following resolution prepared by Professor J. George Adami, Montreal, was then moved by Dr. Wishart and seconded by Dr. N. A. Powell:

That whereas, tuberculosis in cattle is disseminated by contact and infection from beast to beast, and

Whereas: such bovine tuberculosis is prevalent to a very notable extent in other countries, and

Whereas, up to the present time the Dominion is relatively free from the disease—in this presenting a marked contrast to other countries

Resolved, that the Canadian Medical Association is prepared to cordially support the Minister of Agriculture and the Dominion Government in all steps taken to secure a rigorous quarantine, of all cattle entering

the country, both from across the sea and from over the border; and, further, believing that the disease is eradicable, humbly begs the Government to take steps to rid the country of this disease, believing that if this be accomplished, incalculable benefit will accrue to the great agricultural industries of this country and to the health of the Canadian people. Carried.

Dr. R. A. Reeve moved, seconded by Mr. Whiteman, that the usual honorarium be paid the general secretary. Carried.

The treasurer's report showed that 241 members were present at the meeting, and thirty-odd visitors.

There was a balance of cash in hand of $249.00.

Vote of Thanks to Dr. Roddick, M.P.

Moved by Dr. Lafferty and seconded by Dr. Muir, that this Association wishes to place on record, its high appreciation of the efforts of Dr. Roddick to bring about a general registration act which will apply to the whole Dominion, and to express its deep gratitude and obligation to him for his untiring and unselfish zeal in bringing the matter to its present successful stage, and to express the hope that he will be able to secure the passage of an Act of the Federal Parliament at its next session which will be acceptable to all the provinces. Carried.

Deceased Past-Presidents.

Moved by Dr. R. A. Reeve and seconded by Dr. Atherton, that a memorandum, to be prepared by the President, be incorporated in the minutes and proceedings in regard to the lamented deaths of these ex-presidents, Dr. J. E. Graham, Dr. H. P. Wright and Dr. J. H. Mullin, and that an official expression of sympathy be sent to the widows of our late confreres. Carried.

Thanks to the Minister of Education.

Moved by Dr. Williams and seconded by Dr. Roddick, that the thanks of this Association be tendered the Minister of Education for allowing us the use of the Normal School Theatre during our meeting. Carried.

Thanks to the Industrial Exhibition Association.

Moved by Mr. J. W. S. McCullough, Alliston, Ont., and seconded by Dr. Harrison, Selkirk Ont. Carried.

Thanks to the City Council, Toronto,

Were also moved and carried.

The report of the Committee on By-laws was then taken up and as amended finally adopted.

DISEASES OF THE RESPIRATORY SYSTEM.

BY HECTOR MACKENZIE, M.D., F.R.C.P.,

(Assistant-Physician to St. Thomas's Hospital and to the Brompton Hospital for Consumption; Lecturer on Pharmacology and Therapeutics at St. Thomas's Hospital).

Belladonna is a remedy somewhat undeservedly out of fashion in the treatment of asthma. It was highly valued by Hyde Salter, and it, as well as its alkaloid atropine, was much used by Trousseau. Of late stramonium has, to a large extent, taken its place. The pharmacological effects of belladonna and stramonium are so similiar that it is difficult to see why stramonium should be more effective than belladonna. Professor Carl v. Noorden has gone back to the old remedy, and reports very favourably on the treatment of asthma by means of atropine (*Therap. Monatsh.*, Oct., 1898). He begins with daily doses of $\frac{1}{2}$ mg. internally and increases the dose every second or third day by $\frac{1}{2}$ mg. until the patient is taking 4 mg. a day, corresponding to 6 minims of liq. atropinæ B.P. After a time the doses are gradually diminished again. The duration of the treatment lasts, as a rule, from four to six weeks. Professor v. Noorden recommends a second and sometimes a third course of atropine treatment at an interval of six months, the duration and the dose being less than during the first course. He says the dose of 4 mg. a day is borne surprisingly well. With the exception of slight dryness in the throat and disturbance of accommodation, not the slightest ill effects have been produced. The heart-rate remained normal Professor v. Noorden advocates, however, that patients undergoing the atropine cure be kept under close supervision. It was noted that in two patients, who had eosinophile cells in large numbers in the blood, the number of these cells quickly diminished after the commencement of the atropine treatment, and subsequently did not increase again.

In connection with the use of atropine in asthma we may allude to the account of the effects of belladonna in the treatment of broncho-pneumonia in children, published by Dr. J. A. Coutts (*Brit. Med. Journ.*, Jan. 28th, 1899). Dr. Coutts is an advocate for large doses of this drug. He gives $\frac{1}{4}$ gr. of the extract every three or four hours, making no distinction in dose as regards the age of the patient, the babe of a few weeks receiving as much as the child of six or seven years. With this treatment Dr. Coutts tells us that there has been "no need for steam tents, oxygen inhalations, unlimited stimulations, dry cupping, and all the rest of the former varied and trying treatment," and case after case in which, with the former treatment, one would have anticipated a fatal termination, "has seemingly, owing to belladonna, made a rapid and complete recovery."

We are promised a paper giving details and statistics of cases treated with and without belladonna at the end of the present year. It seems to us, however, that it would be difficult to draw a perfectly satisfactory conclusion, if we have to compare the results in a series of cases submitted

to "the former varied and trying treatment" with those in a series submitted only to treatment with belladonna. It would be useful to have a further series in which neither belladonna nor "the former varied and trying treatment" had been employed.

Dr. Coutts states that a very few doses of belladonna in most cases relieved the dyspnœa, that the temperature in many cases fell to normal very soon after the treatment was commenced, that the duration of the disease was much shortened, and that the mortality was greatly reduced. Such results are extremely gratifying, and we sincerely hope that they will be confirmed by further experience.

Professor Comby, of the Trousseau Hospital, draws attention to the benignant course usually run by idiopathic pneumonia in children, contrasting most favourably with the gravity of broncho-pneumonia (*Med. Press and Circ.*, Feb. 15th, 1899). We thoroughly endorse what the Professor says about simplicity of treatment. Fresh air, cleanliness, hygiene of the mouth and nostrils are of primary importance. Blistering should be avoided, but poultices, etc, are valuable. An occasional purgative is advisable. If the fever runs high, the cold bath (65 to 75 degrees) is usually successful in reducing the temperature, and is well borne.

Although in the great majority of cases the fever in pneumonia takes a fairly uniform course, still, variations cannot be said to be at all uncommon. Wunderlich asserted that sudden brusque elevations of temperature and intercurrent remissions are more common in pneumonia than in any other malady. Dr. Alfred Japha has contributed an interesting paper on unusual course of the fever in genuine pneumonia (*Deutsch. Arch. f. klin. Med.*, Band lxii., Hft. 1 and 2, Dec., 1898), in which he reports and discusses a number of atypical cases. These atypical cases are divided by him into three classes. There is, first, a class in which the temperature curve shows large or small variations. the remissions amounting to from three to nine degrees. In this class, which he calls pneumonia with intermittent or remittent fever, the symptoms of the disease are not affected by the changes of temperature. There is, secondly, a class in in which periods of fever alternate with periods of apyrexia. In this class, which he calls intermittent pneumonia, the severity of the symptoms corresponds with the variations of temperature. This form is only the expression of the wandering of the pneumonia. The third class is that of recurring pneumonia, in which the fever and the symptoms reappear after their subsidence. Dr. Japha does not attempt to give an explanation of the marked remissions in the first-class, but suggests that idiosyncrasy may perhaps account for the peculiar type of fever.

In our review of the diseases of the respiratory system in these columns in April, 1898, reference was made to Woillez's, disease, or acute idiopathic pulmonary congestion, in connection with an article by Dr. G. Carrière on its bacteriology. Dr. Carrière has published further contributions on the subject of this disease (*Rev. de Méd.*, Paris, Oct. and Dec., 1898, and Jan., 1899). We concluded from Dr. Carrière's first article that there was insufficient reason for considering the so-called Woillez's disease to be a separate morbid entity. The later work of the writer only confirms us in this opinion.

He reports sixteen personally observed cases conforming to the usually accepted type of the malady. The symptons and physical signs are not essentially different from those of pneumonia. The invasion is characterised by shivering and pain in the side. The exciting cause is a chill or injury, and symptoms appear usually in from four to seven hours, although this interval may be as short as two or as long as fourteen hours.

The shivering is seldom intense and prolonged as in the case of lobar pneumonia. The pain in the side, on the other hand, is extreme, and is aggravated by movement, cough and respiratory effort. It usually attains its maximum at once, and is often the last of the symptoms to disappear. Dyspnœa is a very constant symptom of the declared disease, but varies considerably in intensity. Both pain and dyspnœa can usually be greatly relieved by local treatment, such as blistering or dry or wet cupping. Cough is less frequent than the two symptoms already mentioned, but when present may be very troublesome, and little amenable to treatment. Expectoration is almost constant, and increases in amount towards the crisis, when it may be considerable. Rarely is it blood-streaked, but it is never vicious or rusty. The fall of temperature always occurs from the fourth to the fifth day.

As regards the physical signs, no special significance is in our opinion to be attached to an increase of the circumference of the affected side, although this was thought by Woillez to be of great importance. Dr. Carrière states that as a rule inspection shows absolutely no difference between the two sides, but an increase on the affected side can be made out by careful measurement. Vocal fremitus is often diminished or normal, and only very exceptionally is increased. There is no dulness properly so-called, but almost always there is diminished resonance. Expiration is often prolonged, while the breath sounds may be feeble, harsh, or blowing. Râles are usually present, and of these the sub-crepitant variety is the most common.

The author had only one fatal case on which to found his discription of the morbid anatomy, and this case was that of an alcoholic, whose illness quickly followed immersion, and ended in death on the fifth day. The lung was acutely congested but not consolidated.

The bacteriology, as we previously stated, shows the association of the disease with the presence of pneumococci, staphylococci or streptococci in the sputum, and in the blood drawn from the affected parts. We conclude that the opinion of leading authorities in this country is the correct one, that Woillez's disease and acute pneumonia are merely different degrees of the same affection.

