

Technical and Bibliographic Notes / Notes techniques et bibliographiques

Canadiana.org has attempted to obtain the best copy available for scanning. Features of this copy which may be bibliographically unique, which may alter any of the images in the reproduction, or which may significantly change the usual method of scanning are checked below.

Canadiana.org a numérisé le meilleur exemplaire qu'il lui a été possible de se procurer. Les détails de cet exemplaire qui sont peut-être uniques du point de vue bibliographique, qui peuvent modifier une image reproduite, ou qui peuvent exiger une modification dans la méthode normale de numérisation sont indiqués ci-dessous.

- Coloured covers /
Couverture de couleur
- Covers damaged /
Couverture endommagée
- Covers restored and/or laminated /
Couverture restaurée et/ou pelliculée
- Cover title missing /
Le titre de couverture manque
- Coloured maps /
Cartes géographiques en couleur
- Coloured ink (i.e. other than blue or black) /
Encre de couleur (i.e. autre que bleue ou noire)
- Coloured plates and/or illustrations /
Planches et/ou illustrations en couleur
- Bound with other material /
Relié avec d'autres documents
- Only edition available /
Seule édition disponible
- Tight binding may cause shadows or distortion
along interior margin / La reliure serrée peut
causer de l'ombre ou de la distorsion le long de la
marge intérieure.
- Additional comments /
Commentaires supplémentaires:

Continuous pagination.

- Coloured pages / Pages de couleur
- Pages damaged / Pages endommagées
- Pages restored and/or laminated /
Pages restaurées et/ou pelliculées
- Pages discoloured, stained or foxed/
Pages décolorées, tachetées ou piquées
- Pages detached / Pages détachées
- Showthrough / Transparence
- Quality of print varies /
Qualité inégale de l'impression
- Includes supplementary materials /
Comprend du matériel supplémentaire
- Blank leaves added during restorations may
appear within the text. Whenever possible, these
have been omitted from scanning / Il se peut que
certaines pages blanches ajoutées lors d'une
restauration apparaissent dans le texte, mais,
lorsque cela était possible, ces pages n'ont pas
été numérisées.

THE
CANADA LANCET

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

THE OLDEST MEDICAL JOURNAL IN THE DOMINION.

Vol. XXIX. }
No. 7. }

TORONTO, MARCH, 1897.

{ Price, 30 Cents.
{ \$3 per Annum.

Lactopeptine is used in all Hospitals, and has the endorsement of the Medical Profession throughout the world.

Preparations of Lactopeptine



LACTOPEPTINE POWDER

Containing the five active agents of digestion: PEPSIN, PAN-CREATIN, PTYALIN, LACTIC and HYDROCHLORIC ACIDS, in the proportions in which they exist in the healthful human stomach.

LACTOPEPTINE ELIXIR

Represents above preparation in liquid form, combining a tonic with the digestive action. An elegant and palatable preparation.

LACTOPEPTINE ELIXIR

WITH PHOSPHATES IRON, QUINIA AND STRYCHNIA

A powerful General and Nerve Tonic, in combination with ELIXIR LACTOPEPTINE as described above.

LACTOPEPTINE TABLETS

Each Tablet contains 5 grains of LACTOPEPTINE POWDER. Elegant, accurate in dosage, and exceedingly palatable.

OOOO

For Sale
by all Druggists.

THE NEW YORK PHARMACAL ASSOCIATION,
88 Wellington Street West,
TORONTO.

THE CANADA LANCET.

INDEX TO CONTENTS.

	PAGE.		PAGE.
ORIGINAL COMMUNICATIONS—		NERVOUS DISEASES AND ELECTRO-THERAPEUTICS—	
The Bacteriological Diagnosis of Diphtheria.....	323	Disturbances of Sensation in Visceral Disease.....	358
On Treatment of Dysmenorrhœa.....	329	NOSE AND THROAT—	
SURGERY—		Eucaine as a Local Anæsthetic in the Surgery of the Throat, Nose and Ear.....	361
Difficulties Encountered in Reduction of Dis- location of the Hip.....	335	PÆDIATRICS	
Sprained Ankles.....	340	The Operative Treatment of Diseases of the Hip-Joint of Children.....	366
MEDICINE—		EDITORIAL—	
Carcinoma of the Pancreas.....	343	British Medical Association.....	369
The Glycogenic Function of the Liver and its Relation to Diabetes.....	347	The London Medical Association.....	370
PATHOLOGY AND BACTERIOLOGY—		Trinity Medical Alumni Association.....	371
Auto-Intoxication.....	351	Sanoform.....	371
OBSTETRICS AND GYNAECOLOGY—		Laryngeal or Winter Coughs.....	372
Symptoms, Diagnosis and Time for Operation in Ruptured Tubal Pregnancy.....	355	Artificial Production of Amyloid Disease and of Cirrhosis of the Liver.....	372

“the active principle.”

Drugs are valuable because of their physical or chemical influences upon the tissues of the body.

Foods are valuable because they become part and parcel of every tissue.

It is natural to look for an active principle in the former.

It is useless to look for an active principle in the latter.

Five grains of the active principle of a loaf of bread could never supply the material for building up tissue equal to that furnished by an entire loaf.

Cod-liver Oil is largely a fat-producing food, possessing special and peculiar advantages distinct from all other foods.

Scott's Emulsion

of Cod-liver Oil, with the hypophosphites of lime and soda, contains

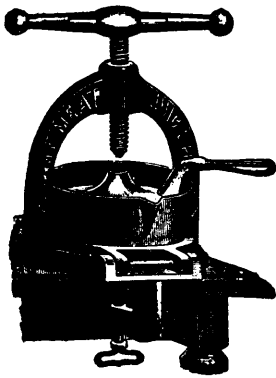
THE WHOLE OIL.

1. The fat of cod-liver oil is valuable. 2. The alkaloids of cod-liver oil are valuable. The first is not cod-liver oil; neither is the second—each is a part only of the whole.

1. Preparations of the alkaloids may be made. 2. Other oils or fats may be substituted. But neither can take the place of the whole cod-liver oil. The fat of this oil differs from all other fats. The reputation of cod-liver oil as a curative agent, established for centuries, rests upon the administration of the whole oil.

50 Cents and \$1.00.

SCOTT & BOWNE, Manufacturing Chemists, New York



MEAT JUICE PRESSES



These Presses are designed to extract the juice from freshly **Broiled Steak**. The yield should be about six ounces from one pound of round steak, costing from six to twelve cents. It has been found that **Beef Tea**, however made, contains no nourishment. The albumen coagulates at so low a temperature, nearly 100° below the boiling point, that it is unsafe to warm the expressed juice above the temperature of the body. Tepid water may be added, but avoid **Hot Water**.

MEAT JUICE is recommended for the aged and infirm, for delicate infants, for summer complaints, in extreme prostration from disease, for typhoid, pneumonia and consumptive patients, persons recovering from excessive use of intoxicants, women in a delicate condition suffering from Nausea, and in all cases where a perfect nourishment is required in a concentrated form.

FOR SALE BY

RICE LEWIS & SON (Ltd.),

Cor. King and Victoria Streets, TORONTO.

Listerine.

THE STANDARD
ANTISEPTIC.

LISTERINE is to make and maintain surgical cleanliness in the antiseptic and prophylactic treatment and care of all parts of the human body.

LISTERINE is of accurately determined and uniform antiseptic power, and of positive originality.

LISTERINE is kept in stock by all worthy pharmacists everywhere.

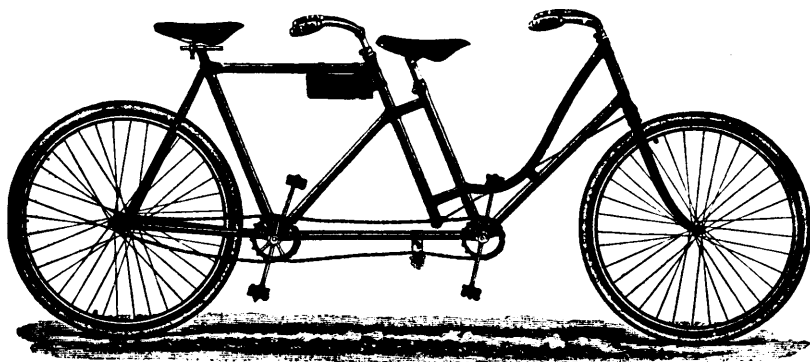
LISTERINE is taken as the standard of antiseptic preparations; The imitators say it is something like "LISTERINE."

**LAMBERT'S
LITHIATED
HYDRANGEA.**

A valuable Renal Alterative and Anti-Lithic Agent of marked service in the treatment of Cystitis, Gout, Rheumatism, and diseases of the Uric Diathesis generally.

Descriptive Literature on Application.

Lambert Pharmacal Company, ST. LOUIS.



The **Dayton** *Finish and Quality the Best.*
Singles and Tandems in all Sizes.

 **J. & J. Taylor,**

145 Front St. East.
8 King St. West.

Sole Canadian Importers,

Toronto, Ont.

Dr. J. Algernon Temple.

Dr. Albert A. Macdonald.

BELLEVUE HOUSE

✻ ——— 78 Bellevue Ave., TORONTO.



Private Hospital
For the Treatment of



= Medical and =
Surgical

DISEASES OF WOMEN.

.....
Massage and Electricity Used in All
Suitable Cases

.....
Rooms from \$7 to \$15 a Week.

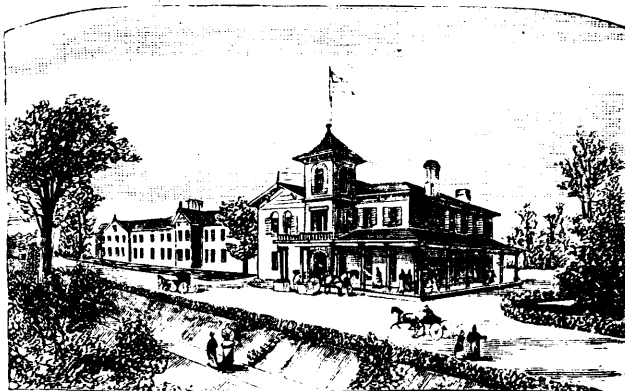
FOR FURTHER PARTICULARS ADDRESS

J. Algernon Temple, M.D., OR **Albert A. Macdonald, M.D.,**

205 Simcoe Street, TORONTO.

180 Simcoe Street, TORONTO

HOMWOOD RETREAT, GUELPH, ONT.



A Private Asylum for the Care and Treatment of the Insane, Inebriates, and the Opium Habit.

DIRECTORS.

- J. W. LANGMUIR, Esq., Ex-Inspector of Asylums, etc., for Ontario, *President*.
 E. A. MEREDITH, Esq., LL.D. Ex-Chairman of the Board of Inspectors of Asylums for
 Canada, *Vice-President*.
 ROBERT JAFFRAY, Esq., Vice-President of the Land Security Company, Toronto.
 JAMES A. HEDLEY, Esq., Editor *Monetary Times*, Toronto.

MEDICAL SUPERINTENDENT.

DR. STEPHEN LETT, who has had 25 years experience in this special line of practice.

For terms and other
 information, address

DR. STEPHEN LETT,
 Homewood Retreat, GUELPH, ONT.

DR. H. B. ANDERSON

begs leave to announce to the Profession that he is prepared to make Chemical, Bacteriological or Microscopic Examination as required, of Tumors or other Morbid Tissues, Sputum, Urine, Blood, Stomach Contents, etc., also to make Autopsies.

For information address,

PATHOLOGICAL LABORATORY,
 Trinity Medical College,
TORONTO.

~~TRADE MARK REGISTERED.~~ DYSPEPSIA FLOUR.

Also Special Diabetic Food, Barley Crystals,
 and Patent Biscuits, etc., and Pastry Flour.
 Unrivalled in America or Europe.
 Pamphlets and Baking Samples Free.
 Write Farwell & Ahlner, Woburntown, N. Y., U.S.A.

LIQUOR HAEMOFERRUM

(Liquid Haemoferrum)

Is the most recent form of administering Haemoferrum (oxyhaemoglobin). The iron of the blood is the best form of iron to administer to the blood, and such a form of iron is Haemoferrum, the pilloids of which have met with remarkable success in the hands of physicians. To meet a general demand for Haemoferrum in liquid form, which might be acceptable to delicate women and children who object to the pilular form, we recently devised Liquor Haemoferrum, a delicious cordial, each teaspoonful of which contains six grains of Haemoferrum. The addition of the small quantity of pure spirits it contains seems to be of value in this preparation, inasmuch as its slight stimulating properties work advantageously with the administration of iron.

Literature and samples will be sent to physicians on request.

Frederick Stearns & Co.

Manufacturing Pharmacists, - WINDSOR, ONT

A Vitalizing Tonic to the Reproductive System.

SANMETTO

—FOR—

GENITO-URINARY DISEASES.

A Scientific Blending of True Santal and Saw Palmetto
in a Pleasant Aromatic Vehicle.

SPECIALLY VALUABLE IN

Prostratic Troubles of Old Men—Pre-Senility,
Difficult Micturition—Urethral Inflammation,
Ovarian Pains—Irritable Bladder.

POSITIVE MERIT AS A REBUILDER.

DOSE :—One teaspoonful four times a day.

OD CHEM. CO., New York.

1866 to 1896.

A Record Unsurpassed in Medical Annals.

“H. V. C.”

(Hayden's Viburnum Compound.)

A Special Medicine which has increased in demand for THIRTY YEARS, and has given more universal satisfaction in that time to physician and patient than any other remedy in the United States, especially in

Ailments of Women and in Obstetric Practice

For proof of the above statements we refer to any of the most eminent physicians in this country, who will endorse our record.

NON TOXIC, Perfectly safe, prompt and reliable. Send for new handbook, free to physicians.

All druggists, everywhere, Caution—AVOID THE SUBSTITUTOR.

NEW YORK PHARMACEUTICAL CO.

LEDFORD SPRINGS, MASS.

WM. R. WARNER & CO'S. Soluble Sugar and Gelatin-Coated Pills.

NOTED FOR ACCURACY, PURITY, AND BEAUTY OF FINISH.

WARNER & CO'S.

Pil. Cascara Cathartic.

(DR. HINKLE.)

EACH CONTAINING

Cascarin.....	aa ½ gr.	Ex. Belladonna.....	½ gr.
Aloin.....	aa ½ gr.	Strychnine.....	1-60 gr.
Podophyllin.....	gr.	Gingerine.....	½ gr.

Dose, 1 to 2 Pills.

This pill affords a brisk and easy cathartic, efficient in action and usually not attended with unpleasant pains in the bowels.

It acts mildly upon the liver (Podophyllin), increases Peristalsis (Belladonna), while the carminative effect of the Gingerine aids in producing the desired result, thus securing the most efficient and pleasant cathartic in use.

Pil. Cascara Alterative.

Warner & Co.

(DR. LEUTAUD.)

R—Cascarin.....	½ gr.	Stillingia.....	½ gr.
Euonymin.....	½ gr.	Piperine.....	1-100 gr.

Dose, 1 pill night and morning. Per 100, 60c.

The alternative action of this pill is very effective. It affords a gentle aperient, which is very essential. The quality of the ingredients used leads to the happy results anticipated.

Mineral drugs not necessarily a part of the human economy are omitted. The action of the pill is mild and gentle, and also has tonic properties. The usual dose as an aperient and alterative is one pill night and morning, perhaps commencing with two for a dose.

Pil. Arthrosia

Wm. R. Warner & Co.

For cure of Rheumatism and Rheumatic Gout.

FORMULA.—Acidum, Salicylicum; Resina Podophyllum; Quinia; Ext. Colchicum; Ext. Phytolacca; Capsicum.