There are indications that there is a gradual change of opinion as to the expediency of paracentesis in acute idiopathic pleurisy with effusion. A few years back there was a tendency to use the aspirator perhaps too freely and too early. It was argued that the operation could do no harm, and that the removal of pressure on the lung must be good, for the earlier the fluid was removed the less likely was it that the lung would

suffer permanent injury. The pendulum is now swinging in the other direction, and perhaps soon paracentesis will be only very exceptionally resorted to.

In *The Practitioner*, Oct., 1898, we alluded to this subject *à propos* of some remarks of Dr. Talamon. Dr. P. Le Damany (*La Presse Méd.*, Nov. 2nd, 1898), and Dr. J. Mollard (*Lyon Méd.*, April, 1899), take a similar view to Dr. Talamon. Dr. Mollard expresses himself somewhat forcibly on the subject.

Clinical history, morbid anatomy, and bacteriology, he says, all unite to urge us to cast aside *cette brutale intervention* except in cases of urgency. Under the specious appearance of conferring an immediate benefit we not only proceed in direct opposition to the curative efforts of nature, but also cause a real injury by rupturing the new membrane in process of evolution, thereby opening the door to infection of the lung and of the entire organism. The effusion, Dr. Mollard maintains, and we think correctly, becomes absorbed in the great majority of cases without active interference. As long as the effusion is not so large as to embarrass the breathing, it should be left alone. Treatment on general lines will produce the best result in the end.

The discoveries of MM. Arloing and P. Courmont (*Presse Méd.*, June 11th, 1898) that tuberculous effusions are both bactericidal and agglutinating for the tubercle bacillus are of practical interest, and support the view that the natural absorption of the effusion is best for the patient. Dr. Le Damany is of opinion that the effusion promotes the cure of the tuberculous pleurisy by immobilising the thoraco-pulmonary articulation. He considers paracentesis as a measure of necessity only when called for by dyspnœa.

When fluid is present in the pleural cavity, it is quite exceptional to find friction on auscultation. Dr. Schüle, of Freiburg, reports two cases in which he observed the co-existence of pleural friction with pleural effusion (*Münch. med. Wochenschr*, Dec. 20th, 1898). Dr. Schüle thinks that the occurrence of friction in these cases depended on the presence of slight and limited adhesions, so that in spite of the fluid the two layers of pleura were not separated. The conclusion drawn by the author is that an exploratory puncture should be made, if otherwise advisable, when there are the signs of fluid, notwithstanding the existence of friction. We might point out that if an exploratory puncture is made in such a case, care should be taken to exclude hydatid of lung.

The significance of fever following operations for pyothorax may sometimes prove very perplexing both to the surgeon and to the physician who is called in on account of this complication. Dr. Augustus Caillé (*Arch. Pediat.*, New York, Aug., 1898), from a study of 300 cases, concludes that a completely afebrile course after operation is the exception. Fever may be the result of imperfect drainage, from obstruction by exuberant granulations or other cause. Intoxication with iodoform or carbolic acid, retention of urine, constipation, secondary and extrathoracic abscesses, and the onset of one of the specific fevers, are among

the causes of elevation of temperature, of which Dr. Caillé gives illustrations. An important class of case is that in which there is but a slight remission of fever after operation, and where we may have an extension of the inflammatory process to the other side of the chest, or to the pericardium, or peritoneum, or concomitant lobar, lobular, or tuberculous pneumonia. It is very difficult to distinguish broncho-pneumonia from a general pulmonary tuberculosis. The latter may be suspected from the high range of temperature, rapid breathing, diarrhœa, and loss of weight. The average fever curve is higher, and the variations of temperature are much greater in tuberculous pyothorax than in pyothorax with unresolved pneumonia. A very important class is that in which, after operation, thorough drainage, and no appreciable complications, the irregular septic temperature persists, resulting from deep-seated multilocular accumulation of pus or abscesses not reached by the primary operation. Finally, Dr. Caillé draws attention to certain cases which do quite well for two or three weeks after operation and then show an irregular rise of temperature. The discharge has almost ceased, and careful examination can discover no cause for the rise. In such cases if the drainage tube be removed and the patient be taken out of doors in spite of the fever a rapid and satisfactory improvement sets in

A form of bronchitis which is associated with Bright's disease is not uncommonly met with in practice. The diagnosis in such cases occasionally presents difficulties some of which are considered by E. Hirtz and P. Merklen in a paper on the clinical diagnosis of certain forms of albuminuric bronchitis from pulmonary tuberculosis (*La Presse Méd.*, Dec. 28th, 1898). There are two forms of albuminuric bronchitis which are likely to lead to the erroneous diagnosis of pulmonary tubercle. The first is that in which there is a localised pulmonary œdema affecting the upper parts of the lungs. Over the affected area there are to be heard abundant fine crepitant râles, but there are none of the signs of consolidation. The usual symptoms of pulmonary tubercle are absent. There is little cough, and the expectoration is either absent or scanty and viscid, while a characteristic type of dyspnœa is usually present. The dyspnœa is out of proportion to the extent of lung affected as revealed by physical signs. It is paroxysmal, and comes on in attacks which are generally independent of the patient's movements, and usually occur at night, compelling him to sit up in bed. The way in which, moreover, the malady comes and goes, and one part of the lung gets well and another gets affected, is another point in which it differs entirely from pulmonary tubercle. The second form, which closely resembles ordinary bronchitis, is constituted by the existence of scattered râles, which at first are crepitant but soon become moist. The expectoration is frothy, mucous, or mucopurulent, very different from the thick and yellow sputa of tuberculosis. As in the case in the first from, there are no signs of pulmonary induration. What has been said about the character of the dyspnœa and the course of the illness applies to the second form as well as to the first. In any doubtful cases careful examinations of the sputa for bacilli should be carried out.

Some extremely good and careful work has been carried out by E. L. Trudeau and E. R. Baldwin, of Saranac Lake, New York, on the preparation and effects of antitoxins for tuberculosis (*Amer. Journ. Med. Sci.*, Philadelphia, Dec., 1898, and Jan., 1899). Their investigations have extended over a period of four years, and have included experiments on four sheep, three asses, twelve fowls, eighteen rabbits and four hundred and fifty guinea-pigs. The animals were iuoculated with non-virulent and virulent tubercle bacilli, or injected with killed cultures or with tuberculin. In the majority of cases the serum obtained from these animals was found wanting in any germicidal antitoxic or curative effect whatever. In the case of an ass, inoculated with virulent tubercle bacilli and treated with tuberculin, the serum, although possessed of neither germicidal nor curative action, showed possibly some antitoxic effect.

The serum of rabbits which recovered after inoculation with non-virulent and virulent tubercle bacilli possibly conferred some protection in tuberculin poisoning, and possibly prolonged lives of treated guinea-pigs. Tests on five or six serums from other sources showed that only one possessed antitoxic power. This was obtained from a horse inoculated with non-virulent cultures. The authors point out that the apparent protection against fatal tuberculin poisoning occasionally seen was not necessarily due to the specific antitoxic power of the serums, as similar effects sometimes follow from physiological salt solution. None of the serums appeared to prevent local or general reaction from small doses of tuberculin, nor to influence the temperature of tuberculous animals. Disappointing as the results are, the writers consider that the outlook for an efficient tuberculosis antitoxin is by no means a hopeless one.

The results obtained by Drs. C. T. Williams and Herbert Horrocks by treatment with serum obtained from a horse which had been injected with increasing doses of tuberculin until it ceased to react, were recently reported to the Royal Medical and Chirurgical Society (Mar 28th, 1899). The serum withdrawn within a few weeks after the last injection of tuberculin produced effects closely resembling those of Koch's tuberculin. The serum taken after the longer interval of ten weeks was better borne. Four patients treated with it, in doses of 1 to 5 c.cm., improved, gaining in weight and increasing in strength and vigour. The authors conclude that such serum may be useful in early cases of pulmonary tuberculosis, or where the lesion is limited On theoretical grounds it seems probable that better results would be obtained by using the new tuberculin for the purpose of injecting the horse, but the results of treatment by such serum published by Dr. W. Freudenthal (*Med. News*, New York, Feb. 18th, 1899, and *Canad. Journ.*, April, 1899) are even less encouraging than those of the Brompton physicians.

Prof. Landouzy (Congr. de la Tuberc., 1898; *Méd. Mod.*, Aug. 3rd, 1898, and *Rev. de la Thérap.*, Aug. 15th, 1898) rightly points out that we must not demand from serumtherapy what it cannot possibly perform. No serum can both counteract and check the bacillary infection and at the same time repair and cure the damage already done locally by the tuberculous process. In the tuberculous infection, as in the diphtheritic, the

first essential of success by serum treatment is its use early in the disease. Even with an ideal serum the cure of tuberculosis will always continue to be a slow and trying process for the patient, and a difficult undertaking for the doctor. Tuberculosis can never be so easily curable as it is preventable.

From every point of view, it is of the highest importance to be able to make a diagnosis of pulmonary tubercle at an early stage of the disease. The careful and systematic examination of the sputum has proved of immense value in this relation, but this mode of examination is sometimes impossible. A summary of some recent theses and of other contributions on this subject in the *Journal de Méd. et de Chir.* (Nov. 10th, 1898) shows that there is a danger of dwelling too much on what is, after all, of very minor importance. We do not think the practical physician can attach much significance to the fact of the pulse remaining at the same rate whether the patient is in the upright or the recumbent posture. Nor are we of opinion that the physician, unless he has had a large experience of the method of auscultatory percussion, would be helped by employing it. The use of injections of tuberculin or of artificial serum for diagnosis may be mentioned, but the first is hardly ever employed in man, and the use of the second is still in the experimental stage. The internal administration of iodide of potassium is said to produce effects similar to those of tuberculin in increasing cough and expectoration, and in producing râles in the lungs where none were to be detected before. It is evidently undesirable to produce such effects, even if we can place dependence on their production as evidence of tuberculosis. The agglutinative action of tuberculous serum on homogeneous cultures may prove itself useful by-and-by, but at present few can avail themselves of such a method of diagnosis.

Dr. Frederick Knight refers to common errors of general practitioners in dealing with cases of pulmonary tuberculosis (*Boston Med. and Surg. Journ.*, Nov. 17th, 1898). These are (1) failure to make an early diagnosis; (2) failure to admit the gravity of the situation the moment it is discovered; (3) adoption of treatment which is not only useless but positively injurious, such as the prescription of medicines which destroy the appetite or interfere with the digestion, or giving an unrestricted order to drink whiskey; (4) sending unsuitable cases away from home, or giving vague directions to go abroad without precise indication of where to go to; and (5) sending patients away without proper medical supervision. These errors are, without doubt, made far too frequently in this country as well as in America.

Dr. Vincent T. Bowditch (*Boston Med. and Surg. Journ.*, Nov. 17th, 1898) remarks, as is very true, that in his search for physical signs the practitioner sometimes seems to overlook the most important symptoms—namely, the quality of the pulse, the temperature, and the condition of the digestive organs. A weak, rapid pulse, more or less elevated temperature, dyspnœa, and poor condition of stomach, with a lack of definite physical signs in the chest, often means disseminated tuberculous disease with a decidedly grave prognosis. Such symptoms are usually entirely inconsistent with a truly incipient form of pulmonary disease.

In the treatment of tuberculosis, guaiacetin is perhaps one of the least known among the various derivatives of guaiacol, although not the least useful. Like guaiacol carbonate, it is a white crystalline powder. It has a faint odour and taste of creosote, and leaves a slight bitter after-taste. It is given in doses of four to eight grains, near the beginning of a meal, three or four times a day, and may be taken simply as a powder or in a cachet and washed down with water Dr. A. Bass speaks highly of it from his own personal observations (*Prag. med. Wochenschrift*, Dec. 22nd, 1898) in phthisis and chronic bronchitis. Its effects resemble those of creosote and guaiacol. It stimulates the appetite, improves the nutrition, and diminishes the catarrhal secretion. Dr. Bass says he must not expect much from it, however, in advanced cases or in very active cases of the florid type.

Hæmoptysis sometimes proves a very troublesome and refractory complication of pulmonary tuberculosis. Drugs, though largely used, probably play only a minor part in stopping the bleeding or in preventing its recurrence. Dr. P. Gallot recommends the use of hypodermic injections of iodoform in recurrent hæmoptysis in the early stage of tuberculosis (*Gaz. Méd. de Paris*, Aug. 6th, 1898). The formula he employs is:—Liquid vaseline 0 gr. ·25, Eucalyptol 5 ga., Iodoform 0 gr. 75. Of this 0 gr. ·05 is injected daily. It may be observed that the dose is a very small one, and we very much doubt whether the successful issue in Dr. Gallot's case had anything at all to do with the iodoform injections.

The importance of systematic physical exercise in the prevention and cure of pulmonary tuberculosis has frequently been insisted on. Otis, Butler and Weaver have strongly advocated what may be called pulmonary gymnastics. Dr. Fletcher Ingals has recently addressed the American Climatological Association on the same subject (*Therap. Gaz.*, Detroit, November 15th, 1898). He says it is surprising to find how superficially many persons breathe, and he considers it is of primary importance to teach patients to breathe deeply, Expansion of the air-cells not only empties them of the noxious principles that, if left to themselves, might set up a serious disease, but also equalizes the pulmonary circulation and removes localised anæmia. The long, narrow, flat-chested individual is most likely to contract consumption, and is least likely to recover from it. Dr. Ingals advises that the patient should be shown how to take a deep breath. After a deep inspiration he should hold the breath for a few seconds, and then blow out slowly and forcibly through a small opening between the lips. By systematic physical training the form of the chest can be greatly improved. Dr. Ingals also believes that when tuberculosis has become established in the lungs it is possible to check the process and promote recovery by physical development. Nearly all forms of exercise that take the person out of doors, such as horseback riding, tennis, golf, bicycling, etc., seem well suited to the improvement of the general health, but the most beneficial for the development of the chest are the use of Indian clubs and small dumb-bells, the horizontal bar, the trapeze and boxing. In all of these the patient of necessity learns to breathe deeply, and acquires strength of the respiratory muscles. In addition to

these forms of exercise the patient should practise frequent deep inspiration and forcible expiration several times daily. In order to secure regularity in this exercise, Dr. Ingals recommends some kind of inhaler that may be carried in the pocket and used at stated intervals during the day. Medication may be employed, particularly for its influence in securing regular use of the inhaler. The inhaler consists of a simple hard rubber tube, about four inches in length and half an inch in diameter, filled throughout its middle two-fourths with corrugated blotting paper, and having corks for each end so that it may be closed to carry in the pocket. The medicament is dropped on the blotting paper and the patient is directed to take long deep breaths through the inhaler every two hours. When the inhaler is freshly charged the patient inhales twice, two hours later four times, two hours afterwards six times, and at the end of the next two hours eight times. The medicaments which Dr. Ingals employs are alcoholic solutions of thymol, menthol, tincture of iodine and formalin. Chloroform may be added for the relief of cough. The inhaler is charged with from five to fifteen minims of the solution. The strengths used are: thymol one to two grains, menthol thirty to sixty grains, formalin thirty to sixty minims and tincture of iodine two to four drachms to the ounce of alcohol (ninety per cent.). Dr. Ingals does not believe that these or any other inhalants have any direct effect on the tubercle bacilli, although they may mitigate the catarrhal inflammation of the mucous membrane. The chief value of this mode of treatment results from the deep respiration and consequent distension of the air vesicles.

It has hitherto been a matter of great difficulty to estimate what benefit was really obtained by means of inhalations of the vapors of essential oils and other volatile substances. It is clearly of some importance to know whether these vapors are capable of influencing the growth of the bacillus in artificial media as well as in the animal body. Dr. William Murrell (*Brit Med. Journ.*, Jan. 28th, 1899) records some very carefully conducted experiments on the effects of the vapors of oil of cinnamon and of oil of peppermint on the growth of cultures in suitable media. Neither of these oils appeared to have the slightest deleterious influence on the growth of the tubercle bacillus. These lavatory experiments confirmed Dr. Murrell's clinical observations that the inhalations of these vapors had no beneficial effect in patients in various stages of pulmonary phthisis.

While, however, the vapours of the essential oils proved to be inert, Dr. Murrell found that the vapour of formic aldehyde not only had a marked retarding and inhibitive influence on the growth of tubercle bacilli inoculated on to favorable culture media, and when allowed to act for forty-eight hours entirely prevented the growth and future development of the bacilli, but also proved very beneficial in the treatment of patients. A six per cent. solution was, as a rule, employed, a stronger or weaker solution being used according to the idiosyncrasy of the patient. In most cases the vapor was inhaled once or twice a day, compressed air, by a simple mechanical arrangement, being made to bubble through the

solution. In other cases a kind of "bib" was devised on which the solution was sprinkled, and this was suspended from the neck so that the patient constantly inhaled air impregnated with the vapor. As was to be expected, the drug in many cases caused irritation at the back of the throat, and sometimes induced violent paroxysms of cough. In spite of these drawbacks, twelve out of fourteen patients were much benefited.

In connection with Dr. Murrell's researches, the observations of J. Héricourt and Charles Richet (*Soc. de Biol.*, Nov. 18th, 1898) on the effect of turpentine inhalations in experimental tuberculosis are of special interest. They inoculated a number of dogs with cultures of human tuberculosis. While out of two hundred dogs inoculated and left untreated during a period of ten years, no animal lived longer than six months, out of three dogs submitted to turpentine inhalations two were alive and healthy two hundred and fifty-one days after inoculation.

In connection with Dr. Murrell's experiments we may also refer to some observations of Professor J. Sabrazès, who draws attention to the fallacy of drawing conclusions as to therapeutic action from experiments on the bacillus *in vitro* (*Journ. de Med. de Bordeaux*, Nov. 13th, 1898). A trace of tannin will prevent the multiplication of the bacillus *in vitro*, and render sterile artificial media. But tannin in large doses he shows to be utterly useless in preventing the progress of experimental tuberculosis in susceptible animals. From this we may conclude that it is useless in the treatment of human tuberculosis.—*London Practitioner.*

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BY EPHRAIM CUTTER, M.D.

Harvard, 1856, et Univ. Penn'a, 1857; M.A., Yale; LL.D., Iowa College; Professor Clinical Morphology and Applied Medicine, College of Physicians and Surgeons, Boston; Secretary Section on Physiology and Dietetics, American Medical Association, 1889, 1892, 1897; Corresponding Member of Belgian and Italian Microscopical Societies, Gynecological Society of Boston, etc., etc., etc., of New York City.

Coffee-making.

The facility with which roasted and finely ground coffee parts with its virtues by displacement in hot water is something wonderful. Tne process with coffee is more rapid and thorough than the process of a solution of most salts or of almost any botanical specimen tried in pharmacy. The displacement process is largely employed in pharmacy and in leaching bark for tanners' use.

Each drop of water acts like a bucket in a wheat-elevator, only it carries the solubic part *down* in place of *up* the elevator. As each drop becomes saturated, with inconceivable rapidity (if the filter is permeable) it settles by its own weight, and is followed by other drops, which saturate with like celerity, and descends to join the other drops, so that in the space of thirty seconds a good cup of coffee can be had surely every time. The French were the first to use this process for coffee, and they have excelled in the art of extracting a good cup of this drink.

My attention having been directed to the adulteration of food, it has seemed to me that the contact of coffee with metallic receptacles is objectionable on account of the chemical products made by the coffee with the iron, lead, tin, etc., of the receptacle. Specially has this objection been enforced by an examination of old metallic coffee-pots that leaked, from the solution and loss of their substance, particularly at the soldered joints, which make galvanic batteries when excited by the coffee solution. Perhaps this is being over-nice, but when cotton cloth or non-matellic receptacles for making coffee are cheaper than matellic ones, there seems to be no reason why they should not be preferred, and thus avoid the risks of drinking up one's coffee-pot in time. It is coffee, not salts of tin, iron, lead, etc., that is wanted. Not knowing of such earthen coffee-pots, the writer set about inventing one, and had about developed it, when shown the "Webster" coffee-pot. This seems to be quite the desired device. Troubles come fast enough; but there is no use inviting them to come in our coffe, when it is cheaper and more satisfactory and time-saving to dispense with them at the outset by using the combination of earthenware and cotton. This may seem a small matter, but it is not when one considers how few people make good coffee by the conventional methods in use, and how important this matter of food is to the welfare of the race. A cup of good coffee in the morning (without sugar) makes the heart glow with strength, and is of itself a good beginning of any day. Poor coffee is inexcusable now that it is necessary only to have

good coffee grains roasted end very finely ground, by being run once or twice through the mill, put into the coffee-filter of this device, and hot water poured over them. The coffee is then ready to use Of course care should be taken to have the filter cleaned and dried after use, and new ones substituted from time to time. The coffee is made on the breakfast-table at the time of using To physicians and those exposed to the action of the weather such a device is a boon, as it is easy to manage and so sure of its action. The directions of Count Ruford given for coffee-making (*see his Essay*) about one hundred years ago, are as fresh and crisp as if written yesterday. It seems as if this subject was deemed by him a matter of importance.