Almost a specific in Rheumatic and Gouty affections. Price, 60 cents per 100.

Pil. Sumbul Comp.

Wm. R. Warner & Co.

(DR. GOODELL.)

R—Ext. Sumbul.....	1 gr.	Ferri Sulph. Exs.....	1 gr.
Aasafetida.....	2 grs.	Ac. Arsenious.....	1-40 gr.

"I use this pill for nervous and hysterical women who need building up." This pill is used with advantage in neurasthenic conditions in conjunction with Warner & Co's. Bromo Soda, one or two pills taken three times a day.

Price, \$1.00 per 100.

PREPARATIONS SUPPLIED BY ALL LEADING DRUGGISTS.

The following well-known houses in the Dominion will supply Warner & Co's. Standard Preparations:—

Kerry, Watson & Co., Lyman, Sons & Co., Evans, Mason & Co, Kenneth Campbell & Co., R. J. Devins, Montreal; J. Winer & Co., Hamilton; Lyman Bros. & Co., Elliot & Co., Toronto; London Drug Company, London; R. W. McCarthy, St. John; Brown & Webb, Halifax.

Pil. Peristaltic.

(Trade Mark).

EACH CONTAINING

Aloin.....	½ gr.	Ext. Belladonna.....	½ gr.
Strychnine.....	1-60 gr.	Ipecac.....	1-16 gr.

Price, 40 cents per 100. Dose, 1 to 2 pills.

"PIL. PERISTALTIC."

This new pill, lately added to the list of Wm. R. Warner & Co., is small, gelatine-coated, easy to take, perfectly soluble and absolutely reliable in its action. The utmost care is exercised in examining each of the ingredients before making the mass, thus when the physician prescribes Pil. Peristaltic he may rely on it to give the desired result. It is invaluable in habitual constipation, biliary and gastric troubles, administered in doses of one to two pills at bedtime.

Pil. Chalybeate.

Wm. R. Warner & Co.

Proto Carb. of Iron, 8 grs. Dose, 1 to 3 pills.

(Wm R. Warner & Co's. Ferruginous Pills.)

Ferri Sulph. Fe SO4	}	Ferri Carb. Fe CO3
Potass Carb. K2 CO3		Potass. Sulph. K2 SO4

Price, 40 cents per 100.

Pil. Chalybeate Comp.

Wm. R. Warner & Co.

Same as Pil. Chalybeate, with ½ gr. Ext. Nux Vomica added to each pill to increase the tonic effect.

Dose, 1 to 3 pills. Price, 55 cents per 100.

Pil. Antiseptic Comp.

Wm. R. Warner & Co.

EACH PILL CONTAINS

Sulphite Soda.....	1 gr.	Powd. Capsicum.....	1-10 gr
Salicylic Acid.....	1 gr.	Concentr'd Pepsin.....	1 gr.
Ext. Nux Vom.....	½ gr.		

Pil. Antiseptic Comp. is prescribed with great advantage in cases of Dyspepsia, Indigestion and Malassimilation of food.

Dose, 1 to 3 pills. Price, 55 cents per 100.

Pil. Aloin, Belladonna and Strychnine.

Wm. R. Warner & Co.

R—Aloin.....	1-5 gr.	Ext. Belladonna.....	½ gr.
Strychnine.....	1-60 gr.		

Medical Properties—Tonic Laxative.
Try this pill in Habitual Constipation.

Dose, 1 to 2 Pills. Price 35 cents per 100.

LITHIA TABLETS [WARNER & CO.]

FOR THE ACCURATE ADMINISTRATION OF LITHIA.
EFFICACIOUS. ACCURATE. INEXPENSIVE. CONVENIENT.

Dose—One or two tablets in glass of water after effervescing.

PARVULES

25 Cents per Bottle of 100 Parvules.

PARVULES

(WARNER & CO.)

LA IVE
PURGATIVE

ALOIN, 1-10 Gr.

The most useful application of this Parvule is in periodic irregularities—Dysmenorrhœa and Amenorrhœa. They should be given in doses of one or two every evening, and at about the expected time.

Dose.—4 to 6 at once. This number of Parvules, taken at any time, will be bound to exert an easy, prompt and ample cathartic effect, unattended with nausea, and, in all respects furnishing the most satisfactory aperient and cathartic preparation in use. For habitual constipation they replace, when taken in single Parvules, the various medicated waters, avoiding the quantity required by the latter as a dose, which fills the stomach and deranges the digestive organs.

PARVULES

(WARNER & CO.)

ALTERNATIVE
PURGATIVE

CALONEL, 1-20 Gr.

Dose—1 to 2 every hour. Two Parvules of Calomel taken every hour until five or six doses are administered (which will comprise but half a grain), produce an activity of the liver, which will be followed by bilious dejections and beneficial effects that twenty grains of Blue Mass or ten grains of Calomel rarely cause; and sickness of the stomach does not usually follow.

PARVULES

(WARNER & CO.)

CATHARTIC
CHOLAGOGUE

PODOPHYLLIN, 1-40 gr.

Two Parvules of Podophyllin, administered three times a day, will re-establish and regulate the peristaltic action and relieve habitual constipation, add tone to the liver, and invigorate the digestive functions. Supplied by all druggists, or sent by mail on receipt of price.

FREE TO OUR DOCTOR FRIENDS: VISITING RECORDS, PRESCRIPTION BLANKS.

SUPERIOR TO PEPSIN OF THE HOG

INGLUVIN

(FROM THE VENTRICULUS CALLOSUS GALLINACEUS.)

FOR PHYSICIANS PRESCRIBING.

A Powder:—Prescribed in the same manner, doses and combinations as Pepsin.

A most potent and reliable remedy for the cure of

Marasmus, Cholera Infantum, Indigestion, Dyspepsia and Sick Stomach.

It is superior to the Pepsin preparations, since it acts with more certainty, and effects cures where they fail.

A SPECIFIC FOR VOMITING IN PREGNANCY

In doses of 10 to 20 grains.

PRESCRIBED BY THE MOST EMINENT PHYSICIANS IN EUROPE AND AMERICA.

INGLUVIN

For Physicians' Prescription Only

The classical and well tried Specific for Vomiting in Pregnancy. Superior to Pepsin—given in the same manner and combinations as Pepsin
Dose, 10 to 20 grains.

FROM THE VENTRICULUS CALLOSUS GALLINACEUS.

IN NERVOUS EXHAUSTION FEED THE NERVOUS SYSTEM.

WM. R. WARNER & CO.,

SOLUBLE,
SUGAR-COATED

PHOSPHORUS PILLS.

PHOSPHORUS—"It exists mainly in the nervous centres in the form of a peculiar compound with fatty matter which has been named 'protagon' just as iron is united with hæmatin in the blood. It actually forms more than one per cent. of the human brain."

Phosphorus is stimulating nerve tonic, and in suitable cases a true tissue food in every issue of the word.

Specify **WARNER & CO'S.** for full therapeutic effect.

Pil: Phosphori, 1-100 gr., 1-50 or, 1-25 gr. (Wm. R. Warner & Co.)

DOSE.—One pill, two or three times a day, at meals.

THERAPEUTICS.—When deemed expedient to prescribe phosphorus alone, these pills will constitute a convenient and safe method of administering it.

Pil: Phosphori Co. (Wm. R. Warner & Co.)

℞ Phosphori, 1-100 gr.; Ext. Nucis Vomicae, ½ gr.

DOSE.—One or two pills, to be taken three times a day, after meals.

THERAPEUTICS.—As a nerve tonic and stimulant this form of pill is well adapted for such nervous disorders as are associated with impaired nutrition and spinal debility, increasing the appetite and stimulating the digestion.

Pil: Phosphori cum Nuc. Vom. (Wm. R. Warner & Co.)

℞ Phosphori, 1-50 gr.; Ext. Nucis Vomicae, ½ gr.

DOSE.—One or two pills, three times a day, at meals.

THERAPEUTICS.—This pill is specially applicable in **Atonic Dyspepsia**, depression, and in exhaustion from overwork, or fatigue of the mind. **Phosphorus** and **Nux Vomica** are **Sexual Stimulants**, but their use requires circumspection as to the dose which should be given. As a general rule they should not be continued for more than two or three weeks at a time, one or two pills being taken three times a day.

Pil: Phosphori cum Ferri et Nuc. Vom. (Wm. R. Warner & Co.)

℞ Phosphori, 1-100 gr.; Ferri Carb. 1 gr.; Ext. Nucis Vomicae, ½ gr.

DOSE.—One or two pills may be taken two or three times a day, at meals.

THERAPEUTICS.—This pill is applicable to conditions referred to in the previous paragraphs, as well as to anæmic conditions generally, to sexual weakness, neuralgia in dissipated patients, etc.

Pil: Phosphori cum Ferra et Quinia. (Wm. R. Warner & Co.)

℞ Phosphori, 1-100 gr.; Ferri Carb. 1 gr.; Quiniæ Sulph., 1 gr.

DOSE.—One pill, to be taken three times a day, at meals.

THERAPEUTICS.—Phosphorus increases the tonic action of the iron and quinine, in addition to its specific action on the nervous system. In general debility, cerebral anæmia, and spinal irritation, this combination is especially indicated.

Pil: Phosphori cum Ferro et Quinia et Nuc. Vom. (Wm. R. Warner & Co.)

℞ Phosphori, 1-100 gr.; Ferri Carb., 1 gr.; Ext. Nuc. Vom., ½ gr.; Quin. Sulph., 1 gr.

DOSE.—One pill, to be taken three times a day, at meals.

THERAPEUTICS.—The therapeutic action of this combination of tonics, augmented by the specific effect of phosphorus on the nervous system, may readily be appreciated.

Pil: Phosphori cum Quinia et Digital. Co. (Wm. R. Warner & Co.)

℞ Phosph., 1-50 gr.; Quin. Sulph., ½ gr.; Pulv. Digitalis, ½ gr.; Pulv. Opii, ½ gr.; Pulv. Ipepeac, ½ gr.

DOSE.—One or two pills may be taken three or four times daily, at meals.

THERAPEUTICS.—This combination may be prescribed in cases of consumption, accompanied daily with periodical febrile symptoms, quinine and digitalis exerting a specific action in reducing animal heat. Patients should, however, be cautioned as to the use of digitalis, except under the advice of a physician.

Pil: Phosphori cum Digital. Co. (Wm. R. Warner & Co.)

℞ Phosphori, 1-50 gr.; Pulv. Digitalis, 1 gr.; Ext. Hyococyami, 1 gr.

DOSE.—One pill may be taken three or four times in twenty-four hours.

THERAPEUTICS.—The effect of digitalis as a cardiac tonic renders it particularly applicable, in combination with phosphorus, in cases of overwork attended with derangement of the heart's action. In excessive irritability of the nervous system, in palpitation of the heart, valvular disease, aneurism, etc. it may be employed beneficially, while the diuretic action of digitalis renders it applicable to various forms of dropsy. The same caution in regard to the use of digitalis may be repeated here.

PREPARED BY

WM. R. WARNER & CO

PHILADELPHIA,

NEW YORK,

LONDON, ENG.

Accurate Administration of Lithia

To make Fresh Sparkling Lithia Water of Definite Strength Dissolve one of

WM. R. WARNER & COMPANY'S

ORIGINAL EFFERVESCENT

LITHIA WATER TABLETS

IN A GLASS OF WATER

EFFICACIOUS, CONVENIENT AND INEXPENSIVE

AN EFFECTUAL REMEDY IN

Rheumatism, Lithemia, Gravel,
Bright's Disease, Gout, etc.

IT IS DIURETIC AND ANTACID

Each tablet contains three grains (made also five grains) Citrate of Lithia, so that a definite quantity of soluble Lithia is administered in a pleasant form, besides the advantage of havin fresh water with each dose, presenting a therapeutic value of higher standard than the various Lithia spring waters. This is a scientific preparation of the highest standard.

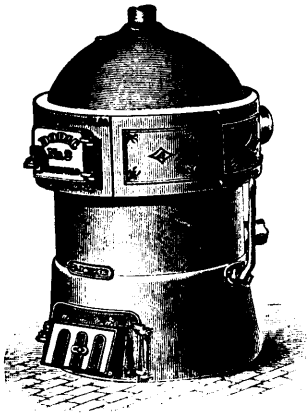
Supplied by all Druggists, or by Mail. Take no Substitutes.

RAPID SOLUBILITY IS THE DESIRABILITY

WILLIAM R. WARNER & CO'S HYPODERMIC TABLETS.

We claim (and a candid comparison will convince any one) for our soluble tablets, the following points of superiority, viz.: *First*.—They are quickly and entirely soluble. *Second*.—They are permanent in form and accurate in dose. *Third*.—They are safe, and rapid in action.

Soluble Hypod Tablets	Bottle 100 Tab.	Tube 20 Tab.	Soluble Hypodermic Tablets	Bottle 100 Tab.	Tube 20 Tab.
ACONTINE, Pure Cryst., 1-120 gr.	\$0.70	18	MORPH. 1-8 & ATROP., 1-200 gr., No. 1,	\$0.45	18
APOMORPHINE MURIATE, 1-20 gr.	60	16	" 1-4 " 1-180 gr., No. 2,	45	13
APOMORPHINE MURIATE, 1-8 gr.	1.10	26	" 1-4 " 1-150 gr., No. 3,	50	14
APOMORPHINE MURIATE, 1-12 gr.	85	19	" 1-4 " 1-100 gr., No. 4,	60	16
ATROPHINE SULPH., 1-150 and 1-200 gr.	30	10	" 1-8 " 1-150 gr., No. 5,	45	13
ATROPHINE SULPH., 1-120 gr.	35	11	" 1-8 " 1-100 gr., No. 6,	50	14
COCAINE HYDROCHLOR., 1-8 gr.	50	14	" 1-8 " 1-150 gr., No. 7,	50	14
CODEINE SULPHATE, 1-8 gr.	70	18	" 1-8 " 1-120 gr., No. 8,	53	15
CONIINE HYDROBROMATE, 1-100 gr.	30	10	" 1-4 " 1-150 gr., No. 9,	50	14
DIGITALINE, Pure, 1-100 gr.	30	10	" 1-4 " 1-120 gr., No. 10,	55	15
DUBOSINE SULPHATE, 1-100 gr.	50	14	" 1-4 " 1-80 gr., No. 11,	60	16
ERGOTIN, 1-6 gr.	60	18	" 1-2 " 1-120 gr., No. 12,	75	19
ESERINE SULPHATE, 1-60 gr.	80	20	" 1-2 " 1-150 gr., No. 13,	75	19
ESERINE SULPHATE, 1-10 gr.	45	13	" 1-2 " 1-120 gr., No. 14,	75	19
HYOSCINE HYDR. BROM., 1-100 gr.	75	19	" 1-2 " 1-100 gr., No. 15,	75	19
HYOSYAMINE SULPH., 1-100 gr.	40	12	" 1-2 " 1-240 gr., No. 16,	75	19
MERCURY CORROSIVE CHLORODIN, 1-60, 1-150, 1-40 gr.	30	10	NITROGLY., 1-50, 1-100, 1-150, 1-200 gr.	40	12
MORPHINE MURIATE, 1-8 gr.	35	11	SODIUM ARSENIATE, 1-30 gr.	30	10
MORPHINE MURIATE, 1-6 gr.	45	13	STRYCHNINE NITRATE, 1-150 gr.	50	14
MORPHINE NITRATE, 1-8 gr.	70	18	STRYCHNINE NITRATE, 1-60 gr.	40	12
MORPHINE NITRATE, 1-8 gr.	55	15	STRYCH. SUL., 1-120, 1-100, 1-60, 1-150 gr.	30	10
MORPHINE NITRATE, 1-12 gr.	50	14	STRYCH. & ATROP., No. 1, 1-50, 1-150 gr.	50	14
MORPHINE SULPHATE, 1-8 gr.	30	10	STRYCH. & ATROP., No. 2, 1-80, 1-120 gr.	50	14
MORPHINE SULPHATE, 1-6 gr.	35	11	STRYCH. & ATROP., No. 3, 1-60, 1-150 gr.	50	14
MORPHINE SULPHATE, 1-3 gr.	50	14			



Complete Boiler.)