Besides, he taught the preference of earthenware coffee-pots. Had he only put a muslin bag in place of a perforated china, we would not boast of any advance on him for the past hundred years.

Tea and Coffee: Insomnia.

A prominent Methodist clergyman of Philadelphia said the other day to one of my patients that he was much troubled with insomnia, but when he left off the use of tea and coffee and used hot water instead, he slept beautifully. I have noticed in my own case the same thing to a less degree. For example, when away from home. if I get very tired and drink tea or coffee at suppes, insomnia follows. When I drink hot water or milk I will sleep. I, therefore, recommend my patients in insomnia to try to do likewise as it is the influence of daily causes long repeated which effects health.

Air is Food.

On the ground that everything is food which is needed to sustain life, and which when taken into the system becomes an integral part or element of that system, it is easy to see that air must be food. Air is made up especially of two gases, oxygen and nitrogen. These elements belong to the human body, and are furnished in what we eat and drink, besides air. By some, probably, the position taken here will be denied. This is not the place to argue at length on mooted points, nor for controversy, but it may be said that those who do not believe and do not agree have only to stop breathing for five minutes. The result would be starvation and death, thus proving that air is essential to sustain life, which is the first part of our definition of food. Chemical analysis shows the presence of oxygen and nitrogen in the tissues, solids and liquids of the body, and thus the second part of our definition is met. It would be interesting to argue for a more active position of nitrogen in the atmosphere than has been assigned to it by science, but I must be content with merely a prophecy that the time is not far distant when this will be the case. It is not reasonable that so much nitrogen is merely of negative uses. That air is food is an ancient idea.

A few years since I was going from Boston to New York by the Stomington line. At my side in the main saloon sat a gentleman who had on his knees an open volume in Arabic, as it appeared to me. I

found he was a Methodist missionary from India, returning from France, where he had been to consult about the best mode of manufacturing ramie fibre. I also found that he could converse in twelve languages. I said, "You seem to be taking refreshment in several languages," and I asked him if that book in his lap was Arabic. He said no, but its language was derived from the same root, and was Hindustani. I then asked him if he thought the English language would ever be the universal language. He replied, "No; it is not expressive enough. For example, we say in English, 'A dog walks out, and a man walks out,' but the Hindustani says, 'A dog walks out, and a man goes forth eating air.' Furthermore, I find this phrase is 3,000 years old.

If this is so, and I see no reason to doubt it, the idea of *air* being food is an ancient one, and older than the Christian era. Bad air or "malaria," is a common expression among us. To get good air the ancient custom of visiting the seashore and the mountains in summer has been revived with great benefit to the human race in more ways than one.

Ventilation receives great attention, and should have more, as air gets foul from human use in respiration; in combustion from fires of all kinds; in dust; in smoke; in the ascent of cryptogamic plants in the atmosphere; in sewer-gas, and in sewer fermentations; in volcanic eruptions; and in all operations which made particles of any kind that float in the air.

It is probable that air is rendered impure by exhalations from organic animal substances decaying in connection with vegetable substances. Hence, air is purer away from the habitations of men and animals—*i. e.*, on the sea, in deserts, and wildernesses.

Potatoes.

In this paper it is not intended to give an exhaustive statement of this subject, as the potato is an underground stem that contains a compendium of all the structures that enter into plant histology, but to make brief allusions to some of the points in which the microscope is an instrument of precision in relation to the effect of cooking upon potatoes.

The idea that a microscope has any place in a kitchen meets with some ridicule from those who have not looked into the subject and who forget that esthetics govern the subject of food so that thousands are destroyed by bad food simply because it is pleasant to the taste and "good to the eyes."

Following out this line of conventional thought, if by the use of the microscope it is shown that there are real esthetic beauties in the things ordinarily thought to be divested of any beauty, as the potato, one thing will be accomplished.

Say what we may, there are queens in our kitchen who govern the whole house. The food prepared by them form the staple of our lives. If we have poor food, we are not well; if we have good food properly cooked, then our lives run smoothly and in health. The evils in strong drink are great, but the evils of bad cooking and ill-selected food are

greater. It is one of the curious things of our ethics that the really most important matters of our households are too often entrusted to the lowest intelligences we meet with in society; that when we hire cooks we trust our lives and health to persons who can neither read nor write, in many cases, and who do not have any clear idea of what they are about, save to get all they can, break the crockery, and dress in what finery they can on a Sunday.

Would that the time spent by the queens of our parlors on crazy quilts, screens, and fancy needle-work (well enough in their place) was given with the beautiful problems connected with food that are so vitally important and constantly pressing on our attention every time we eat.

Morphology of the Potato—Uncooked.

By potatoes we mean, firstly, the tubers of the *Solanum tuberasum*, the commonly called Irish or white potato, a native of South America; and, secondly, the sweet potato, a native of Malaga Peninsular, *Botatas edulis*, or the *Convolvulus batatus* of Linnæus.

We take, firstly, a tuber which has a covering (good enough to be patented) of an epidermis, made up of cork cells, which are elastic, protective, and capable of reproduction to a certain extent when mutilated or destroyed. This skin is made up of layers superimposed in oblong right-angled cells, much like common brick-work, and unlike the cork-cells of the common bottle-cork (*Quercus suber*). In form the potato skin is an admirable covering and perfectly adapted to its use. At various points are the so-called eyes, each of which is connected by gubernaculum lines of spiral tissue connecting with the central part of the stem (Reinsch).

A thin section of the potato discloses a beautiful net-work of connective fibrous tissue, looking much like the meshes of a common fish-net. This network is filled with starch-grains in all stages of development, from the most minute granules to the large concentrically marked pear-shaped grains. Under polarized light these sections of raw potatoes form some of the most beautiful objects witnessed under the microscope, comparing favorably with an Italian sunset or rainbow. That such a lovely object can be found in the homely domains of the kitchen is ignored by the queens both of the parlor and kitchen.

But it is none the less an argument in favor of the microscope, which transmits ideas of the real character of things which have no reputation for their really esthetical character, like potatoes that grow in the ground, smothered in manure.

White Potatoes—Cooked.

Whether cooked by steam, boiling water, or the heat of frying fat, a wonderful change in the morphology of the raw potato is effected, more or less complete, according to the time and thoroughness of the process. When thoroughly done, the parts that looked like the interspaces of a net-work filled with distinct and separate starch grains of various shapes

and sizes as aforesaid now appear in new phases, as sacs or obovoid bundles, distinct, free, and differing in shape according to the demands of the spherical geometry that obtains in the building up of the tuber.

The inside of the sacs are filled with the starch grains. It seems as if the outside wall of the sacs was made up of the celulose fibers, which, before the action of the heat, formed the network aforesaid. How it is that the fibers, and strings of this net-work are turned by the heat into a complete sac is hard to understand, because there seems to be a running of separate fibers from one space to others.

Still the fact remains; the sacs seem to come out as smooth and complete as the shell of an egg, only that the sac wall is clear as glass and polarizes light.

If the cooking process is not complete, the following facts are noted under the microscope:

1. The starch grains are distinct, and have interspaces between them.
2. They polarize light.

If the cooking is complete, the following facts are noticed:

1. The starch grains are broken up into one homogeneous, well-mixed mass
2. They do not polarize light.

In proportion to the presence or absence of polarization of light, and in proportion as the starch grains are broken up more or less, is *morphologically the perfection of the cooking.*

3. Another effect of cooking is, when the heat is as high as in frying or boiling, to contract the starch grains into a semi-solid anfractuous, protoplasmic mass, leaving between the sac wall and itself clean margins of empty space, or filled with clear, translucent, protoplasmic matter, which does not polarize light. The starch grains are ruptured and fused into one mass, and yet a little different from the same when baked or boiled.

So that in this way the microscope becomes a testing medium for cooking potatoes of the finest description. It supplements, or should not be divorced from, other tests, as the chemical, by showing the presence of glucose or dextrine, or the tests by touch of tongue, teeth, finger, fork or skewer, as to softness.

Another test of cooking potatoes is the morphology of the feces of the eater. It is surprising to see how many of the potato sacs run the gauntlet of digestion because not thoroughly cooked. To be sure they are not so tough as the sacs of baked beans, which are found to be very much more indigestible by the morphology of the feces; still, so long as mankind have to eat to live, and so long as cooking can properly prepare food so that it will be digestible, it seems folly for mankind to overlook the tests of good cooking.

To give the intestines alimentary problems to solve, which should be solved by cooking, is putting man between two millstones, one of which

may represent the inevitable battles of life without the body, and the other the needless intestinal wars within, the latter uselessly handicapping from the outset.

In my opinion the best method of cooking potatoes is either by steaming or baking.

As to the sweet potato. It is interesting to note the difference between the raw and the cooked. There is the same reticulation in the raw and the same formation in the cooked as found in the white potato, whose stems are clustered stalks, while the sweet potato is a climbing vine.

Oatmeal.

This article has attained a popular position as a food in competition with wheat, barley, and corn, or maize. It has its reputation from its use by the Scotch. All the vigor and energy of their nature being attributed to the use of the oatmeal. It is sold at a high price, as it has to be prepared by baking in kilns and mounted with care.

It is given to babes and children, and highly liked. The truth is, as compared with wheat, oat is a very poor food. And if the Scotch thrive on it, it is *in spite of it, not on account of it.*

Oat cannot be made into light, spongy bread, as it has not gluten enough. It contains more silica than wheat. It is harder to digest.