Your Winter Comfort

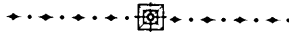
Is a certainty, if you use the

SEAMLESS **DORIC**

H^{OT} WATER BOILER

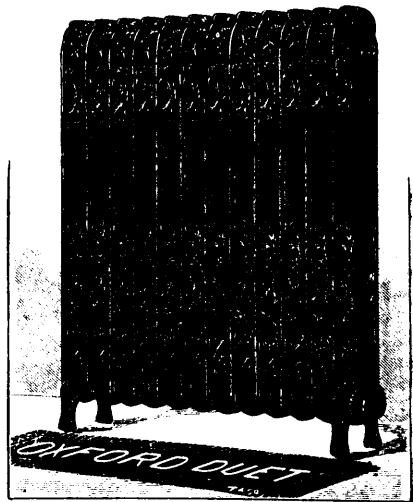
- AND -

OXFORD RADIATORS.



The **BOILERS** are low in price, economical in the use of fuel, and will burn longer without attention than any other heater.

The **RADIATORS** are mechanically correct and artistic in design, with the only perfect joints—iron to iron, no gaskets used. Endorsed by the leading engineers and made in sizes to suit any room of any building. See our Catalogue for full details.



The Gurney Foundry Co. Ltd. Toronto.

A FEW REASONS



why every Doctor should prescribe our

AROMATIC CASCARA

S. & M.

OUR SPECIALTIES:

Aromatic Cascara
Bitter Cascara
Vitalic Hypophosphites
Calisaya Cordial
Syr. Trifolium Co.
Apodyna

Bindschedler's
Phenacetin Phenazone
(Antipyrin)
and Salol.

1. It is quite palatable.
2. One minim represents one grain of prime three-year old Cascara bark.
3. Its small dose—10 to 30 min. We guarantee that it contains no foreign laxative or cathartic.
4. The price is reasonable and consistent, with purity and accuracy.
5. It is the economical Cascara on the market.

Write Us For Sample Sent by Mail.

Manufactured by

Scott & MacMillan

MANUFACTURING PHARMACISTS

14 and 16 Mincing Lane,

TORONTO, CAN.

Manufacturers
of....

.. Perfumes
.. Toilet Waters
.. Etc., Etc.

Agents
for...

Andrew Fergens
Toilet and
Medicated Soaps.

PHYSICIANS PRESCRIBE
GRANULATED EFFERVESCENT
ALKALITHIA

K. & M.

..FOR..

K. & M.

ASTHMA

RHEUMATISM, CYSTITIS,

. . . . LEUCORRHOEA, ETC.

WITH THE BEST RESULTS.

Specify "KEASBEY & MATTISON" When Prescribing



THE HOLGATE-FIELDING CO. Ltd. - TORONTO.

Sole Canadian Agents for Keasbey & Mattison's Preparations, will be pleased to forward to any physician literature regarding any of K. & M.'s Pharmaceuticals, also prices.

WYETH'S LIQUID MALT EXTRACT

- - - CONTAINS - - -

All the Nutritive Virtues ^{OF} _{THE} Best Malt Liquors

While it is **FREE** from the stimulating effects which invariably follow their administration.

The Consensus of opinion amongst Medical men is, that it is the best **MALT EXTRACT** on the Market.

DR. J. B. MCCONNELL,
Asso. Prof. of Medicine,
BISHOP'S COLLEGE,
Montreal,
Under date Oct. 6th, 1896,
says: "I have for a number
of years freely prescribed
**WYETH'S LIQUID MALT
EXTRACT**
and it always gives the
results expected and de-
sired."

500,000
BOTTLES
CONSUMED
IN
ONE YEAR.
THE
DEMAND
INCREASING
DAILY.

DR. A. R. GORDON, of
Toronto, in a letter, says: "I
write you regarding your
LIQUID MALT EXTRACT,
and congratulate you upon
its merits. I may say that
during the past year I have
ordered in the neighborhood
of 30 doz. of same, besides
my prescriptions. Have
been highly satisfied with
its effects."

IT IS HIGHLY RECOMMENDED

For Nursing Mothers during Lactation. Convalescing Patients.
Promotes Circulation in those who suffer from Chills.
Is a strength-giver to the weak.
Produces sleep to those suffering from Insomnia.
And is one of the Greatest Digestive Agents.

Prices to Physicians, \$3.50 per Doz. Bottles.

FOR SALE BY ALL DRUGGISTS OR

DAVIS & LAWRENCE Co. Ltd.,

Dominion Agents, Montreal.

The Canada Lancet.

VOL. XXIX.]

TORONTO, MARCH, 1897.

[No. 7.

EDITOR:

JOHN L. DAVISON, M.D.

ASSOCIATE EDITORS:

Surgery:

G. A. BINGHAM, M.D.
F. LE M. GRASSET, M.D.

Medicine:

N. A. POWELL, M.D.
W. BRITTON, M.D.

Obstetrics and Gynaecology:

J. ALGERNON TEMPLE, M.D.
C. A. TEMPLE, M.D.

Nervous Diseases and Electro-Therapeutics:

CAMPBELL MEYERS, M.D.

Pathology and Bacteriology:

H. B. ANDERSON, M.D.
H. W. PARSONS, M.D.

Nose and Throat:

J. MURRAY MCFARLANE, M.D.
D. J. GIBB WISHART, M.D.

Pædiatrics:

J. T. FOTHERINGHAM, M.D.
ALLAN BAINES, M.D.

Eye and Ear:

G. STERLING RYERSON, M.D.
C. TROW, M.D.

THE BACTERIOLOGICAL DIAGNOSIS OF DIPHTHERIA.

BY PROF. SHUTTLEWORTH, TORONTO.

A year ago I had the pleasure of presenting the results of six months' bacteriological work in connection with diphtheria, as carried on in the laboratory of the Toronto Board of Health. I now desire to briefly continue the record, so as to cover the intervening period from July 1st, 1895, to June 30th, 1896, and also to offer such deductions as seem justified by prolonged experience.

There were examined during this period the original exudates from 559 patients, of which 377 were from the Isolation Hospital and 182 from city physicians. The clinical records of the former cases are complete, but no systematic attempt was made to keep track of the latter, and the details submitted only refer to bacteriological particulars.

Collection of Exudates.—The plan first pursued in this laboratory of supplying swabs in corked tubes, and making the cultures in the laboratory, has proved in all respects entirely satisfactory. Published records of other institutions show that when both swabs and media are supplied, a considerable portion of the cultures are unsatisfactory, and have to be so reported. This arises partly from the fact that the culture media is dried up, or, from the removal of the wool, has become contaminated, and, partly, that physicians are not, perhaps, all as careful, or capable, as the laboratory worker, who is constantly engaged in such manipulations. There is abundant evidence to show that it is best for the bacteriologist to sow the seed as well as to look after the crop. Under such conditions, and with good swabs, there need not be any failures whatever.

Too much emphasis cannot be placed on the latter point. The physicians should endeavor to wipe off a small piece of membrane, or at least to use sufficient force to detach some of the outside layer, which is commonly richest in bacilli. The presence of epithelial cells, as shown by the microscope, is pleasing evidence that some force has probably been used, and that the exudate submitted is not mere superficial mucus.

Diagnosis by the Exudate.—I am more than ever convinced of the advisability of examining the exudate before making a culture. Reliable conclusions may often be arrived at in a few minutes. The gain of twenty-four hours in making a sure diagnosis is worth much to the physician; more to the patient; and often still more in the matter of isolation.

It was previously reported that a certain diagnosis had in this way been made in at least one-third of the cases, and a fairly correct idea in about three-quarters of the exudates examined up to July, 1895. Experience has increased the proportion in which the characteristic bacilli have been thus detected, as I find that positive evidence was given in 54 per cent. of the exudates sent in since that time, while 20 per cent. were marked suspicious, and 26 per cent. negative. Failure to find the bacilli does not prove their absence, and it is only when they possess definite and well-marked characters that the indications are of value. To a fairly experienced eye this appears to be the case in about half the exudates submitted.

Staining.—I am not aware of any stain which, for all-round purposes, is better than Loeffler's methylene blue. Having tried many others, including the dahlia and methyl green mixture of Roux, one returns with pleasure and satisfaction to the old and well-tried formula.

Fifty-six experiments were made with most of the eligible anilines, with various additions, but though many combinations answered well—as the bacillus is easily stained—none gave better septation and polarity than that of Loeffler, while for ease in working, uniformity of effect, and keeping qualities, the latter proved superior.

Relation between the Size of the Bacillus and its Virulence.—Observations as to the size of bacilli found in cultures have been continued during the year, and the results confirm the statement previously made—that this character affords little on which to base a prognosis. The records show that the disease was mild or severe in about an equal proportion of the cases in which the cultures showed large bacilli. Mild cases predominated when the bacilli were of medium size, and this was also the case when the micro-organisms were small. In the instances in which the bacilli were very irregular the severe cases were nearly double those which were classed as mild.

On looking up the details of the last 45 fatal cases, there were twenty instances in which the bacilli were large, six medium, ten small, and nine very irregular as to size. Large bacilli here apparently indicate the most serious consequences, but I doubt if this and similar data warrant such conclusion, more especially when taken with previous experience, by which an opposite result was reached by Park and Beebe, and also by me. It appears reasonable that long, well-developed bacilli would be

likely to grow most vigorously, produce the greatest mechanical obstruction, and the maximum quantity of toxin; but against this there must be taken into account the influence of culture media and conditions on the development of the bacilli. Parallel cultures of the material from the same swab, if grown under precisely similar conditions, but on serum media of different ages, dryness, or composition, will give organisms which are markedly different in size and type. This has been repeatedly observed, as also the effect of varying incubation temperatures.

The various factors which constitute the resistance of the patient exercise an all-powerful influence on the result of the attack. Taking this, with the circumstances just alluded to, I think it unwise to base a prognosis on such a variable character as size, though with the same medium and conditions the numerical chance seems to favor the idea that the largest bacilli are the most virulent.

The Pseudo Bacillus.—The position of the so-called pseudo bacillus has not been any more clearly defined than it was a year ago. It is still maintained by some that an organism exists which, in morphological characters and staining peculiarities, is undistinguishable from the true bacillus; but that, as tested on guinea-pigs or rabbits, it is devoid of virulence. Objection may be taken to this test, as pointed out by Lennox Brown in his recently published work on diphtheria. It is argued that these animals may, like horses, possess varying resistance to the toxin, and it is probable that such animals are sometimes altogether immune, as some human beings undoubtedly are. The test of virulence must therefore be made subject to this condition.

I do not purpose entering into this argument, nor is it necessary in practical diagnosis to attempt any nice distinctions. Patients sent to a diphtheria hospital manifest symptoms sufficiently marked to justify their temporary admission, and bear evidence of the attack of organisms possessing some degree of virulence. For hospital purposes it is therefore proper to characterize as diphtheria all cases in which a bacillus exhibiting the peculiarities of that of Klebs Loeffler is found in the exudates or revealed by cultures.

Persistence of the Bacilli in the Throats of Patients.—Discharge from the hospital has for the past year been entirely governed by the results of bacteriological examinations of cultures from the throats of patients. It was formerly the practice to detain patients for 14 days after the disappearance of the membrane, or say 28 days from admission; but it has been proved that this is by no means a safe rule, as many would thus carry infection, while others would be kept in hospital much longer than necessary.

The shortest time for the disappearance of the bacilli was 14 days, but this may be regarded as exceptional, as the average duration of the term was 22.8 days. In 13.9 per cent. the detention was from 28 to 35 days; 5.9 per cent. between 35 and 42 days; 2.1 per cent. between 42 and 49 days; while in one instance the infection was retained until the 65th day, and another until the 75th day. The case of the second longest term is particularly interesting from the fact that it was one in which anti-toxin was employed during the early stage of the disease. The

case in which the infection was retained for 75 days shows a longer duration than any cited by Park and Beebe in last year's New York statistics. Longer periods have been recorded elsewhere, as that instanced by Lennox Browne, in which 146 days elapsed after the disappearance of the membrane.

The direct economic advantages of bacteriological examination as a guide to hospital discharge will be evident from the statistics given, and it will only be necessary to indicate the still greater gain which follows the isolation of infected patients, who would otherwise go forth and sow broadcast seeds of future disease.

Pathogenic Organisms Found.—In the following table organisms other than the diphtheria bacillus are widely classed as streptococci and staphylococci, but it must not be inferred that the former always indicates streptococcus pyogenes, or the latter the pus staphylococci. Tetracocci are not included. The classification was made on the microscopical characters of composite serum cultures after an incubation of 24 hours, except the tubes set on Saturday, which were allowed to remain in the thermostat till Monday. Comparisons of the results of cultures of short and long exposures do not lead to the conclusion that 24 hours was not sufficient for the development of the bacteria present.

The table covers both hospital and outside patients, 559 in all. For greater intelligibility the results are given in nearly whole percentages:

	Hospital Cases.	Private Cases.
B. Diphtheria	56 per cent.	40 per cent.
" and streptococci	16 "	12 "
" and staphylococci	7 "	2 "
" with strepto. and staphylo.	8 "	1 "
Streptococci only	2 "	26 "
Staphylococci only	6 "	2 "
Strepto. and staphylo.	5 "	11 "
Other organisms	0 "	3 "
Sterile	0 "	1 "

Comparison of this table with a similar one submitted last year shows a greater prevalence of cases of pure diphtheria and less of the complex or cocco-bacillary form, and also a less proportion of coccal, or non-bacillary affections. With regard to the hospital cases, this may be in part accounted for by the fact that physicians have become more careful in the selection of patients. After the first two months following the institution of bacteriological diagnosis the proportion of non-diphtheritic patients admitted was 27.9 per cent.; after six months this had dropped to 24.5; in nine months it was 21.6, and the average for last year was only 12.4 per cent.

Of the city cases the proportion is but slightly changed. The specific bacillus was present in 56 per cent. of the cultures, against 61.7 last year; the cases of non-bacillary infection being 43.4 against 36.3 per cent.

The above facts do not wholly account for the comparative absence of coccus forms, as I have noticed, with regard to *St. pyogenes aureus*—

easily recognized in old cultures—that it is at times relatively prevalent, and then for months it seems to almost disappear. It was observed in 24 out of 377 primary cultures, or in 6.3 per cent of the cases.

The classification of cases into mild, severe, very severe, and fatal groups, as revealed by clinical records, has been continued, and when taken with the bacteria observed gives a table similar to that before presented :

Table of Organisms compared with Clinical Results, July, 1895, to June, 1896, inclusive.

	Mild.		Severe.		Very Severe.		Fatal.		Total.	
	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.
B. Diph.....	102	47.9	30	14.0	45	12.1	36	16.9	213	56
B. D. & strep.....	35	50.7	9	13.0	13	17.9	12	17.4	69	18
“ staph.....	9	32.1	4	14.3	9	32.1	6	21.4	28	7
B. D. St. & Sp.....	12	60.0	4	20.0	3	15.0	1	5.0	20	6
Staph.....	6	100.0	0	00.	0	..	0	..	6	2
Strep.....	23	100.0	..	..	..	..	..	..	23	6
Staph. & strep.....	18	100.0	..	..	..	..	..	..	18	5

A comparison of this and the previous table shows them to be fairly accordant, and I am able to repeat, with greater confidence, the statement that when staphylococci, or streptococci, are associated with the diphtheria bacillus, the mortality is higher than when the latter is alone present. This is in accordance with common belief. I have, however, again found that the most serious combination is that of the diphtheria bacillus with staphylococci. The disease is more malignant, and the mortality higher than under any other conditions. It will be seen that with the diphtheria bacillus alone the mortality was 16.9 per cent. ; the combination with streptococci gave 17.4 per cent., while that with the staphylococci showed the deaths to equal 21.4 per cent. The mild cases exhibit a reverse proportion. Thus, of 213 cases in which the diphtheria bacillus was alone present, 47.9 per cent. were mild ; with 69 cases of a mixed infection with streptococci the percentage was 50.7 ; and of 28 cases of mixed infection with staphylococci the proportion fell to 32.1 per cent.

The combination of both staphylococci and streptococci with the specific bacillus is again shown to be of benign character. Such mixtures resulted in the reduction of the death-rate to less than one-third that shown by the mixture of the diphtheria bacillus and streptococci, and less than one-quarter of the staphylococcus mixture. When it is considered that the records extend over a year and a half and include 565 cases, it can scarcely be concluded that this is the result of mere chance.

With regard to the effects of streptococci, or staphylococci, respectively or associated together, the consequences have never been serious, nor has any case proved fatal. Such patients have generally been sent out from hospitals within a week, and in no instance has there been any return, or complaint of too hasty discharge.

Susceptibility according to Sex.—The female sex continues to show greater susceptibility, or possibly greater exposure, to infection, as the female hospital patients bear the relation of 59.2 per cent. to 40.8 per cent. of males. This proportion corresponds fairly with the admission to the Asylum Boards Hospital, of London, from 1888-94, inclusive. Of 11,598 cases, 54.8 per cent. were females and 45.2 males.

Susceptibility and Mortality According to Age.

	No. of cases.	Deaths.	Per cent.
7 and under.....	184	44	23.9
7 to 14.....	92	7	7.5
14 to 21.....	46	1	2.2
21 to 32.....	55	3	5.4

14.58

It will be noticed that four of the deaths were those of persons over 14 years of age. The ages were 16, 23, 26 and 32 years respectively. As far as statistics here are concerned this is a somewhat abnormal state of things, and may be in part accounted for by the statements that two of these patients were suffering from typhoid fever when attacked by diphtheria, and in the other cases, both females, one was under recovery from a severe uterine operation, and the other was worn out by poverty and disease. These conditions doubtless had an influence on the final result, but, taken as it is, the percentage of deaths in patients over 15 differs only by 0.4 per cent. from that given by the English statistics previously referred to.

Age predisposition and age mortality have been remarked everywhere, and are probably rightly ascribed by Lennox Browne to two causes: Disposition to nasal obstruction and tonsil enlargement, and the tendency in the infant to membranous exudation in all acute inflammatory conditions of the throat, irrespective of contagiousness, as compared with submucous infiltration, with œdema, in the adult.

The statement made last year as to the mild type of disease prevalent in Toronto is confirmed by further experience. The mortality for the period stated was 14.58 per cent., and for the past four years the hospital register of 1,506 cases to December, 1895, shows 18.52 per cent. The Asylum Board's statistics, 1888-94, give a death-rate of 30.3, and in the hospitals of continental Europe the mortality is much higher. I think these figures warrant the conclusion that either the bacilli are less virulent in Toronto than in European countries, or that the resistance of patients is greater.

ABORTIVE CARBUNCLE TREATMENT:

Resorcin.....gr. xlv.
Lanolin..... $\frac{3}{4}$ i—M.

Sig.—Apply to carbuncle after having made multiple parallel incisions.
—*Medical Summary.*

ON TREATMENT OF DYSMENORRHOEA.*

BY A. LAPTHORN SMITH, B.A., M.D., M.R.C.S. ENGLAND.

Fellow of the American Gynecological Society, and of the London Obstetrical Society ;
Gynecologist to the Montreal Dispensary and to the Western Hospital ; Surgeon-
in-Chief of the Samaritan Hospital for Women ; Professor of Clinical Gyne-
cology in Bishop's University, Montreal.

Taking it for granted that we all recognize the fact that dysmenorrhœa is not a disease, but rather a symptom of many and varied pathological conditions, it follows that the treatment will depend entirely upon the diagnosis. On looking over my records of three thousand three hundred cases, of which one thousand and thirty were seen at my private office, and two thousand two hundred and seventy came to the Montreal Dispensary, I find that dysmenorrhœa is a very common symptom, almost one-fourth of all the patients complaining of it. It appears most frequently among unmarried girls, and a little less so among married women who have not had a child. Next to these, in order of frequency, come married women who have had one child, and who have a scanty flow at the period ; while it is also met with, but still less frequently, among married women who have had several children, and who flow profusely and during a prolonged period of time.

These observations, which I presume correspond with the experience of others engaged in this department, are, I think, important because they throw a good deal of light on the causation and consequently upon the treatment of the symptoms. Why do unmarried girls suffer in the greatest numbers from menstrual pain ? Evidently because there are more of them than of any others who are suffering from stenosis of the os uteri. When these same girls become married women, the majority of them become pregnant, then menstruation ceases for at least nine, but often for eighteen or twenty-four months, and when, at the end of that time, it reappears it flows through a widely-opened uterine canal. There is another reason, however, why unmarried girls suffer more than married women who become pregnant, and I mention it as it has an important bearing upon treatment, namely, because at each menstrual period a congestion of the ovaries, tubes and uterus takes place, which is generally relieved by the flow ; but in many women a little congestion remains over unrelied, to be added to the next monthly one, until, little by little, the external layers of the ovary become thickened and the mucous membrane lining the uterus becomes swollen so that the canal becomes blocked up. In married women who are childless, either because their husbands are sterile or because they resort to measures for the prevention of pregnancy, or for other reasons, this congestion becomes still greater than in single women because there is added the more frequently repeated congestions of intercourse. Pregnancy cures the majority of cases not only of stenosis of the uterus but also of congestive dysmenorrhœa, because, as a rule, it puts a stop alike to menstruation and to the repeated congestions ac-

* Read before the Medico-Chirurgical Society of Montreal, Dec. 18th, 1896.

companying it and intercourse. Pregnancy, therefore, may be called Nature's remedy for dysmenorrhœa, because it both dilates the uterine canal and gives the ovaries a more or less complete rest. Remember, I do not say that marriage is a cure for dysmenorrhœa; on the contrary, marriage without pregnancy often makes it worse.

We now come to those women who though married and mothers of children still continue to suffer at their periods. What is their dysmenorrhœa a symptom of? Many of these women, I find by my records, have never suffered before their marriage but only since their first child. In many of these cases a careful examination of their histories will reveal the fact that at their marriage, or at their confinement or soon afterwards, they acquired acute septic or gonorrhœal endometritis, which subsequently has become chronic, leaving the mucous membrane of the cervical canal swollen, with distended glands which block it up; or the tubes and ovaries become diseased enough to make menstruation painful without in every case preventing conception. The fourth and smallest class of cases losing profusely and suffering severely, if less acutely than the former, will generally be found on examination to be affected with some form of displacement, generally a backward one, which seriously interferes with the circulation of the uterus. The blood is pumped into it by the arteries, but cannot get out of it by the veins, and so the generative organs become swollen and sensitive; the cervical canal becomes blocked, and in these cases the discharge, which is pure blood instead of debris of mucous membrane, coagulates, the clots having to be expelled by means of what might almost be termed labor pains.

Besides these four large classes I find many scattered ones, in which the pain was due to other causes, such as fibroid tumors blocking up the internal os and the closure of either the uterine end or of the fimbriated extremity of the fallopian tube or both. They are not without interest, and of their treatment I shall speak later on.

What is the best treatment of obstructive dysmenorrhœa due to stenosis of the cervical canal? Shall we open it up by means of laminaria or tupelo tents? I mention them only to condemn them. Or shall we place the patient under an anæsthetic and rapidly dilate the cervix with Hegar's or Banks' graduated sounds, or with Wiley's or Goodell's dilators? Or shall we resort to the relaxing and dilating effects of the negative pole of the galvanic current, in order to make a free passage for the ovarian, tubal and uterine secretions? Or shall we first try the effects of drugs, especially in the case of young girls?

My own procedure in cases of dysmenorrhœa is generally as follows:

1st. To improve the circulation of the uterus by curing constipation, and ordering exercise in the open air and sunshine, at the same time correcting errors in diet and dress. In addition to these hygienic measures I have found great satisfaction from the use of iron, strychnine and phosphoric acid. In my experience, about half the cases of dysmenorrhœa are cured without any surgical treatment or any other local treatment whatever. As many of the patients are virgins, I do not even make an examination until the above treatment, continued faithfully for a couple of months, has failed. It seems to make no difference whether

the patients lose very scantily or very profusely ; in both cases they have been either cured or greatly relieved. I have often asked myself the question : How does this treatment cure the pain ? And my explanation is that a toned-up, well-fed uterus, well-fed both as regards its nerves and its muscles, will be less liable to suffer from obstructing flexions, while the starved ovaries will be less likely to suffer at the menstrual flow from neuralgia, which I define as the cry of the nerves for better nourishment.

2nd. To relieve the spasmodic contraction of the sphincter of the internal os by ten grain doses of acetanilid repeated three times a day for one or two days, although sometimes a single powder is all that is required. In employing this drug it is advisable either to administer it in strong coffee or weak whiskey and water, or to combine citrate of caffeine with it, as I have occasionally witnessed some alarming effects on the circulation when this precaution had not been taken. Although acetanilid does cure, I cannot recollect a case in which it has failed to relieve, although I have employed it in over a hundred cases. There are other drugs of considerable value, although they sometimes fail even to relieve ; among these the best, because quite harmless, I consider viburnum prunifolium. In the form of liquor sedans, prepared by Parke Davis, I have found it to help about one-half of the cases. The same may be said of Hayden's Viburnum Compound, the cost of which, however, is prohibitive. But in speaking of the medical treatment of dysmenorrhœa I wish to warn my brethren against two drugs of surpassing danger, namely, opium and alcohol. I have seen some sad cases of shipwrecked homes and blasted futures in which the drink or opium habits were acquired by the thoughtless though well-meant prescription of opium or morphine, or the advice to take a glass of alcoholic liquor. These cases rarely consult the doctor again until when it is often too late to save them from the thralldom of these drugs, except by incarcerating their victims in an asylum for inebriates and opium-eaters. Compared with the treatment by opium or alcohol I consider that by surgical operation to be immeasurably to be preferred. There is another means of relaxing spasm which at least deserves mention, namely, sitting in a bath of very hot water for half-an-hour, and splashing the water on the lower abdomen. I have learned this some years ago, like many other good things, from our Nestor, Sir William Hingston, since which I have often employed it with advantage. Hot douches and rest in bed have helped a few cases, but I have not known this alone to cure any.

3rd. If these measures fail we must turn, although in the case of unmarried girls with reluctance, to some treatment which entails examination of the uterus. The most effective, although the simplest and least dangerous, among these I have found to be the negative pole of the galvanic current. Five years ago I published in the *American Journal of Obstetrics* a report of nine cases of severe dysmenorrhœa cured by this means, which excited considerable comment throughout the United States and Canada, as was evinced by the large number of letters I received asking for further details in carrying out the treatment. As some of these patients had been treated in vain by many other methods, including

rapid dilation, which in one case was repeated twice, and as three of them subsequently bore children after periods of sterility as long as ten years after marriage, doubts were freely raised as to the accuracy of my observations. Since then, however, many more independent observers, including Dr. William Gardner, of Montreal, have assured me that their results have been equally surprising. It is due to Dr. Gardner to say that he was obtaining these results with it before I knew anything about electricity for dysmenorrhœa, although I am not aware of his having reported them. Since reporting these nine cases I have treated nearly a hundred others by this means, which, with a few exceptions, were equally satisfactory. I will not occupy your time in describing the method now, as I have done so in minute detail in my article on disorders of menstruation in the "International System of Electro-therapeutics," which was published three years ago by Davis, of Philadelphia. I will only say that it is marvellous to see how easily a sound will glide into the uterus when the negative wire is made to touch it, when that same sound cannot be made to enter even by force before the electrical connection was made. If there is any one who doubts it I will gladly demonstrate it for him at my office if he will provide me with a patient into whose uterus he will admit that he cannot force the sound. In the majority of cases the second or third period following the treatment comes on without the patient's knowing it; while in the cases in which it fails there probably exists some disease of the appendages, as I was able to demonstrate in several of them, in whom I eventually had to open the abdomen, when the tubes were found occluded at one or both ends, and the ovaries diseased.

4th. For those who are not conversant with the electrical treatment, or who are not supplied with the simple outfit necessary for its use, rapid dilatation comes next in value after therapeutic measures have failed. I will probably prepare a list of cases I have so treated, with their results, for the Montreal meeting of the British Medical Association; but until I have collected all the cases I can only estimate approximately that I have treated about three hundred in this way, with about 100 failures. With the exception of about five or six of them, in which Hegar's conical dilators or bougies were used, all were dilated first with Wylie's and afterwards with Godell's dilator. This is not the safe and simple operation that one might suppose it to be. The patient must be profoundly narcotized in order to paralyze the circular muscles in the cervix; and unless you are in a position to carry out absolute asepsis in its minutest details, it were better not to attempt it at all. Among the untoward results I have seen one general peritonitis and death: one subsequent laparotomy and suture, caused no ill effects; several considerable lacerations of the cervix, and quite a number of cases of quiescent pelvic peritonitis relighted by the manipulations. The rather common practice of using the dilators in the office without antiseptic precautions cannot be too severely condemned. When dilation is performed it must be done thoroughly, at least half-an-hour being spent in separating the blades to a width of an inch and a-half, and all the while a stream of sterilized water should be allowed to flow over the field of operation.

Dilatation should in every case, in my opinion, be followed by curetting, especially of the thickened mucous membrane around the internal os, which acts like a valve over the opening, and prevents the exit of the menstrual flow. The whole inside of the uterus is then to be coated liberally with a mixture of equal parts of Churchill's iodine and carbolic acid, partly as an antiseptic and partly because it helps to cure the endometritis which so often coexists with, and perhaps may be one of, the causes of the pain.

Sometimes the dilatation and curetting either fail completely or only relieve for the immediately succeeding period. What shall we do in these cases? My custom is to repeat it at least once more; some repeat dilatation twice. If the cervix is very long and conical I have occasionally amputated it by Schroeder's method, and with good results. Should we employ a stem pessary, in order to keep the canal open? I am entirely opposed to their use; if they are employed it must be only with the greatest precautions, the patient being kept in bed and carefully watched for symptoms of peritonitis.