I have had lately a case where a nervous boy of ten was paralyzed in the lower limbs, so that he could not walk. Cured by stopping oatmeal and dieting on beef.

Oats are good for horses and bovines. Man had better leave oats to the horses. It is good economy for the purse, for the constitution, for the alimentary canal to prefer wheat to oat. Wheat is a royal grain, and has stood the test as a supreme, royal food for man for ages.

Whole Wheat Cleaned.

In August, 1884, I was at my brother-in-law's gristmill, and noticed the Michigan winter wheat as it came through the smutmill clean and fair, ready to be ground up into "Arlington" (Mass.) "wheat meal." The idea struck me. Why not use this cleaned wheat for food? It is free from dirt, and contains all the form and chemical elements in proper proportions for nourishment that our Creator intended mankind should have when wheat is eaten. We do not crack or grind up other fruits, as tomatoes, bananas, potatoes, etc., a long time before they are eaten; nor do we deprive them of their natural protective garments, and mechanically separate their form elements, so that one-half at least of the nutritious qualities are taken away and given to animals, as we do in wheat. If the above-named were subjected to such treatment, they would become unfit to eat. Why not, I thought, get the aroma and bouquet of the wheat in the cooking, and not lose it in the milling? Acting on this impulse I took home with me a half-bushel of the cleaned whole-wheat,

and put my family upon it, to see how long they could live on it without tiring, when used like oatmeal, as a breakfast dish. There has been no sickening of it.

Modes of Cooking.

My wife, who is my authority, after many trials of hers and my own (in which I was laughed at) gives the following: "To cook cleaned whole-wheat—an amount sufficient for four adults—take one cupful of wheat, wash it clean in cold water; put it in a tin pail or crockery bowl, or other suitable utensil, and add one half a teaspoonful of salt and three cups of cold water. Then suspend the pail in a closed pot of cold water, set it on a heated stove, and boil for eight or ten hours; or cook for the same time in a double water-jacket boiler (a common glue-pot does well for small quantities; or cook for the same time in a "Chamberlain" or other steam-cooker. When cooked it should be soft, adhesive, glutinous, and easily masticated. Serve with butter, milk, or cream, or eat it without—as the Asiatics eat rice with no seasoning. If the cooking is well done, there is an agreeable nutty flavor of the wheat, which corresponds to the bouquet of grapes. This flavor seems to be lost when the wheat is cracked, crushed, or ground long before cooking. If this flavor is not desired, the cleaned whole-wheat may be pounded in a mortar, or run through a coffee-mill. This well shorten the time of cooking to four hours and less.

Advantages.

This is perfect food, and gives all the body's tissues a chance to be fed and nourished. It is intended that this should take the place of oatmeal, which has less gluten as compared with wheat, and is harder to digest. It is better than flour. Magendie fed dogs on flour exclusively, and they died in forty days, whole other dogs thrived on whole-wheat. Judge Abbott of Boston once told me of some shipwrecked sailors who were obliged to live on flour alone, and they nearly starved. They could have lived on wheat. It is more economical than flour. Hence, when money is scarce and resources have to be husbanded (or "wifed," it may be more truly said), a resort to this food will be very satisfactory. The objection to the tegumentary coats is not so great as some suppose. I have practically tested this point to my satisfaction with my patients. This food is free from yeast, and hence less liable to fermentation in the alimentary canal. The danger of loss of health on this food is much less than on flour and sugar.

Bread.

When flour is mixed with water, and the dough is immediately baked, unleavened bread results. The substance of unleavened bread is more is more solid, less vesiculated and spongy than leavened bread. The vacuoles and anfractuous cavities are many, but they are not so large and evenly diffused as in well-made leavened bread. These unleavened

bread vacuoles are probably due to the expansion of globules of water and air imprisoned in the dough by kneading. When to the mixture of water and flour alcoholic yeast-plants are added and the dough, properly beaten, is placed in a lightly covered receptacle in a warm place over night, by morning the dough will be found increased in bulk, and sometimes overflowing the pan.

Place the ear near the pan, and soft, continous hum will be heard, much like the swarm of bees. This sound is caused by the evolution of carbon dioxide gas, rising by expansions from below, as its specific gravity is greater than that of the atmosphere. It is caught in the viscid, glutinous mass, and expands into bubbles, which burst, thus vesiculating the dough. The accumulation of this gas causes an increase of bulk, which is more apparent than real. The dough is excavated or hollowed into multitudinous anfractuous, irregular, and regular cavities, caves, or areolar spaces, which process nicely solves the problem of getting the largest amount of surface into the smallest amount of space. When the dough is baked, these caverns or vesiculations are surrounded by solid walls, which, under the microscope, if the bread is well raised, present a beautiful picture, which defies description and pencil.

There is no doubt that alcohol is vaporized, and helps the vesiculation. So, then, we trace the following as causes of the rising of bread: (1) Carbon-dioxide gas. (2) Vaporized water or steam. (3) Vaporized alcohol. (4) Air-bubbles expanded by heat.

Besides these physical changes in the dough, the yeast changes the starch into glucose more or less, which process is furthered by the action of the heat in baking. In other words, the bread is made more soluble in the alimentary canal, and the lighter and more spongy it is, the easier to digest.

The change of starch into glucose is the crowning merit of the process of raising bread by yeast. In this respect it has an advantage over the so-called baking powders, which vesiculate by the liberation of the carbon-dioxide gas in the baking, and make the vesiculations just the same as in the yeast process, but there is no change into glucose, only so far as it is done by the heat of baking. For this reason aerated bread, or bread raised by baking powders, is not so good for digestion as yeast-bread properly made.

In the gem-cake process, where unleavened dough is baked rapidly in small masses in very hot ovens, the steam formed makes the vesiculations and sponge.

In sponge cake the eggs are vesiculated beforehand by beating into their viscid substance atmospheric air with a fork or a machine made for the purpose. When this mass is white with air-bubbles it is stirred in the flour and sugar and immediately placed in a hot oven. The expansion of the detained air-bubbles makes the cake rise into an elastic, felty body like a sponge, whence the name is derived.

Crackers are biscuits made of unleavened dough baked hard. The gain in twice baking is found in a more complete change of starch into dextrine, and in destroying the yeast more perfectly when leavened dough is

used, and thus the product does not grow mouldy so readily as the ordinary bread might under the same circumstances of long keeping. Toast is more soluable than bread.

A great many crackers are made by flattening raised dough into thin sheets under iron rollers, thus driving out the alcohol, air and carbon-dioxide gas, and making the substance solid with starch, gluten, glucose and dextrine after baking.

Pastry embraces the compositions made up of unleavened bread, eggs, milk, butter and many other materials, according to the art of the cook. These are to be avoided in motherhood, as taking up too much time in cooking, and as affording difficult and uncomfortable substance for the alimentary canal to digest.

As a matter of fact, bread raised by yeast has been universally used by man from the remotest periods of history. It is the staff of life. Among the cereals that furnish bread, wheat, rye, barley and maize may be termed the princely grains. *Wheat is the king of grains.* When flour is spoken of, wheat flour is meant. When bread is spoken of, wheat bread is meant. The original wheat bread included the six coats of wheat berry, and there is no doubt that man thrives on this bread.

But as society has developed, an ethical demand has arisen that a superior excellence of bread was incompatible with the dark or black color caused by the coats of the wheat, and so they have been discarded to make bread white in color. The standard flour is made from the parenchymatous portion of the berry, but at the expense of the more nutritive elements.

This yielding to the demands of the physiologically uneducated ethical eye has no doubt wrought disaster to the human race.

As to the injurious effects of cake or pastry, the writer thinks them due, not to the want of yeast, or the presence of fat (or shortening) but to the sugar and the impoverished flour. For he has found that cakes made of the entire-wheat flour are more palatable and digest better than the same preparations made of common flour. When it is remembered that sugar in solution put in a warm and moist place—as the alimentary canal—in contact with alcohol-yeast most readily ferments; it is easy to see how cake and pastry easily ferment in the stomach and bowels.

Presence of Alcoholic Yeast in Bread.

Examinations of microscopic fields of a quarter-inch objective and one and a half inch eye-piece, show the presence of from thirteen to one hundred and thirteen alcoholic yeast-plants; some of these were automobile and moving laterally. All were surrounded more or less by automobile spores actively moving about.

Temperature of Baking Bread.

This was ascertained by testing a loaf baked so as to have a crust on it, by puncturing with a skewer and a thermometer plunged in. The temperature was uniformly found to be 285 degrees Fahrenheit. Horsford says 500.

Are the Yeast-Plants Destroyed by Baking?

My wife removed the inside of a recently baked gem-cake and stirred it up with water. It was mixed with a cupful and a half of flour; the dough stood in a warm place two days, and rose a little as shown by surface-cracking and vesiculation inside. The bread made from this sample was heavy, soggy, sour and tasted badly. The starch grains were broken, macerated, outlines obliterated much differently from ordinary bread. The rising did not equal that of unfermented bread. Had the cake been dough, considerable fermentation would have been expected. So, in this case, the yeast was evidently destroyed by baking.

The Main Points about Bread Raised by Yeast are:

1. That it should contain all the nourishment that the Creator intended man to get when he ate wheat, rye, barley or maize. If the flour is impoverished the bread is impoverished.

2. It should be properly prepared in all its manifold stages from the field to the table.

3. Specially should it be thoroughly cooked, so that the yeast may not harm the alimentary canal nor the lungs.

4. Bakers, cooks, housewives and others should be instructed as to the folly of sacrificing the solid values of wheat to whiteness and lightness.

5. Whole-wheat bread can be lived on exclusively for forty or forty-five days without disease therefrom becoming marked.

Stale Bread.

The cells of the walls of dough are made up of starch and gluten, with traces of dextrine, glucose and sugar. Also there is vegetable albumen soluble in water and united with the starch and gluten. In baking, the albumen is coagulated, the gluten is dehydrated, the starch grains are swollen, stiffened and many of them burst, glassed and dried into what is glacial starch. Another effect is to make the glassy starch so incorporated with the gluten as to become inseparable by washing after baking.

On drying, the dehydrated gluten immediately absorbs the water from the starch with which it is mixed or incorporated, as roasted alum absorbs water that is sprinkled upon it. The starch thus rendered dry and stiff gives a greater rigidity to the walls of the sponge, and makes its texture more firm and true—and thus we have *stale* bread.

Professor Horsford, in his admirable Report to the United States Government on Vienna Bread at the Vienna Exposition of 1873 (published at Washington, Government Printing Office, p. 96, Art. 212), says: "The solution then of the question of the difference between stale bread and bread freshened by heating or toasting is this—the gluten of the crumb walls of the stale bread which are stiff and brittle is dehydrated by the heat in freshening, and the water of hydration driven out softens the glacial horny starch which coats and penetrates the gluten. Thus softened, the crumb is more palatable, because it is in the condition to be

dissolved in the saliva and tasted. On cooling, the water is withdrawn from the starch, which is thereby rendered stiff, and restored to the gluten, and the bread becomes stale.

Crust of Bread.

(*Loco citato*, p. 93, Art. 204). "The examination of the crust shows that heat has produced a variety of effects of marked character. It has been converted into dextrine. Portions of the dextrine, as well as of the gluten, have been subjected to slight destructive distillation, yielding at the outset, with proper temperature, an agreeable essential oil, the grateful aroma of freshly baked rolls. If continued too long, the destructive distillation produced causes the formation of substances less grateful to the sense of smell, bitter to the taste and worthless for the purposes of nutrition. Among the bodies produced Reichenback recognizes 'Assamar,' a bitter substance, the effects of which on the human organism, according to Von Bibra, are akin to those of coffee."

Crust coffee, then, is not a bad substitute for ordinary coffee, as it contains *assamar;* indeed, it is sometimes a very good substitute for those who cannot bear coffee.

The Size of the Loaf.

It is best not to have it too large, so that it can be thoroughly cooked without being burned on the outside. But the invention of the closed steam baking-pan avoids this difficulty, as the steam prevents the burning, so much so that it is usual for the cook to open windows in the pan to admit air, so that the loaf can be properly browned.

In Horsford's exhaustive treatise the vesiculation of the bread by the steam formed from its contained water seems to be left out of account.

Photographs which I have had taken of leavened and unleavened bread show much less difference between them than one would expect. The vesiculations of the leavened bread are larger, but they are no more numerous than the vesiculations in the bread made by merely mixing water with flour into dough and baking it.—*Dietetic and Hygienic Gazette.*

MEDICAL PROGRESS.

CLOSURE OF THE ABDOMINAL INCISION AFTER LAPAROTOMY AND THE TENDENCY TO HERNIA.

In the course of time, abdominal operators have reached a proficiency in technique and an assurance in the application of the details of asepsis that have made laparotomy a comparatively facile and safe procedure. There has however remained an objection not foreseen at first, but ever becoming more insistently prominent as the number of abdominal operations increased. Despite the most anxious care and most solicitous technique ventral herniae occur at the site of the abdominal incision and often make life miserable for the patient. The frequency of the occurrence of hernia has become one of the great sources of opprobrium to modern abdominal surgery and it is not unusual to have patients who do not fear the result of the operation itself hesitate to undergo it because of the fear of the subsequent hernia that they have learned to dread from the experience of friends or acquaintances.

The review of the recent results of post-operational hernia by Dr. John G. Clark of Johns Hopkins Hospital in the recent number of Progressive Medicine* shows that a number of factors which have usually been considered as influencing the production of hernia really have no aetiological connection with it. For instance permitting the patients to get up after 17-18 days does not predispose to hernia and keeping them in bed for longer periods does not prove a prophylactic against its occurrence. The wearing or failure to wear a bandage after operation does not affect the liability to hernia either favorably or unfavorably. Pregnancy following immediately or remotely after operation plays no part in the production of hernia despite preconceived notions to the contrary.

It is evident then that the occurrence of ventral hernia after operation is mainly due to the method of closing the abdominal wound, despite all that has been said by certain gynecologists abroad as to the advantage to be derived in this matter from making the incision through the rectus muscle. Dr. Clark, from his experience at Johns Hopkins as well as his records of the subject decides in favor of the incision in the linea alba. Two things are necessary to lessen the tendency to hernia in closing the incision. First the fascia, i.e., the aponeurosis of the recti muscles, must be carefully brought together so as to secure complete and firm continuous union along the line of section. The essential point in placing the sutures is to catch enough of the aponeurosis to firmly bring the borders of the fascia not only into complete coaptation but also to slightly

* Progressive Medicine. A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by Hobart Amory Hare, M.D., Volume II., June, 1899. Lea Brothers & Co., Philadelphia.

elevate them into a medium ridge. The coaptation of the fascia must be especially exact at the lower end of the incision when the liability to hernia is greater because the layers of fascia are fewer.

The second requisite for a firm cicatrix is to secure healing *per primam*, and this is best secured by leaving no dead spaces in which blood or lymph may collect to become infected, and by allowing no penetrating cutaneous stitches through which micro-organisms may penetrate from the surface despite the most careful precautions. On the whole, this subject of the avoidance of hernia by a careful technique in the closure of the abdominal incision would seem to have reached a development that leaves very little to be desired, and it is evident that it is only in patients with especially relaxed tissues or with natural tendencies to hernia that the operator may feel exempt from responsibility in future cases of this annoying sequela.

MATRIMONY.

BY N. E. ARONSTAM, M.D., DETROIT, MICHIGAN.

It is not my aim to consider and analyze the philosophical and social aspects of marriage, but I have attempted to gather the *cons* of unrestricted matrimony from a medical point of view, believing that the latter have an overwhelming importance over the former. War, pestilence and famine have time and time again decimated the ranks of communities, but nonsanitary matrimonial alliances have resulted in much greater disaster.

Why is the present generation so weak, constantly afflicted and affected with a legion of ailments of which physicians were ignorant in the past centuries? Why has many a name been added to the index of nervous diseases, of which the physician did not know anything fifty or one hundred years ago? Some, no doubt, will venture to solve this important question by saying that modern investigation in the anatomy and physiology of the nervous system, and a better knowledge of pathology in general, have opened a new array of facts, which were obscured by a veil of ignorance in the past. Is that a true scientific answer, based upon a thorough understanding? for words, though euphonious and resonantic, are still only words. Are we not aware that aside from the many discoveries made by our modern improvements in the above enumerated branches, new diseases have actually arisen in the course of time, afflictions which we can only attribute to the modes and methods of our present life; or to speak in a more constricted sense, the results of injudicious matrimonial alliances?

Let us trace cases of tuberculosis, both in children and adults, and see how many are acquired and how many are congenital? The percentage of congenital cases is not as low as has been supposed heretofore. Although denied by many, we cannot absolutely ignore the supposition of congenital tuberculosis. Then again, are we absolutely sure that all these nervous disorders to which the present generation is so prone; all these hysterias, neurasthenias, conditions of nervousness, nervous prostrations, etcetera, are not due to an indulgence in Bacchо from the parental side? Again, are we certain that the legion of cutaneous diseases in both sexes and at different periods of life is not actually the result of a luetic tendency transmitted by the parents? In short, I venture to say that if we should look into the matter very closely we would be able to find that the majority of diseases are simply the result of an unhealthy propagation of species, in which the tendency toward the various morbid conditions has been transmitted.

The state protects the property of her citizens, retards nonmoral invasions, prevents the ingression of the latter in the community, spends millions of money for educational purposes, maintains health boards for the sanitary and hygienic welfare of the people, but does not protect the

innocent offspring from wrongs committed by the parental side. The term "wrongs" is rather too mild; "crime" would be the appropriate word. No occasion would be offered to the state to protect the property of her citizens; but few tendencies would exist in the community; the state would not be required to spend so much energy and money if she would take under her wings, in her absolute power, the great aim of ages and human kind, namely, to produce a healthy race, a stainless generation. And she can accomplish this if she desires. Let her take the entire question of matrimony, in its total aspect, under her control. Let the state look upon marriage just the same as upon the militia, in which it is required that the individual who enters the army shall be capable of performing the duties and burdens necessary for a member of such body. Two individuals, the one male, the other female, enter the military school of life with prospects of a battle, however slight and insignificant it may be; and considering the propagation of the race, which is the highest and ultimate aim of this alliance, it would seem that these individuals ought to be fully capable of enduring the struggles and sufferings of that battle, which we call life; and not only that, but they should be in such a state of health as will enable them to propagate a healthy and stainless race.

What, then, is the remedy? How would you prevent youth from overflowing? How would you forbid voluntary matrimonial relations to take place? How would you ameliorate the present evil, with due respect to the passions of youth? I will partly answer with OSLER, who admirably treats a part of this subject in his article on "Syphilis" in his excellent "Text-book on the Practice of Medicine." "Two measures are available," he says, "the one personal, the other administrative. Personal purity is the prophylaxis which we as physicians are especially bound to advocate. Continence may be a hard condition (to some harder than to others), but it can be borne, and it is our duty to urge this lesson upon young and old, who seek our advice in matters sexual. Certainly it is better, as SAINT PAUL says, to marry than to burn, but if the former is not feasible, there are other altars than those of Venus upon which a young man may light fires. He may practice at least two of the five means by which, as the physician ROUDIBILUS counselled PANURGE, carnal conspiscence may be cooled and quelled—hard work of body and hard work of mind. Idleness is the mother of leechery; and a young man will find that absorption in any pursuit will do much to cool passion, which, though natural and proper, cannot in the exigencies of our civilization always obtain natural and proper gratification. The second measure is rigid and systematic regulation of prostitution. The state accepts the responsibility of guarding citizens against small-pox and cholera, but in dealing with syphilis the problem has been too complex, and has hitherto baffled solution. On the one hand inspection, segregation and regulation are difficult, if not impossible to carry out; on the other hand public sentiment, in Anglo-Saxon communities at least, is as yet bitterly opposed to this plan, while this feeling, though unreasonable, as I think, is entitled to consideration, and choice lies between two evils—licensing, even imperfectly carried out, or widespread disease and misery. If the offender bore the

cross alone, I would say forbear; but the physician behind the scenes knows that in countless instances, syphilis has wrought havoc among innocent mothers and helpless infants, often entailing lifelong suffering. It is for them he advocates protective measures."