What should be our course in those rare cases which after all this treatment still remain unrelieved? My experience has been that in nearly every case which has been carefully treated during a year's time with these various measures unsuccessfully there is some incurable disease of the ovaries and tubes which will demand their removal. I place the duration of treatment somewhat arbitrarily at a year, because on the one hand I am opposed to removing the ovaries until ample time has been devoted to other measures of treatment; and on the other, I like to give my patients some definite promise of cure, as without some hope being held out they will become discouraged and abandon treatment altogether. In only five per cent. of my cases, or about forty times, have I been compelled to fall back upon this *dernier ressort*, when on opening the abdomen I have found more than enough to explain why the case resisted all ordinary measures of treatment. In most of them the tubes were found to be bound down with adhesions, and closed at one or both. In eight cases I have found a hydrosalpinx of one or both sides, and in about twenty the ovaries were sclerotic, so that the follicles were unable to rupture without great pressure. The result in all the operative cases has been very satisfactory; care was taken to tie the pedicle close to the corner of the uterus and to remove all of the ovarian tissue, as neglect of these precautions would have caused the operation to fail to attain its object, namely, the immediate and complete arrest of menstruation. I must not forget to mention a remarkable little group of six cases of severe dysmenorrhœa due to retroversion with fixation, the ovaries being buried in adhesions, and the fimbriated ends of the tubes closed. At the urgent request of the patients, who were married, not to remove the ovaries I have in these cases carefully freed the uterus, then dug the ovaries and tubes out of Douglas' cul-de-sac, in some cases lacerating them in the process, then tearing the pavillion of the tube off the ovary, and opening it up, and finally fastened the uterus to the abdominal wall. One of these was done at the Samaritan Hospital only a week ago, in the presence of several members of the Society, who can testify to the

number and density of the adhesions which were binding the ovaries down; five of them date back from six months to two years, and are now menstruating without pain. This method has, I think, a good future, as we are coming more and more to realize that the ovaries should never be sacrificed if it is possible to save them.

To sum up my experience in round numbers:

50 per cent. were cured by therapeutic and hygienic measures, including pregnancy,

25 per cent. were cured by rapid dilatation or curetting,

12½ per cent. were cured by electricity, negative pole,

5 per cent. were cured by removal of appendages,

7½ per cent., being impatient, went to other institutions, where eventually most of them had the appendages removed.

SIMPLE METHOD OF TREATING OPIUM POISONING.—In country practice a medical man might possibly find himself very much embarrassed in presence of a case of opium poisoning through not having at hand the necessary drugs. A French contemporary, the *Medicine Moderne*, reports a case, however, in which a practitioner conceived the idea of giving subcutaneous injections of very strong coffee. On being called to the patient, a child of 10, who had accidentally been poisoned by paregoric elixir, it was evident that the case was very urgent, pupils imperceptible, only two or three respirations per minute, coma. It was impossible to administer internal remedies, and quite impracticable to wash out the stomach, as the accident had happened in the open country. Accordingly the practitioner ordered a very strong decoction of coffee to be made (equal parts of coffee and water) and injected thirty drops hypodermically every ten minutes. After the fourth injection the breathing became freer, and the pulse fuller and more regular. In six hours the child was out of danger. The method is certainly one that is well worthy of being remembered and tried, especially by country practitioners, as opium poisoning is relatively a frequent accident among children, and is one that necessitates prompt and energetic measures on the part of the medical man.—*Med. Press and Circular*.

HEREDITY AND CRIME.—The following, taken from the *Medical Press*, compiled by Professor Belman, of the University of Bonn, relates the career of a notorious drunkard who was born in 1740 and died in 1800. Her descendants numbered 834, of whom 709 have been traced from their youth. Of these 7 were convicted of murder, 76 of other crimes, 142 were professional beggars, 64 lived on charity, and 181 women of the family led disreputable lives. The family cost the German Government for maintenance and costs in the courts, almshouses and prisons, no less a sum than \$1,250,000; in other words, just a fraction under \$1,500 each. It would probably be difficult to find a more remarkable example than this of the evil effects of the transmission of hereditary defects.

SURGERY.

IN CHARGE OF

GEO. A. BINGHAM, M.B.,

Associate Prof. Chemical Surgery, Trinity Med. Coll.; Surgeon Out-door Department
Toronto General Hospital; Surgeon to the Hospital for Sick Children;
Surgeon to St. Michael's Hospital. 68 Isabella Street.

FRED. Le M. GRASETT, M.B., C.M., Edin. Univ.; F.R.C.S.E.; M.R.C.S., Eng.;

Fell. Obstet. Soc., Edin.; Surgeon, Toronto General Hospital; Physician to the Burnside
Lying-in-Hospital; Member of the Consulting Staff, Toronto Dispensary;
Professor of Principles and Practice of Surgery, and of Clinical
Surgery, Trinity Medical College. 208 Simcoe Street.

DIFFICULTIES ENCOUNTERED IN REDUCTION OF DISLOCA- TION OF THE HIP.

By far the most noteworthy recent contribution to the important subject of hip-joint luxation is the Samuel D. Gross prize essay contributed by Dr. Oscar H. Allis. The author maintains the following propositions: 1. The capsule is the most important agent against traumatic dislocations of the femur. 2. For the laceration of the capsule and dislodgment of the head of the femur, the femur is employed as a lever. 3. Every lever has a fulcrum; the fulcra required in dislocations of the femur are bony and ligamentous. 4. Dislocation by thrust, if possible, is infrequent. 5. Reduction by circumduction is the simplest, and most brilliant, and the most hazardous of all modes of replacement.

Allis summarizes the functions of the ligamentum teres as follows: 1. The teres does not prevent dislocation, since it is possible to tear it from the head without completely dislocating the head. 2. The ease with which the teres can be torn after division of the capsule is also proof that its function is not that of a ligament. 3. While it is true that the teres may be torn without dislocation taking place, it is also true that without rupturing it a complete dislocation is possible. 4. If the teres escape rupture in the process of dislocation, it is highly probable that it will be ruptured during efforts at replacement, if circumduction be employed. 5. As there is no evidence that the teres contributes to the normal security of the joint, therefore insecurity or weakness of the articulation after the reduction of a dislocation cannot logically be attributed to its loss; nor can its absence be said to favor subsequent dislocations. 6. After reduction no unusual position of the limb or foot (such as flexion, inversion, or abnormal eversion) can justly be attributed to the lost function of the teres.

The functions of the capsule are: 1. To check the movements of the femur against a tendency to transcend the limits of safety. If one will dissect every structure from the joint but the capsule, he will be surprised at the resistance this single structure will offer to displacement. 2. To

offer a large surface for the attachment of muscles that contribute toward the safety of the joint and preside over the movements of locomotion. 3. To furnish a large surface for the display of synovial membrane. 4. To form a shut sac for the retention and distribution of synovia.

The following *résumé* of the functions of the fascia lata is given: 1. It forms the sheath or envelope of the most important walking muscles of the thigh; during progression the tension of this fascia (through the *gluteus maximus* and *tensor vaginæ femoris*) is of the utmost advantage; through the same muscles it steadies the head of the femur in the socket. 2. It checks adduction of the extended thigh through the ilio-tibial band. 3. It checks outward rotation of the extended thigh. 4. It assists the hamstring muscles and the sciatic nerve in checking flexion of the extended limb. 5. It checks a tendency to hyperflexion of the thigh upon the abdomen. 6. It contributes largely to man's ability to stand at rest. 7. After reduction of a dislocation at the hip-joint the fascia lata and the utorn portion of the capsule are our main reliance in retaining the head of the femur in place. If the feet are tied together, the fascia, and nothing else, presses the head into the socket. 8. After fracture of the neck this ilio-tibial band is relaxed during adduction. 9. As adduction tightens the ilio-tibial band and abduction relaxes it, the latter position is voluntarily assumed in the early stage of hip disease. 10. As flexion of the extended limb tightens the fascia lata and drives the head into the socket, this manœuvre elicits pain in the early stage of hip disease.

In considering the sciatic nerve and hamstring muscles in relation to luxation, Allis shows that if the femur is abducted at right angles with the pelvis the leg must be flexed to relax the nerve and the hamstring muscles. If, however, the femur is carried still farther outward, the head may burst through the capsule and be dislodged inward. In this case the nerve, of course, escapes; but should the head be shifted from the position of thyroid luxation to that of dorsal luxation there is danger to the nerve, since there is but one possible path for a dislocation inward to take in order to become a dislocation outward, and that is between the hamstring tendon and the socket; and since the tendon of origin of these muscles is within half an inch of the socket, and the nerve is nearer, if anything, under no circumstances can the head be circumducted and carried outward without traumatism, more or less severe, to the nerve. If the sweep of the knee through which this may be effected be a large one, and especially if there be sufficient extension of the leg on the thigh to shorten and make tense the nerve, then there is great danger that the head will pass between the nerve and the tendon.

If such a condition be suspected, the fact may be ascertained by having an assistant push upward upon the knee in the direction of the long axis of the shaft of the femur, while the surgeon, by extending and flexing the leg, will find that the nerve may be alternately tense and relaxed in the popliteal space if it be over the neck, and the head out of the socket. In such a case the successful reduction of the head will release the nerve, but the traumatism may have been so severe that a prolonged neuritis or a partial or complete paralysis may result. If the head, in its transit from within outward, pass between the nerve and the socket, the former

may be bruised a little, but not detached from the tendon, and will lie, after dislocation, between the head or neck and the tuberosity.

When dislocation of the neck occurs, the danger of hooking up the nerve through the efforts at reduction will be greatly increased if the head in passing outward catches up the nerve and tears it from its attachments. This is no random statement. Bigelow, Morris, and Johnson have caught it up in experimental work, and Koons did it in actual practice.

If the nerve be hooked up during the reduction, the following conditions will be present: The nerve will cross the front of the neck and lie beneath the untorn parts of the capsule and the tendon of the psoas muscle; it then descends through the rent in the muscular partition to the adductor magnus, beneath which it descends to the popliteal space. At least three inches of the nerve are taken up in this detour, and hence the thigh must be flexed on the pelvis and the leg on the thigh, to accommodate them to the shortened nerve.

If the dislocation occur through flexion, adduction, and rotation inward, the capsule may yield and the head may escape outward and downward without touching the pelvis in the descent. In such cases Allis has seen the head fall directly upon the nerve, from which it can slip to either side.

In considering the mechanics of reduction, Allis describes an exceedingly ingenious and seemingly practical way of fixing the pelvis and apparently gaining full control over the femur. In describing the phenomena of dislocation, the author gives special directions for cleaning out the socket, having frequently observed in his work that so much detached muscular material has been carried into the socket during the course of reduction as to give the restored limb a constrained position. If any portion of the capsule is torn off, it must be the pelvic, and Allis holds that all foreign substances which enter the socket must enter its lowest segment. It is clear that the side of the head that drives the capsule before it into the socket cannot be made available to remove it; this must be done by the opposite side; hence, if the capsule has been pushed into the socket from the dorsal aspect, the first step is to flex and abduct, while if the entrance has been made from the thyroid aspect the femur must be flexed and adducted to accomplish the same end. After engaging the inverted capsule the femur should be rotated inward to tighten the Y-ligament and drive the head down into the socket, while at the same time the knee is raised and the foreign matter is removed from the socket. The success of the method will be apparent by the free and unembarrassed motion of the femur. From the experimental standpoint Allis would urge upon every one the importance of testing the degree of extension and adduction after every reduction.

Allis lays down as an axiom that every dislocation must be restored through the steps in the reverse order of the displacement. For the replacement of the head by direct steps in inward dislocation he offers the following directions: 1. Flex and abduct the femur. 2. Make traction outward. 3. Fix the head by digital pressure and adduct.

The medical profession has long practised, with variable success, methods

somewhat resembling that which has just been described. Authors recommend: 1. To flex and adduct the thigh. 2. To make perpendicular traction upon the knee, and follow traction by adduction. 3. To make traction with adduction, using the foot in the groin as a fulcrum. 4. To place the patient astride a bed-post, using it as a fulcrum while extension and adduction are made. 5. To make traction and adduction while an assistant with a fillet passed between the thighs makes traction upward and outward. All of these have been recommended, but success in their employment does not depend upon the scientific application of the principle. In all adduction is made a prominent feature; but adduction, if attempted too early, defeats its own end. He does not favor reduction by the indirect method,—*i.e.*, rotation. In considering the reduction of dislocation outward, Allis calls attention to the striking resemblance between two very diverse conditions,—*viz.*, a dislocation primarily inward into the thyroid depression, but which has by secondary influence been rotated outward so that the foot points outward and backward; and another, dislocated primarily outward, but which by reversed action also yields a foot turned outward or even slightly backward. As these two conditions are the result of forces directly opposed to each other, their reduction will evidently require equally diverse methods. In neither form of dislocation will there be evidence of decided fixation, nor will the limb refuse to lie parallel with its sound fellow. Extreme outward rotation in which the inside of the foot tends to look outward—the heel forward and inward—is hardly possible in any condition save that of a primary dislocation inward, with external rotation, the head being controlled by the Y-ligament, which is untorn. The outward rotation of everted dorsal is rarely beyond rectangular eversion. To determine whether the case in question be an everted dorsal, let the operator make a gentle attempt to rotate still farther outward. This will be checked because the Y-ligament lies in front, and external rotation will make it tense. Not so with the “thyroid reversed”; in this case the Y-ligament lies behind, and rotation, after the foot looks backward, can still be increased. If the foot look backward or outward, find the head; to do this, locate the inner condyle,—it points in nearly the same direction as the neck. After this locate the great trochanter; it will lie internal to the dividing line between the two divisions of the bone, when the head has been dislocated primarily inward; but if the head be dislocated primarily outward, the trochanter major cannot lie internal to this line. Lastly, make direct pressure upon the head. If it be a reversed dorsal, the head will sink; if a shifted thyroid, the upper end of the femur will have a bony support; if it be a dorsal with eversion only, the head can be felt by direct pressure; if it be a shifted thyroid, the trochanter can be felt as well as the head. It must be evident, therefore, that retracing the last step of dislocation is not a simple or unimportant matter, and that a confident rational procedure will only be based upon a knowledge of the path taken by the head. As we are now dealing with dislocations outward, the first thing to do with an everted dorsal is to convert it into an “inverted dorsal.” To do this, flex (this will relax the Y-ligament), abduct, and rotate inward.

The operator should observe carefully that the head follows the manipulation; if it does, he has retraced the last step of dislocation and is ready to undertake the second step. In the second stage of dislocation the head left the region of the socket and fell outward and downward until arrested by the yet untorn part of the capsule; hence, to retrace the second step, lift. To complete the second stage the head must be turned inward to the region of the socket, and it should be noted that the tendon of the hamstring muscle and its attendant, the great sacro-sciatic nerve, are directly in the way.

This is a most critical moment, for the head must be turned in to the region of the socket, and has no other path than between the tendon and the socket. To do this while the limb is lifted vertically with the leg flexed at right angles to the femur, which relaxes the tendon and nerve, turn the leg as a crank downward and inward until the heel looks footward. Do not use violence. If obstruction is experienced, it cannot at this stage lie in the capsule; it cannot lie in anything over which violence will prevail. It will lie in one of the three things: either the head strikes bone, in which case it must be lifted higher; or it strikes the tendon, or the nerve. In case it strikes the tendon it can be readily shifted, and the escape of the tendon may be followed by a similar escape of the nerve. The author has frequently caught them in succession, and has so caught up the nerve as to flatten it over the head, and being spread out twice its original size it has barred his progress to the socket. Therefore, he urges caution at this stage, for if the nerve be caught and force applied it will effectually bar all entrance to the socket, slip off the head and escape, or slip off the head upon the neck of the femur, from which it can with difficulty be disengaged.