To recapitulate: Three measures are available, of which two were mentioned—personal purity and regulation of prostitution; the third, the most important of all, as I think, is the full and absolute power of the state in affairs matrimonial. Let each and every individual, who wishes to enter the "Temple of Hymen," be it male or female, undergo a rigid physical examination. Permanent questions should be established with regard to a possible existence of a family history of lues and tuberculosis. The nervous system should be thoroughly tested. The mental conditions of the individual should be subjected to a trial. A scrupulous examination of the genital organs in particular should be instituted, as well as of the thoracic organs. If a person furnishes negative results, as regards the prescribed standard of the above requirements, he or she should be rejected from the matrimonial eligibles, either permanently or temporarily, according as the case shows itself amenable to treatment.—*The Physician and Surgeon.*

URTICARIA.

SYMPTOMS.—Stelwagon has seen only three cases of urticaria pigmentosa in an experience of twenty years. The beginning lesions were, for the most part, at least, wholly urticarial in their earliest stages; many behaved as such and disappeared, in others there seemed to be some mild hæmorrhagic deposit with a tendency to more or less permanent cell-infiltration. The eruption was most abundant on the neck and trunk. The disease began in very early life. The disease is, in the beginning, essentially an urticaria, and the subsequent peculiarities are due to some secondary changes in the lesions.

W. Freudenthal notes a case of that rare disease, urticaria of the larynx. The man, who was fifty-nine years old, suffered from attacks of urticaria of the skin. The lingual tonsil was somewhat enlarged, and there was a diffuse redness of the laryngeal epiglottis, with a slightly œdematous elevation on its right side. Later herpetiform prominences were occasionally noticed. This condition of the larynx was attended with an itching sensation and lasted only during the attacks of cutaneous urticaria.

J. M. Taylor has seen pharyngeal urticaria in a young lady, in whom sudden severe dyspnœa occurred while attempting to sing. In about ten minutes the eruption of urticarial wheals were noticed on the skin. A spray of anti-pyrine and cocaine to the throat gave immediate relief.

ETIOLOGY.—Créquy thinks that the mind is influential in producing urticaria. He has seen one patient who has urticaria every time he sees strawberries, and a friend of his gets an attack of urticaria every time he hears the word.

TREATMENT.—Bulkley gives the following prescription for urticaria:—

℞ Chloralis,
Camphoræ, of each, 1 drachm.
Pulv. amyli, 1 to 2 ounces.

M. Sig.: Keep tightly corked in a wide-mouthed bottle. Rub in with the hand.

Gaucher prescribes the following as an application in urticaria:—

℞ Alcohol,
Chloroform,
Sulphuric ether, of each, 3 parts.
Menthol, 1 part.

M. Sig.: To be applied in the form of a spray.

B. Wolff relieves the most acute symptoms of urticaria within a few hours, and effects a cure within twenty-four hours by giving sodium phosphate in doses of four to five grammes every three hours, in concentrated solution.

The following solution may be used topically:—

℞ Prepared calamin, 45 grains.
Zinc oxide, 45 grains.
Carbolic acid, 15 grains.
Lime water, 1 ounce.
Rose water, 2 ounces.

BOOK REVIEW.

The Treatment of Pelvic Inflammation through the Vagina.

By Wm. R. Pryor, M.D., Professor of Gynecology, New York Polyclinic, etc., etc., with 110 illustrations. Philadelphia: W. B. Saunders; Toronto: Carveth & Co., pp. 240. $2.00. 1899.

This book is an elaboration of Dr. Pryor's lectures and demonstrations in the New York Polyclinic. It may claim the distinction of being very definite as to the best methods of treatment, which from a man of Dr. Pryor's experience, should by very valuable. For in the multitude of counsel of the present day the ordinary practitioner is very likely to get befogged.

An Epitome of the History of Medicine.

By Roswell Park, A.M., M.D. Second edition. Illustrated with portraits and other engravings. Philadelphia: The F. A. Davis Company, 1899.

That a second edition of a work of this character should be called for within a year after the appearance of the first indicates the genuine interest that the profession generally are manifesting in the important subjects of which it briefly treats. The work is one of distinct value and should be found on the shelves of every physician who desires to know something of the history of medicine, which is really a history of human error and of human discovery.

American Pocket Dictionary.

Edited by W. A. Newman Dorland, M.D. Second edition revised. Philadelphia: W. B. Saunders; Toronto: Carveth & Co. $1.25.

A handy little book, nicely gotten up and well worth the money for every reference. It contains the pronunciation and pefinition of over 26,000 terms used in medicine and allied sciences, and numerous valuable tables, as of nerves, arteries, etc.

The Anatomy of the Central Nervous System of Man and of Vertebrates in General.

By Prof. Ludwig Edinger, M.D. Translated from the 5th German edition. Illustrated with 258 engravings. Philadelphia: The F. A. Davis Company.

The hearty reception accorded by the medical students and practitioners of America to Prof. Riggs' translations of the earlier German editions makes it unnecessary to introduce the work to Prof. Edinger's circle of American readers. The additions which have been made to the original since the last English translation increases the range of its usefulness. Originally addressed to the needs of the medical profession, it now contains matter which is practically indispensable to the general student of neurology or of physiological psychology in the biological departments of our universities.

The fullness of the index adds much to the value of the book, both in its use as a text book and as a book for reference.

Hygiene of Transmissible Diseases: Their Causation, Modes of Dissemination and Methods of Prevention.

By A. C. Abbott, M.D., Professor of Hygiene and Bacteriology, and Director of the Laboratory of Hygiene, University of Pennsylvania. Philadelphia: W. B. Saunders, 1899; Toronto: J. A. Carveth & Co.; pp. 311. Cloth, $2.00.

The work by Professor Abbott is timely. It supplies "the long felt want" of a work which gives detailed information regarding the management of transmissible diseases; their causation from a scientific point of view; modes of dissemination, etc.

The bubonic plague is just now much in evidence. In the work some seven pages are given to a full consideration of the cause, definition, distribution, race, season, history, mode of infection, prophylaxis, etc., of the disease, which alone to the physician who wishes to be abreast with current events, are worth the price of the whole book.

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(*Continued on page* xvii.)

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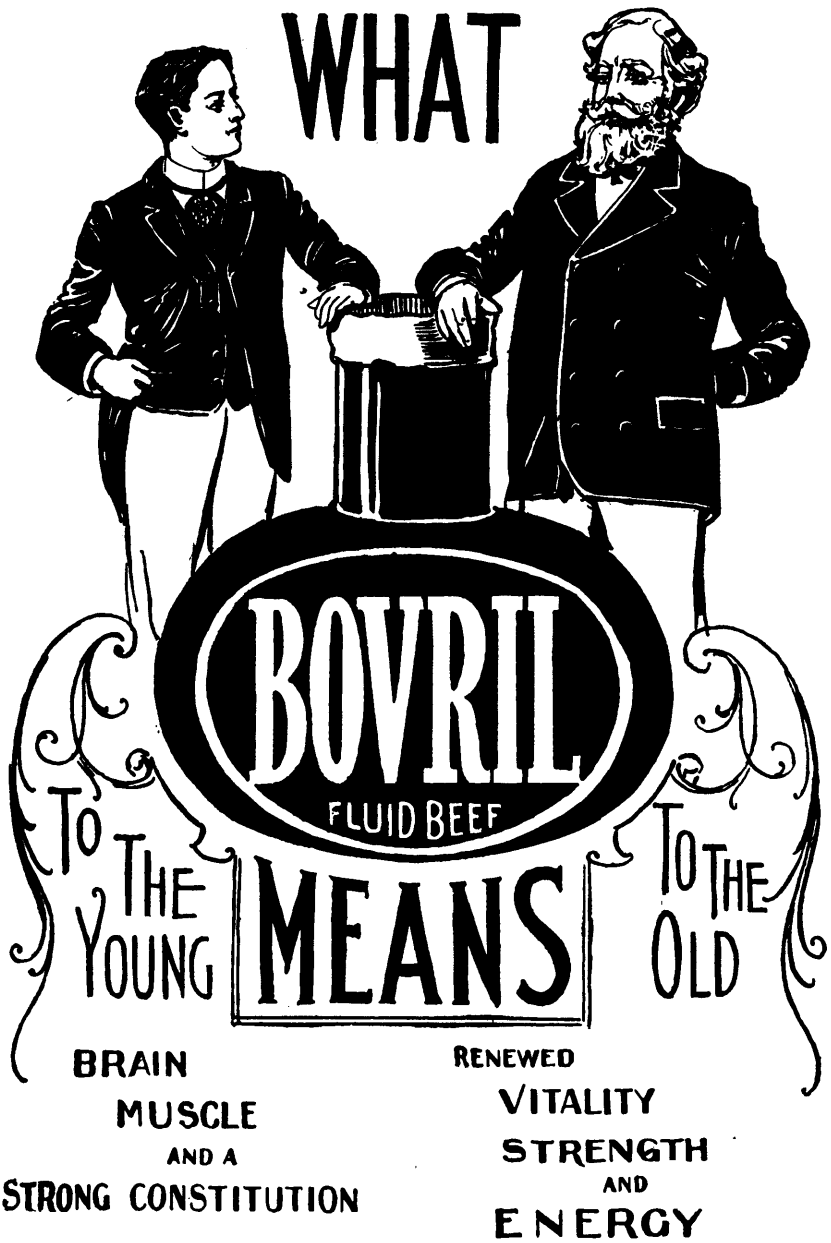
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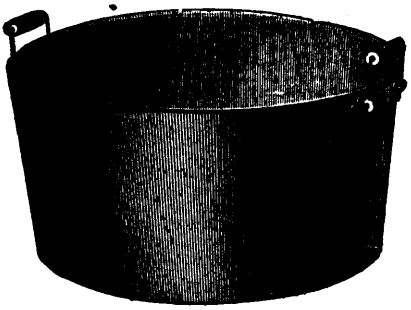