If the head has met with no obstacle in rotation, it is now ready for the last step. The head of the femur rests upon a ridge between the outer and inner planes. It has reached its present position by being lifted to a level with the socket and rotated obliquely beneath it. There are three courses open to it now: it can fall outward, pass inward into the thyroid depression, or ascend obliquely upward into the socket. There are two ways for accomplishing a happy replacement: The first is by traction. By this means the knee is lifted skyward, which relaxes the remnant of capsule while an assistant with his thumbs makes direct pressure upon the head in the direction of the socket. This may reduce it; if not, the operator may bring the knee down in extension, the assistant still keeping up the pressure upon the head. The manoeuvre should not be attended with violence or dispatch. The surgeon, if he encounter resistance, should be warned by it, and retrace and modify his course. Usually the head will pass noiselessly into the socket. The second, or direct, method is to employ the Y-ligament of Bigelow as a fulcrum to drag the head into the socket. The reader will bear in mind the position of the head: it lies below the socket, and must be directly obliquely upward and outward. If now the knee, with the leg flexed, be carried directly downward in extension, the remnant of untorn capsule (Y-ligament) will be made tense and the head be lifted into the socket. Should the head slip outward upon the dorsal aspect, it must be

replaced by lifting, and, instead of extending the knee directly downward, it should be a little abducted and then extended. If, on the contrary, the head slip inward into the thyroid depression, then the knee should be adducted and the Y-ligament tightened a little by inward rotation. If now extension be made, the head will be directed in the course of the socket.

Allis ascribes failure of reduction to lack of skill or facilities in the operator; obstacles that prevent the head from entering the socket; obstacles pushed into the socket by the head; the sciatic nerve hooked over the neck of the femur. If the nerve has been caught up, the immediate effect will be flexion of the thigh upon the pelvis, owing to the sudden shrinking of the nerve. There will be imparted to the limb a springing motion which it can get in no other way.

Diagnosis is founded upon a tense, cord-like nerve in the popliteal space. The operator has but one course to pursue, namely: 1. Redislocate the femur: patient supine. 2. Extend the thigh. 3. Flex the leg on the thigh to relax nerve. 4. Turn the ankle of the flexed nerve out until the leg is horizontal; the head will now look perpendicularly downward. 5. Shake, rock, jar, adduct, and abduct, with a view to disengage the nerve from the neck and make it drop down below the level of the head. 6. Rotate the head into the socket without making the nerve tense, *i.e.*, by not flexing the femur.—*Therapeutic Gazette*, July 15, 1896.

SPRAINED ANKLES*

BY JERE LAWRENCE CROOK, A.M., M.D., JACKSON, TENNESSEE.

In view of the frequency of occurrence of these accidents, the painful and distressing symptoms they provoke, and the unfortunate results frequently following their inefficient treatment, it would seem that sprains have failed to receive the attention they merit from the profession at large. Our most prominent authorities, including Gross and the *American Text Book of Surgery*, are contented with a very brief sketch—two to three pages devoted to the entire subject. In our medical societies it is seldom that we hear the subject mentioned, except, perhaps, when it is brought up as a point in differential diagnosis.

With these conditions in view, therefore, I shall venture to ask your attention, for a short time, to some remarks on the subject of sprains; and more particularly sprained ankles. Gross says: "A sprain is the wrenching of a joint, in which its ligaments are severely stretched, if not partially torn, and more or less injury is done to the soft parts around. The joints most liable to sprains are the ginglymoid, or those which admit of motion principally in two directions, as the knee, ankle and elbow." The symptoms familiar to you all, are pain, impaired or total loss of motion, sense of faintness caused by shock to the system; after a time

* Read at the Sixty-third Annual Meeting of the Tennessee State Medical Society at Chattanooga, April 14, 15 and 16, 1896.

swelling and tenderness, and sometimes an indistinct perception of crepitation strongly simulating fracture, depending on a deposit of plastic matter.

The hinge-like anatomy of the ankle-joint, its peculiar susceptibility to sprains on that account, and the frequency of its injury, naturally render sprains more interesting here than in other parts. Who has not suffered from a sprained ankle? Who has not often witnessed the same accident befall his friends? and, speaking professionally, who has not numbered among his patients victims of this frequent injury?

Consulting the authorities on the subject of treatment, from Erichsen to Gross, Wyeth and the *American Text Book*, we are advised to keep the part absolutely at rest, apply soothing embrocations, or strong liniments; and under no conditions allow the limb to be used. Among the laity, it is common practice to apply masses of moist earth, or brown paper immersed in vinegar, to the injured part. The *American Text Book*, among the latest authorities, says: "Free active and passive motion of the joint from the first, as has been strongly advised by some, is painful, and cannot be otherwise than injurious when the sprain is a severe one. By far the best treatment, as a rule, is immobilization of the joint by the application of a plaster of Paris bandage. If applied soon after the accident has occurred it will very much lessen congestion, hemorrhage and effusion, and diminish the time of confinement." Gross had a far better idea of the treatment, and, indeed, somewhat foreshadowed later ideas when he said: "The limb, weakened by the previous suffering, requires tone and support, and there is nothing so well adapted to promote this object as the careful and judicious employment of the roller. Sometimes the bandage may be advantageously replaced by adhesive strips applied after the manner of dressing indolent ulcers."

Use is the condition for development of all the powers of the mind and body. Facility of action comes by habit. Inactivity and idleness induce torpidity and effectually retard growth of every kind. Exercise in all its variety, bodily and mental, is the instituted means for the methodical development of all our powers, under the direction and control of the will. In like manner, "motion," as an eminent authority remarks, "is the proper stimulus of a joint, as air is of the lungs, or food of the stomach; and when after any injury it is too long neglected, serious consequences are sure to arise."

This is an age of progress—despite the lamentations of pessimistic writers. Advancement is the watchword of the times, and in nothing is it more apparent than in the realm of medicine and surgery, whose devotees, the world over, expend their genius and energy to lengthen life by lessening suffering and conquering disease. "The mad dog rushing through the crowded streets no longer leaves a trail of death behind him. The serpent no longer revenges, with murderous fangs, the curse that has made him crawl forever in the dust." Medical science is no longer baffled by such poisons. Aye, more, it can give surcease from pain, deaden physical nature to the surgeon's knife, and lull to slumber those who lie awake all night and do not go to sleep at morn." "Beneath its magical touch suffering sighs itself to sleep and dreams." The word "incur-

able" is gradually disappearing from the physician's vocabulary, and he stands no longer aghast and helpless before diseases however dangerous, and operations however great and appalling.

The entire scientific world to-day stands excited and expectant over the wonderful possibilities suggested by the Röntgen ray. It is impossible yet to predict the results which may in future ensue from this new field of scientific research. Already we are amazed, and yet, doubtless, the present discoveries are but an index of what the future has in store.

While scientists the world over are bending their energies in honorable and praiseworthy efforts at developing new facts in the line of penetrating the secrets of the human system, we practitioners may still find time to discuss improvements in practical medicine and surgery. In this connection, some time ago, Dr. Gibney, in the *New York Medical Journal*, advanced some new ideas in the treatment of sprained ankles, which are very reasonable, practical, and worthy of consideration. The experience of numerous observers since then has verified his statements, and, as one of those who have used his method, I am before you to-day to advocate it and prove its efficacy. The treatment, according to Gibney, "involves no loss of time, requires no crutches, and is not attended with any ultimate impairment of functions." The method is as follows: A number of strips of rubber adhesive plaster about nine to twelve inches in length, and of appropriate width, are prepared. I then proceed thus, *not* following exactly the method of Gibney. Beginning at the outer border of the foot, near the little toe, the first strip partially encircles the joint and ends behind the foot. The second strip is begun on the inner side of the foot and is applied on the opposite side, nearly meeting the first strip behind. Other strips are applied in like manner, each one overlapping the last, and crossing its fellow of the opposite side in front, so that the ankle is snugly and smoothly encased, care being taken not to completely encircle the joint with any one strip. After having bound the foot firmly, it is well to add one broad strip running around the foot, from the internal side of the leg down the internal side of the foot across the plantar surface and up the outside of the leg, "as much as possible to take the place of the middle fasciculus of the external lateral ligament, which is so often the one most injured. It is a good plan to place a pad of absorbent cotton over the external malleolus and in the fossa below, to prevent undue pressure and chafing. Any one of the injured ligaments may receive a similar reinforcement from an extra strip. I then apply a roller smoothly over the entire surface, allowing it to remain until the plaster takes firm hold.—*Internat. Jour. of Surgery.*

In the diagnosis of renal tumors the cystoscope plays an important role, more especially with reference to determining the side on which the sound or diseased kidney is situated.—*Robb.*

I wish to urge a systematic examination of the kidneys as a routine, and especially in chronic affections of the bladder and lower urinary tracts. Whenever there are symptoms referable to the bladder, the kidneys ought to be interrogated.—*Winslow.*

MEDICINE.

IN CHARGE OF

N. A. POWELL, M.D.,

Professor of Medical Jurisprudence, Trinity Medical College ;
Surgeon Out-door Department Toronto General Hospital ; Professor of Principles and
Practice of Surgery, Ontario Medical College for Women. 167 College St.

WM. BRITTON, M.D., 17 Isabella Street.**CARCINOMA OF THE PANCREAS.**

BY W. HALE WHITE, M.D., F.R.C.P., LOND.

GENTLEMEN,—We have recently had in Stephen Ward two patients who have died from carcinoma of the pancreas, and as that is not a common malady it seemed to me that we might well consider it to-day. The histories of the cases are briefly as follows :

CASE 1.—A man aged forty-three years was admitted on June 1st, 1896, for great pain in the upper part of the abdomen and wasting. He had had syphilis. Otherwise his previous history was unimportant. This illness began three months previously with loss of flesh and pain in the abdomen. On admission the patient appeared wasted and looked distressed and ill. There was much tenderness on deep pressure in the upper part of the abdomen, but the recti were so rigid that no satisfactory examination could be made. The whole body was most carefully examined, but nothing further that was abnormal could be detected. The diagnosis of malignant disease of the pancreas was suggested. After he had been in hospital a couple of days an anæsthetic was given to facilitate an examination of the abdomen, but nothing abnormal could be felt. During the first fortnight he gained seven pounds in weight. On July 3rd a hard lump could be felt in the abdominal wall on the right side at about the level of the umbilicus. It was clearly in the wall and felt as though a florin were let into the wall underneath the muscles. There was little doubt but that this was a carcinomatous nodule and the inference drawn at the time was that this was a secondary deposit in the peritoneum. During the ensuing week other lumps were felt in the various parts of the abdominal wall, and about this time the patient began to lose flesh rapidly, and died exhausted on July 15th. During the whole of his illness he was much troubled by constipation. The only treatment adopted was that morphia was given to relieve pain and every attempt was made to get the patient to take food. At the necropsy there was a large, hard mass of primary schirrus of the pancreas occupying the whole of the tail of the organ. The pancreatic duct was neither pressed upon nor dilated. There were many secondary growths in the liver, some of them as large as walnuts, and there were many nodules on the parietal peritoneum, so that the abdominal wall had by means of growth become

quite adherent to the liver. The peritoneal cavity contained 122 ounces of blood-stained fluid. The head of the pancreas and the glands in the portal fissure were unaffected and the gall-bladder was not dilated.

CASE 2.—A man aged fifty-four years was admitted into Stephen Ward on July 10th, 1896. His previous history was unimportant. The present illness began with diarrhœa. At the end of June, after this had continued a few days, he began to complain of pain in the upper part of the abdomen. A medical man gave him some medicine, which stopped the diarrhœa. On July 10th he felt very faint and soon after vomited, bringing up, it was said, half a pint of blood. He was at once brought to the hospital. On admission he was very collapsed and blanched, and was too ill to be examined in great detail, but as far as could be made out there was an increased sense of resistance just above the umbilicus. He was not wasted, and the heart, lungs and urine were all healthy. Four days after he again vomited a large amount of bright red blood and during the next four days he remained very weak. On July 18th he had a very severe attack of hæmatemesis and passed blood per rectum. About twenty-four hours after this he sank and died. The diagnosis was thought to lie between cirrhosis and carcinoma of the stomach. At the necropsy the stomach and intestines were full of blood. The head and tail of the pancreas were quite healthy, but the centre was occupied by a large, hard, solid mass of carcinomatous growth which was adherent to the stomach and had ulcerated through it at a spot on the lesser curvature two and a half inches from the pylorus, and it appeared certain that the blood had come from this ulcerating mass of growth. There were one or two secondary nodules in the stomach close to the primary growth and also one or two in the kidneys. The portal fissure was free. The gall-bladder was not dilated.

The second case is altogether so rare that I think we shall learn most if we begin by studying the first case. The problem we had to solve was what could be the matter with a middle-aged man who was wasting and had great pain in the upper part of his abdomen. So few were his symptoms that it was suggested that he was suffering from that disease called 'anorexia nervosa,' in which patients who have no organic disease take very little food and waste very much. They are to be treated by rest, isolation, massage, and over-feeding. But not only were the great local pain and tenderness strongly against such a view, but you must always remember that rigidity of the abdominal muscles means organic disease underneath them. This is a most important sign. Only this week we examined a patient in Mary Ward whose abdominal wall was so rigid that we could learn nothing as to the condition of the structures underneath it. We gave an anæsthetic and then felt a large malignant mass growing up from the pelvis. Having decided that our patient had some organic disease in his abdomen, we next tried to find what would cause his symptoms. Intestinal tuberculosis would have given rise to diarrhœa. Renal tuberculosis shows itself in the urine. Neither tuberculosis of the intra-abdominal lymph glands nor peritoneal tuberculosis causes intense pain, and the latter gives rise to peritonitis, of which the patient showed no signs on admission. Some of you suggested aneurysm

and a very good suggestion, too, especially as the patient had had syphilis. (You will remember a man in Stephen Ward last spring who was on account of pain in the renal region thought to have either renal calculus or growth, but he turned out to have an aneurysm of his renal artery.) However, the most careful examination, even under an anæsthetic, failed to discover any aneurysm, so we were driven to the belief that there must be an intra-abdominal malignant growth. The next thing to decide was the organ in which it was situated. There was when the man came in no evidence that the growth was in the stomach, intestines, liver, suprarenal capsules, or spine, for we examined him for symptoms of malignant disease of each of these, and the rigidity above the umbilicus showed it was high up in the abdomen. Therefore, all that was left to us was the pancreas, and I particularly want you to remember that, in its early stages at any rate and sometimes during the whole of the patient's life, the only signs of malignant disease of the pancreas may be wasting, rigidity of the abdominal muscles, severe deep-seated pain and tenderness, and vomiting; and the last, as in the case before us, may be absent. So true is this statement that, in spite of the fact that after an anæsthetic no tumor of the pancreas could be felt, although in this patient the walls relaxed so completely that the abdomen became very easy to examine thoroughly, yet we all held to the original suggestion of malignant disease of the pancreas. Some, if I remember rightly, thought it was against the diagnosis that the patient gained a few pounds in weight. If the evidence of malignant disease is strong do not let a slight improvement make you change your opinion, for rest in bed and good food will often lead to a gain in weight which, as this case showed, is only temporary. The development of peritoneal malignant nodules went a long way to confirming the diagnosis, for malignant disease of the peritoneum is almost invariably secondary.

It must appeal to you as a striking fact that with so few symptoms the diagnosis of malignant disease of the pancreas can be made.

I have looked through our hospital records for the twelve years 1883-94, both inclusive, and during that time nearly 6,000 post-mortem examinations have been made. On 99 occasions the pancreas has appeared to the demonstrator of morbid anatomy to be diseased, and the following list gives the frequency with which the various morbid conditions have been found: cirrhotic, congested, or hard pancreas, 20; primary malignant disease, 19; small or atrophied pancreas, 16; secondary deposits of growth in pancreas, 11; fatty pancreas, 8; malignant growth of other organs adherent to pancreas, 7; cysts of pancreas (including one case of hydatid), 4; pancreatic calculi, 3; floor of ulcer of stomach adherent to pancreas, 3; tubercle of pancreas, 2; dilation of ducts not due to growth, 2; floor of duodenal ulcer formed by pancreas, 1; abscess of pancreas, 1; œdema of pancreas, 1; and ruptured pancreas, 1. We have had one case of hæmorrhagic pancreatitis since this list was drawn up.