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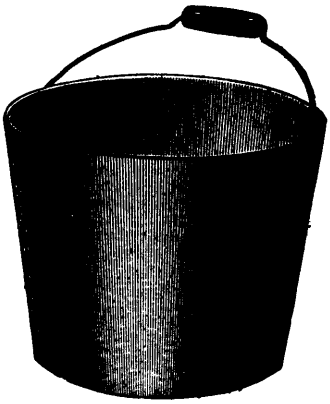

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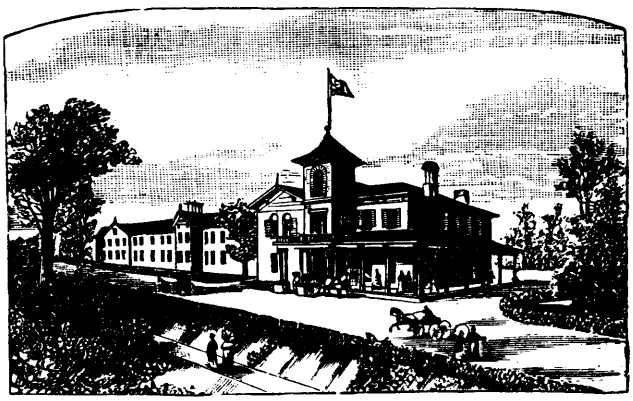

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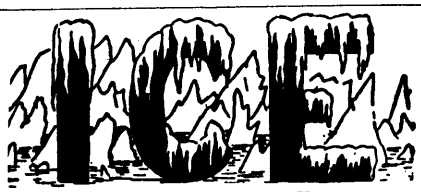

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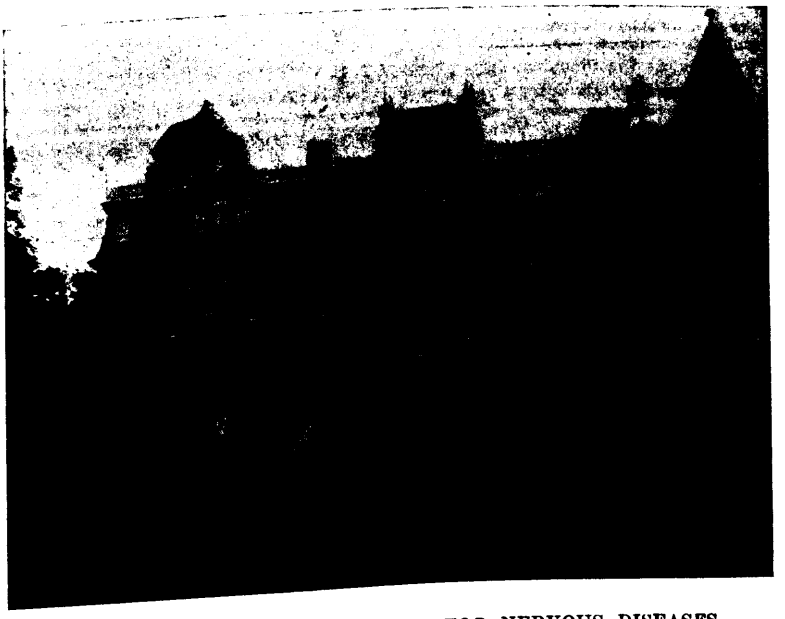

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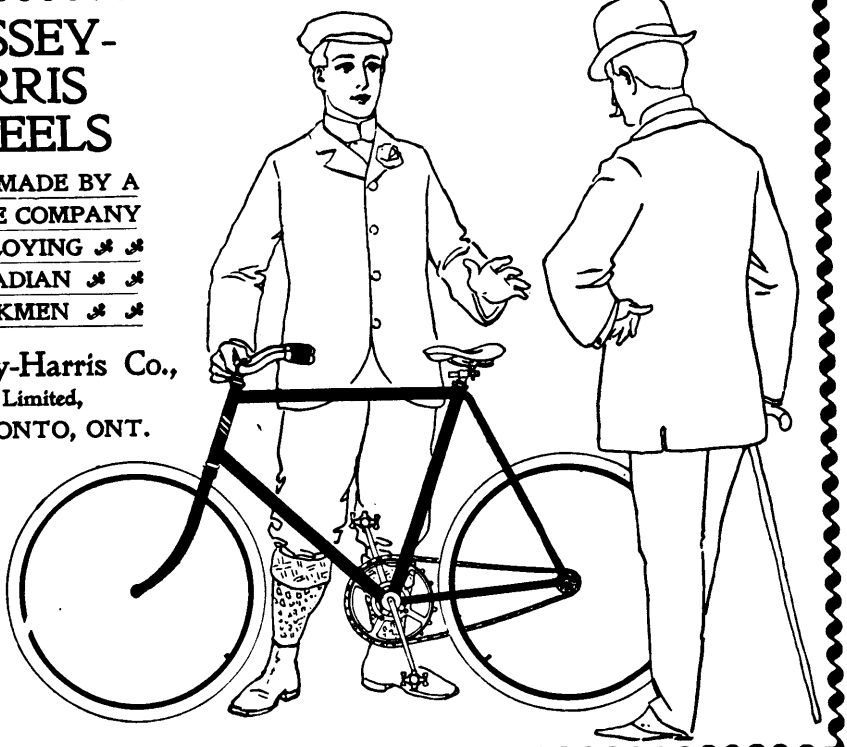

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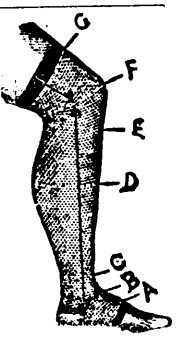

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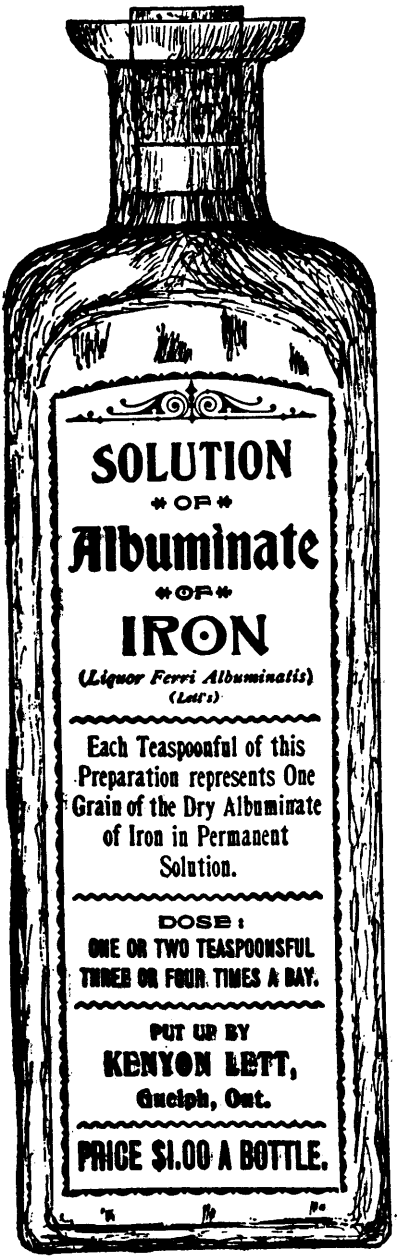

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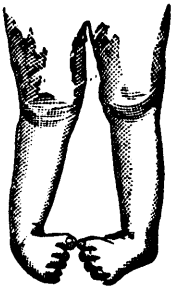

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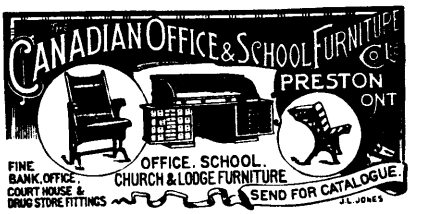

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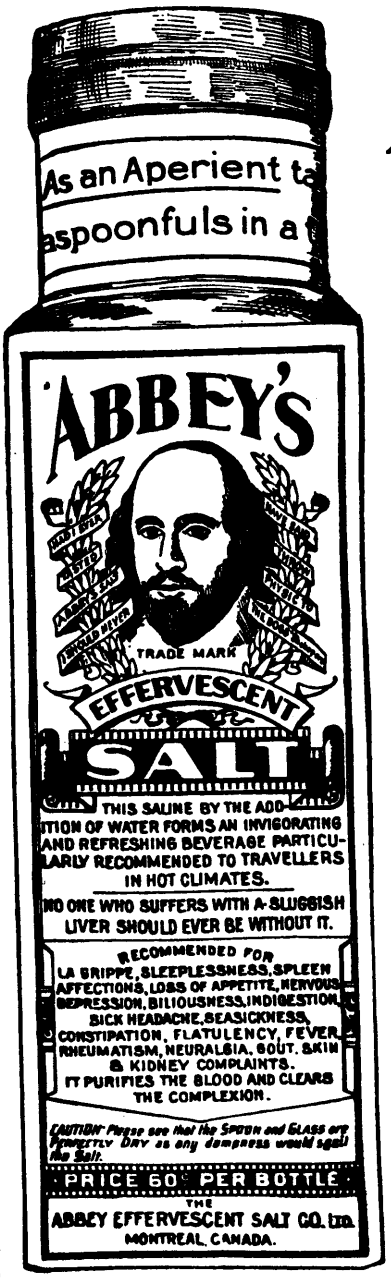

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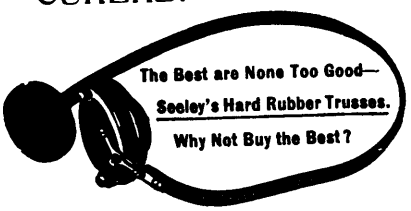

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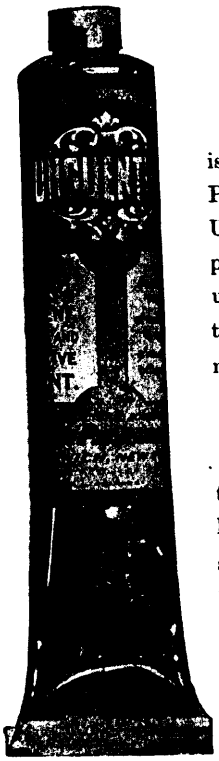

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