The cirrhotic, congested, or hard pancreas was nearly always associated with increased venous pressure due to cardiac, pulmonary, or hepatic disease, and was as far as is known of no clinical interest. In thirteen out of the sixteen cases in which the pancreas was small diabetes was

present, and beyond the symptoms of this disease there was during life no evidence that the pancreas was diseased. When this organ was the seat of secondary deposits or hard growths of other organs adherent to it the symptoms of the primary disease quite overshadowed those due to the affection of the pancreas. The fatty pancreas was generally associated with old age, and although pancreatic calculi, pancreatic cysts, and hæmorrhagic pancreatitis are extremely interesting, yet we cannot stop to consider them to-day, and the above list shows that they are so rare in comparison with primary malignant disease that that is the disease of the pancreas most interesting from a clinical point of view. The growth is almost always a scirrhus carcinoma. The medullary variety is rare, and sarcoma is excessively rare. The proportion of males to females is two to one, and most patients are somewhere between forty and sixty years old. You will notice our two patients illustrate all these points.

It is extremely important for you to bear in mind that the growth is nearly always in the head of the gland, and as a result of this the common bile-duct is pressed upon, the bile-ducts dilate, the liver becomes enlarged, the gall-bladder is, in at least a third of the cases, distended, and it may be felt as a tumor projecting from underneath the liver, the patient may be jaundiced, his stools clay-colored, and he may show signs of cholæmia. Sometimes, when the original growth itself fails to produce these symptoms, they are present and owe their origin to enlargement of the portal glands from secondary deposits. Another but less frequent mechanical effect of the presence of the growth in the head of the gland is that the pancreatic duct is pressed upon, and that part of it which is behind the point of pressure dilates. Bright, more than sixty years ago, pointed out that the motions may in carcinoma of the pancreas contain large quantities of fat; it may be so much that it forms a thick scum, particularly about the edges of the vessel containing the fæces. As blocking of the common bile-duct is very common, and this symptom is so rare, it is probable, as I believe Professor Gairdner teaches, that it is most likely due to the fact that the pancreatic secretion is prevented from reaching the duodenum, and failure to digest fat may perhaps explain what I have noticed—namely, that patients suffering from malignant disease of the pancreas may waste extremely rapidly.

To return to our two cases, remember that they were quite exceptional in the position in the pancreas of the growth and in the absence of secondary infiltration of the portal glands, and that these anatomical peculiarities will explain the absence of the symptoms we have been discussing. Less important symptoms of carcinoma of the pancreas are that the patient usually suffers from constipation, due no doubt in many cases to the absence of bile in the intestine. His feet may swell either from pressure of the growth on the vena cava or because he is, like other sufferers from carcinoma, very anæmic. Sometimes it is possible to feel the growth as a hard, tender mass with a transmitted pulsation from the aorta and stomach resonance in front of it; but you should remember that in thin subjects it is occasionally possible to feel the pancreas even when it is not the seat of growth. I have felt it as a hard

mass when it has been cirrhotic from backward pressure due to bronchitis. In very rare instances a carcinoma of the pancreas forms a tumor large enough to be seen. The patients do not usually live sufficiently long for the growths secondary to that in the pancreas to produce marked symptoms unless they are in the portal glands. They may occur in any organ, but a usual site is the liver

Our second case is very uncommon, because it is rare for the pancreatic growth not to be in the head of the organ, and still more unusual for it to ulcerate into the stomach and kill by hæmatemesis; but we have had other cases at Guy's Hospital in which it has attached itself to neighboring organs; for instance, it has adhered to the stomach, and in one case under my own care it implicated the secondary part of the duodenum, constricting it, and perhaps helping to explain the very severe vomiting and constipation from which the patient suffered. You will find that Bright described a case in which a pancreatic growth ulcerated into the duodenum. Not long ago a patient was admitted for intestinal obstruction due to the adhesion of a pancreatic growth to the colon, and I have specimens showing how it may involve the semilunar ganglia, but I do not know that this causes any symptoms.

Neither of our two cases showed any fat necrosis, but you should always look out for it in any form of disease of the pancreas, and we have had an instance at Guy's Hospital of its occurrence in association with pancreatic carcinoma.

The only treatment possible is palliative. Morphia is usually required for the pain, vomiting is often especially difficult to deal with, and you must give the patient all the food he can take.—*Lancet*.

THE GLYCOGENIC FUNCTION OF THE LIVER AND ITS RELATION TO DIABETES.

Although the occurrence of sugar in the urine, as an abnormal constituent has long been known, it is only within recent years that its true pathological significance has been at all understood. Even to-day not a few regard diabetes as primarily and essentially a disease of the kidneys, just as is Bright's disease, but pathologists have come to know that in diabetes the trouble with the kidneys is usually entirely secondary—they merely separating from the blood the excess of sugar in it—and the hypertrophy and weakness of these organs, which is frequently to be observed, results from the undue labor thrown upon them. The blood normally contains a small amount of sugar, and, as Bernard demonstrated, it is only when this amount exceeds about one-third of one per cent. that it begins to be separated by the kidneys and excreted in the urine. Analyses show that less sugar is contained in venous than arterial blood, hence there is obviously a destruction of sugar going on in the living economy. In fact, sugar is a tissue food and is consumed by living muscle, producing heat and energy.

Sugar in the urine, then, arises from an excess of sugar in the blood,

and an excess of sugar in the blood may result either from the increased introduction or production of sugar within the body, or from its diminished consumption by the tissues; and while it is probable that both causes co-operate in producing and perpetuating diabetes, the increased gain of sugar to the system is doubtless the most potent factor.

That the liver is a source whence sugar is discharged into the circulation is evident from the fact that the portal venous blood contains, in the intervals of digestion, only one part of sugar per 1,000, whereas the hepatic venous blood contains two parts of sugar per 1,000, and, considering the great quantity of blood passing through the liver, it can readily be seen that a large amount of sugar is daily yielded by the liver into daily circulation. The question now arises, whence comes this sugar? The ultimate source of sugar to the system, as of all bodily constituents, is the food, and by glancing for a moment at the products resulting from the digestion of an ordinary meal of beefsteak, bread and pudding—consisting of fat, albumen, starch and cane-sugar—the manner in which sugar is elaborated and disposed of by the system can be demonstrated and the important sugar distributing function of the liver explained. Aside from the fat, all the elementary food constituents just mentioned as occurring in our typical meal take part in the production of sugar within the organism. In the alimentary canal the starch is converted into maltose and dextrose by the action of the saliva and the pancreatic juice, the cane-sugar is resolved into glucose and levulose by the intestinal juice, while the albumen is converted into peptones by the gastric and pancreatic juices. The sugar and peptones thus formed are then absorbed by the intestinal veins, but instead of being carried directly to the general tissues to be utilized by them in quantity and furnished at irregular intervals, the excess of diffusible sugar and peptones absorbed during digestion is intercepted by the liver, wherein it is stored up and gradually given out again into the blood during the intervals of digestion. Sugar, however, is not stored up in the liver as such, but as glycogen. Glycogen ($C_6H_{10}O_5$), which plainly belongs to the carbohydrate group, is an isomer of starch and dextrine. It occurs as a white powder, is soluble in water, yields mahogany brown color when treated with iodine, and may readily be converted into glucose by boiling with dilute sulphuric acid, and by the action of ferments.

That glycogen is formed from sugar within the liver, and that sugar is intercepted by the liver on its way from the intestines to the general circulation, may be demonstrated by experiments. The amount of glycogen in the liver is greatly reduced by fasting and greatly increased by a full meal. The amount of glycogen present can be determined by mincing up the liver and boiling with water, when the glycogen will be extracted and may be precipitated by the addition of alcohol to the aqueous extract. Tscherinow found that in a starved animal glycogen disappeared entirely from the liver, but quickly reappeared when sugar was injected into the stomach. Schopffer showed that when sugar is injected into the crural vein it appears in large quantities in the urine; but when injected slowly into the portal vein it is taken up by the liver and not a trace is found in the urine; while if it is interjected more quickly into

the portal vein, so that the liver cannot transform the sugar as rapidly as it is supplied, a portion passes into the general circulation and appears in the urine.

It was Bernard who demonstrated that when the portal vein is ligated so that the blood finds its way from the intestines to the heart and body by means of the collateral circulation without passing through the liver glycosuria occurs. As already intimated, it is only while sugar is being absorbed from the intestines that much is present in the portal blood, for, as Kuhne has observed, there is, in the intervals of digestion and absorption, generally less sugar in the blood of the portal vein than that of almost any other vessel in the body.

Concerning the transformation of peptones into glycogen, there is abundant evidence to show that this does occur within the liver. The liver of a dog which has fasted for twelve hours does not yield nearly as much glycogen as that of one which has had only a meal of raw meat during the same length of time. The patient with diabetes mellitus may eliminate the carbohydrates from his dietary for weeks and still continue to pass sugar in the urine.

As the general tissues are not provided with means for storing sugar, nor with facilities for utilizing at once the entire amount of sugar normally absorbed from the intestines during an ordinary meal, embracing variety of diet, the value of the glycogenetic function and the provision of a storehouse in the liver is plainly apparent. When for any reason there is a deficiency in the conversion of sugar into glycogen in the hepatic cells, sugar is supplied to the tissues in excess and glycosuria occurs. Usually the starch and cane-sugar contained in the food are not converted by the saliva, pancreatic and intestinal juices into diffusible sugar with sufficient rapidity to supply sugar to the liver more quickly than it can convert it into glycogen; but it is evident that from disorder of the liver leading to the imperfect glycogenesis, diabetes may result. This form of diabetes is distinguished by the sugar appearing in the urine only during the digestion of starch and sugar, by being absent during fasting and during the use of an exclusively meat diet. Imperfect glycogenesis sometimes occurs during fevers, and in cases of poisoning by arsenic and phosphorous.

The reconversion of glycogen to sugar for the use of living cells is affected through the agency of a diastatic ferment which is present in minute quantity in the liver and in larger amount in the blood. The sugar thus gradually formed from the stored up glycogen is carried from the liver by the outgoing blood to the general circulation. This process appears to be largely under central nervous control, and numerous experiments made upon animals, as well as general observations upon the human body, show that upon stimulation of certain nerve trunks the production of sugar within the liver and the yield to the circulation augments, while when others are stimulated the sugar production is diminished. When the circulation through the liver is accelerated, either by an increase in the general arterial pressure or by dilatation of the vessels of the organ itself, there is an increased formation and distribution of sugar, accompanied by its appearance in the urine. The same is true if there is too

large a proportion of the transforming ferment present in either liver or blood. The glycosuria thus occasioned persists as long as the conditions occasioning it remained uncorrected.

Even when the glycogenic function is properly carried out in the liver, sugar may occur in the urine from its lessened combustion or metamorphosis by the tissues and the consequent overloading of the blood. As the starch is to the cells of the plant, so to the muscles of man is nutrient sugar, and when from whatever cause the tissues are unable to utilize the normal amount of sugar conveyed to them by the blood, there is a failure of due nourishment and of vital energy.—*The Dietetic and Hygienic Gazette.*

In a discussion before the N. Y. Post-Graduate Society upon "How much knowledge of ophthalmology should be required of the general practitioner," Dr. Francis Valk, a professor in the Post-graduate School, made the astonishing statement "that it was better that a man practising in a large city should have *no knowledge whatever* of the diseases of the eye, for in these cities it is considered necessary that the ophthalmologist should practise exclusively within his specialty, and hence *all cases* pertaining to that specialty should be referred to him." Why not go a bit farther, Dr. Valk, and make the same claim for the aurist, gynecologist, dermatologist neurologist, etc., etc.? It would so simplify the labor of the medical student that no further legislation would be needed, and would send to the Post-graduate so many men who wished to gain access to this *caste* of specialists.

Granting Dr. Valk's statement, he is convicted of urging medical men who have no intention of practising a specialty to pursue at his school studies of which he says they should have no knowledge whatever.

Dr. Valk cites a case where a general practitioner treated a red and swollen eye for conjunctivitis, using astringents and atropine, but without benefit. When he saw the case he at once found that it was really dacryocystitis. This was one on the general practitioner.

We recall a case where an eminent specialist, treating a patient for specific irido-choroiditis, pushed the iodides until he produced iodism, the effect he was seeking, and did not recognize till after the man's three children and wife had also the same affection that his iodism had resolved itself into ordinary measles. This was one on the specialist.

The endeavor to define the two classes of specialists and general practitioners too closely is fraught with too much danger, to safely make a rash statement like that of the Professor.—*The Atlantic Medical Weekly.*

CREOSOTE IN GONORRHEA.—*The Meditzinshvie Obozrenie* reports fifty-eight cases of gonorrhœa in the male, successfully treated with injections of emulsion of creosote, two to ten per thousand. It is added that "the discharge quickly decreased, became mucoid and then ceased altogether;" also that the patients recovered more rapidly than under ordinary methods and without complications or relapses.

It is claimed that creosote exercises an anæsthetic action on urethral mucous membrane.

PATHOLOGY AND BACTERIOLOGY.

IN CHARGE OF

H. B. ANDERSON, M.D., C.M.,

Pathologist to Toronto General Hospital; Professor of Pathology Trinity Medical College,
and in charge of the Trinity Microscopic Pathological Laboratory,
Toronto General Hospital. 241 Wellesley Street.

H. W. PARSONS, M.D.

AUTO-INTOXICATION.

BY SAMUEL WOLFE, A.M., M.D., PHILADELPHIA.

The key to modern pathology is intoxication. A symptom-complex being given, to find the alteration in structure and the cause of that change in a definite chemical substance would be ideal.

In the present state of science, while much in this direction has been accomplished, there remains still a large field to explore, and a great mass of evidence to study and weigh.

Whether the *muteres morbi* is a poison formed in the laboratory of the chemist, the resultant of the organic life of a vegetable parasite, or the product of physiological changes within the organism and destined for excretion, the class of facts which present themselves ultimately to the pathologist bear a close relation to each other.

To the therapist, too, there must occur the same thoughts in all instances, of primarily an antidote, then an eliminant, and, finally, means to reconstruct and repair organic damage.

A product of physiological activity, which is intended for excretion but is not eliminated, might be equally considered as an auto-intoxicant, with one which is excreted and then reabsorbed. But the ordinary usage of the term auto-infection seems intended only to cover the latter class. To be still more exact, we must remember that these excretory products come in contact with foreign matters on the surfaces of the excreting organs, reacting with which special deleterious compounds may be formed, and then absorbed.

Thus the cutaneous tract affords lodgment for impurities of all sorts, and is constantly exposed to the atmospheric air. The respiratory tract is only in a lesser degree affected in the same way. The urine in contact with the epithelial detritus from the bladder undergoes ammoniacal decomposition, when retained, and the genital tract of the female is very often a hot-bed for putrefaction.

But probably more than all, the alimentary canal affords the best source of auto-infection. With the constant introduction of ill-selected food and drink, and the innumerable deleterious articles that civilized man contrives to offend it with, there is no mystery surrounding this fact. But even with this abuse, the chances for escape might be comparatively good if peristalsis were to continue sufficiently active. An indi-

gestible or over-heavy meal in the normal individual will cause either vomiting or a prompt crapulous diarrhoea. But many repetitions of such indiscretions soon result in a tolerance of these irritants, and in the slow weakening of the muscular coats of the stomach and intestines, with the chronic indigestion and constipation with which we are all so familiar.

With these conditions established, the constant absorption of intoxicating and infectious matters from the intestinal tract is not only possible, but highly probable.

Of the exact nature of the toxins which are thus formed and find an entrance to the circulation, the knowledge is at the present time very incomplete. Studies in this direction are being made by many able pathologists, but the difficulties are great, and the progress consequently slow.

The appearance of indican in the urine in increased quantity is held to indicate auto-toxicosis. Connected with this is a disturbance of the ratio of the normal sulphates of the urine. Preformed sulphuric acid is found absent while the combined and ethereal sulphates are increased.

Clinically the intoxication causes a train of symptoms, for the greater part referable to functional disturbances of the nervous system. It is reasonable to assume that the inherent condition of the nervous system, the constitution or temperament of the individual, may co-operate in the rôle of an etiological factor. Thus, while some individuals may suffer severely, others may, under the same degree of intoxication, be but slightly affected. The observation may, however, be applied to all forms of nerve poisons.

Wherever such cerebral symptoms as somnolence, lethargy, stupor, or coma may appear, this source of their production should be considered. In typhus fever, lead-poisoning, peritonitis, and obstruction of the bowels these symptoms are apt to be prominent, and in all of these diseases it has been experimentally found that the quantity of indican in the urine is increased. This same increase of indican has also been observed in trichinosis, catarrh of the stomach, hæmorrhage into the stomach, cholera, carcinoma of liver and stomach, and in diseases of the small intestine generally. In this whole class, nervous symptoms indicating disturbance of the higher centres are generally prominent at some time in the course of the disease.

A case of typhoid fever, which at this writing is not yet convalescent, has had jactitation, carphologia, and active delirium, all in an extreme degree. These symptoms seem to bear a curious relation to the temperature, being always most pronounced when the temperature was least inclined to rise. Thus, at a temperature of 101° to 102° F. there was great restlessness and agitation for days together, in spite of the administration of sedatives, while when the temperature stood for a few days at 103° F. and above, the patient was comparatively quiet. These vacillations in the temperature occurring at least three times thus far in the course of the disease, with always the same relation to the nervous symptoms, the significance of their connection is very forcibly established. Recognizing the possibility of their being due to auto-intoxication, I administered cathartics in several instances, and each time with decidedly beneficial effects.

The symptoms of neurasthenia, if not actually produced by auto-infection, as I believe they are in some instances, are without doubt maintained and fostered by it to a very considerable degree.

Recent researches have shown that this etiological factor enters very extensively into insanity. While I cannot draw on my own experience here, the following case, which very closely simulated general paralysis of the insane, illustrates the extreme degree of nervous break-down which can result from this cause.

B., aged 49, Englishman by birth, a carpenter by occupation, was admitted to the Samaritan Hospital on October 23rd. Two weeks before admission he had been seized with violent general convulsions, which recurred frequently during a period of twenty-four hours. They were epileptiform in character. Previous to the seizure he had been able to follow his usual occupation, but had for some time complained of weariness, especially in his lower extremities, and had been somewhat dejected in spirits. The day following the convulsive attack, he seemed to be as well as prior to it, but a day later he became delirious and unable to walk, or even to stand.

At the time of admission his mental state was bad. He was confused and wandering in all his ideas, and could not find words to express himself without being prompted. The condition was not a true aphasia, and it was afterwards learned that he had all his life had a halting speech. The speech may be said to have been ataxic. He could, on account of the mental condition, give no satisfactory account of himself, but managed to convey to the attendants some facts about his former life. His face was much suffused, and his look apathetic. The pupils were somewhat contracted and irregular in outline. Ophthalmoscopic examination revealed a bilateral slight papillitis. There was incontinence of urine and feces.

An examination of the upper and lower extremities revealed some weakness of the muscles, but no wasting and no sensory disturbances, so far as could be ascertained, in his present mental state. The knee-jerks were absent, and the superficial reflexes also. There was extreme inco-ordination of both lower and both upper extremities, and it was owing to this fact that he was unable to stand. The tongue was heavily coated and dry. The temperature and pulse were normal, and remained so throughout the whole period of the disease, except on one day, when it suddenly went up to 103° F., and remained there for a few hours. He was given full doses of quinine for a few days, as soon as this was observed, and no subsequent rise occurred.

He remained in the condition above described for about three weeks, with some improvement in his mental condition towards the end of that time, as well as in the inco-ordination. During the next two weeks he improved rapidly, so that at the end of that time he could walk perfectly well, could touch any part of the body as directed with his finger-tip, had no incontinence, no mental obscuration, or difficulty of speech, beyond what was natural with him.

He had been treated with daily doses of salines, thirty grains daily of potassium iodide, and small doses of ergot for about two weeks. He was then put on silver nitrate, one-quarter of a grain, three times a day.

There was no history of syphilis attainable, and the symptoms in the case hardly point that way. There was no marked tremor of lips and tongue, such as is a very constant symptom of general paralysis, but otherwise the case very closely resembled a paresis of the ascending variety, and of very rapid onset and progression. I regard it as due to auto-intoxication, as neither syphilis nor paresis would have cleared up under the treatment.

It is highly probable that migraine, hysteria, and even epilepsy are frequently associated with this cause.

In these and many of the other neuroses the course of the symptoms would indicate an accumulation of something that gives rise to a "nerve-storm," a seizure, or a discharge, by whatever name it may be called. The indications also point to an elimination or conversion into comparatively harmless products of the offending material during the attack. In this way we have a periodicity established, which belongs more or less to all these troubles, and which occurs independent of medicinal influences.

A few days ago, a young Hebrew came into my office, stating that for two years he had suffered from a curious round of changes in his feelings and disposition. For a period of two to three weeks he would feel perfectly well, happy, and energetic, then with the suddenness of a cloud floating over the sun he would become melancholy, dejected and irritable. His head would ache almost constantly, his muscles would tire very easily, and a heavy and oppressive feeling was present in the hypochondria. He cannot sleep at night, and his feet and hands are cold. At the end of two or three weeks this state would pass, almost as suddenly as it came on, into his previous good health, only to be followed after the same interval by another period of gloom and incapacity. His bowels were very sluggish, and his tongue somewhat furred.

A transition of types like this into migraine or epilepsy is quite often observed. I have seen attacks of migraine displace epilepsy and the reverse, where the disease in either instance was typical in all its features.

That purgation is an essential part of the treatment in these cases is evident. The salines of the less drastic type are the best. A heaping teaspoonful of Rochelle salts, or a wine-glass of natural purgative water, three times a week, taken on rising in the morning, are available. In some special cases a blue pill or a few grains of calomel with sodium bicarbonate can occasionally precede the saline in the evening.

The mineral acids are useful either alone or in connection with small doses of sodium salicylate, phenacetin, acetanilide, or antipyrin.

Of course, the diet, the habits, and the occupation of the patient should be properly regulated.

HYPODERMATIC PURGATIVES.—The *Journal de Médecine de Paris* is responsible for the statement that an aqueous solution of caffeine and chloral, equal parts (one each to ten of water), when employed hypodermatically in doses of fifteen minims, is an efficient purgative.

We would very much like to know what physiological action is assumed to take place in such case. Reasoning physiologically and analogically, a hypodermatic purgative is practically impossible.

OBSTETRICS AND GYNAECOLOGY.

IN CHARGE OF

J. ALGERNON TEMPLE, M.D., C.M., M.R.C.S., ENG.,Professor of Obstetrics and Gynaecology, Trinity Medical College;
Gynaecologist Toronto General Hospital; Physician to the Burnside Lying-in Hospital.
205 Simcoe Street.**C. A. TEMPLE, M.D., C.M., F.T.C.M.,**

Assistant at St. Michael's Hospital. 315 Spadina Avenue

**SYMPTOMS, DIAGNOSIS AND TIME FOR OPERATION IN
RUPTURED TUBAL PREGNANCY.***

BY JOSEPH PRICE, M.D., PHILADELPHIA, PA.

Careful study of the physiologic, anatomic and pathologic conditions of cases coming within our experience, while such study has not altogether removed from controversy very many subjects connected with gynecology, it has led some of us to positive convictions and to the adoption of well defined lines of practice. We are concerning ourselves less about theories, though we are not able to dispense with them altogether, but we are growing to base our rules of practice more upon the results of our observations and experiences. Pathologic systems are continually changing, one system succeeding another in quick and confusing succession. There should be no element of mere conjecture in our everyday working experience. After the surgeon has discovered and relieved conditions which his experience, his observation, has taught him to detect with almost mathematical certainty, the pathologist can step in and display his science in explaining cause and effect.

The occurrence of tubal pregnancy is regarded in widely different light by the theorist and the surgeon who has learned to deal with it practically, and who has accordingly come to understand the manifold directions in which speedy disaster may troop down upon unfortunate women subjected to this calamity. The argument that many cases get well of them selves, in the presence of the multitude of disasters possible, and in the light of the horror of some of these very recoveries, is so puerile that the surgeon of practical and positive bent can not regard them with complacency, nor consider that those who advance them have any authority from which to speak more positive than the vaporings of fancy. As to the cases of aberrant gestation we are to consider them both as anatomic and moral. They may have their origin in anatomic loss of structure or in perversion of function, such as absent ciliary motion in the epithelium, or in absolute disease of the tube, or, as I have had more than once called to my attention, in the fright of illegitimate conception.

*Read in the section on Obstetrics and Diseases of Women, at the forty-seventh annual meeting of the American Medical Association, at Atlanta, Ga., May 5-8, 1896.

Causation can rarely be determined with certainty: there are many agencies which operate to produce the trouble. The character of the attack, the whereabouts of the patient, at what employed, are always interesting considerations. The attacks are exceedingly sudden. A vigorous woman may in a few minutes look pale and exhausted and have a very feeble pulse. Any effort to change position increases the pain, and she will start with a scream; the pain may be quite general and not confined wholly to the abdomen. The rational symptoms of pregnancy are not very marked. Morning sickness is never very prominent. For weeks they may complain "on and off" of a sharp pain in one groin or the other. These pains are followed by bloody discharge; the odor of the discharge is also characteristic. Later the sharp and severe pain is followed by faintness and increased flow mixed with shreds and debris. Ruptures with large effusions are easily recognized upon examination. The finger detects an ill-defined boggy tumor, the uterus enlarged and posterior, or pushed well to one or the other side. If the rupture is quite recent it may be difficult to determine a tumor of any character: there is simply a feeling of general resistance. In examinations made one or two days after a rupture it is easy to define the irregular boggy tumor, also to locate the uterus, determine its size, position and mobility.

There is very frequently associated with these cases a history of sterility, inaptitude to conception and mild forms of pelvic disease, abortion or doubtful abortion antedating the pregnancy some four or five years, absence of one or more periods. Very frequently there is peculiar nervous disturbance, morbid apprehensions, irritability followed by acute pain, severe and recurring, pain of a variety rarely associated with other troubles. Usually the pain is followed by anemia or symptoms of concealed hemorrhage: the common symptoms of loss of blood are prominent. It is then other systems develop, intra-pelvic or perineal tumor due to clot or pressure, there is characteristic vesical and rectal disturbance, peculiar central fulness of the abdominal walls. Slight distension, tympany and marked tenderness rapidly follow the first rupture, recurring hemorrhage and all symptoms become more marked. The restlessness of the patient is alarming; probably 25 per cent. die in twenty hours where there has not been prompt and skilful surgical relief. Hemorrhage is the real cause of death: they die both early and late in the history of the trouble; early, from rupture of the tube, late or at term in primary sections done for saving both mother and a viable fetus. The non-contractile tissue of the tube favors free and continuous hemorrhage. Ruptures on the outer half of the tube or about the pavilion extremity are the least fatal. As the rupture nears the uterus the hemorrhage is most fatal. These points have been demonstrated in the experience of every one who has done any considerable number of sections. So marked has been my own observation of these facts that I commonly allude to it in my cases, exhibiting it as an object lesson to those witnessing the section, and these facts have led me to classify the cases; first, ruptures in the outer half of the tube belong to the surgeon; the second or inner half go to the coroner or coroner's physician. Rarely can you improve volume, quality and frequency of the pulse in such cases where all the symptoms are as I have narrated.

It is my conviction, fortified by my own experience, counting now one hundred and twenty-eight cases with five deaths, that the operative treatment is the only one to be considered. I am fully satisfied also that these pregnancies are rarely, if ever, in the broad ligament. In the case of fetus gone to term, in my own direct and indirect experience, the child has in no instance been in the broad ligament. I regard the chief danger of the operation as that of hemorrhage. If the patient is found so weak as to render operation an almost certain failure, I resort to salt water transfusion in order to restore the arterial tension.


Rupture with fatal hemorrhage is the most frequent termination: pyemia, septicemia and peritonitis are much rarer.

Relating to such cases, Goupil says: "It is but true, I fear, that we are authorized in saying that all cases of intra-peritoneal hemorrhage arising from extra-uterine pregnancy end in death, and although death has been delayed for six months, it is wholly exceptional. This was absolutely true in my own experience until I was emboldened—I say it—until I was shamed by Mr. Hall Wright's case into opening the abdomen and saving their lives."

The consensus of opinion by those who are competent to speak from results must be for early operation. But there are, in addition, those cases to be considered in which, after primary rupture, the fetus has still lived and advanced a full term. Here the question is one of operation with the view of saving both the life of the mother and that of the child. If one is to be lost, it is my belief that it should be that of the child; that the life of the mother is of paramount consideration. The chief danger to the mother in the operation at term in tubal pregnancy is the removal or accidental detachment of the placenta. It is easy enough to remove the child and save it, if it is viable, by operating at or near term; but the danger of fatal hemorrhage from vascular walls that can not contract, as do the uterine structures, is the vital question of the operation, so far as the mother is concerned. If we do not remove the placenta the risk of septic infection still remains.

The old and non-surgical rule of leaving the placenta to slough away is too dangerous and prolonged to be practiced. The placenta should be removed in every case, or washed and hermetically sealed, thus favoring its healthy digestion and avoiding gangrenous separation and detachment. Secondary rupture of broad ligament, discharge of placenta and fresh adhesions, or the second implantation or grafting of the placenta, have never occurred in my experience, nor have I any knowledge of such cases except that conveyed through the literature on the subject. Basing the conclusions of my judgment upon my own clinical experience, I must hold to the tubal origin and the intra-peritoneal rupture. All that follows tubal rupture is within the pelvis and peritoneal cavity, and not within the leaflets of the peritoneum forming the broad ligament.

(To be continued.)

"Sue for your divorce in the United States.  Albert L. Widdis, Attorney-at-Law and Solicitor in Chancery, 720 Chamber of Commerce, Detroit, Michigan."

NERVOUS DISEASES AND ELECTRO-THERAPEUTICS.

IN CHARGE OF

CAMPBELL MEYERS, M.D., C.M., M.R.C.S., Eng., L.R.C.P., Lond.,
Neurologist to St. Michael's Hospital. 192 Simcoe Street.

DISTURBANCES OF SENSATION IN VISCERAL DISEASE.

Dr. Henry Head, medical registrar to the London Hospital, publishes in *Brain*, 1896, Part II, a paper of 124 pages, in continuation of previous articles published in the same journal in 1893 and 1895, with reference to pain at points more or less remote from the seat of lesion. Having treated the subject in the previous papers from the topographical standpoint, considering the various painful areas, irrespectively of their grouping and of their relation to the diseases in which they occurred, in the present paper he takes up pain at a distance in diseases of the heart and lungs, with special reference to the location and grouping of painful regions in special lesions.

A question of nomenclature arises at the outset. Dr. Head uniformly speaks of the pains in question as "referred" pains. It seems, at least, open to question whether this is an altogether appropriate term. When, for instance, in a cardiac lesion, pain is felt in the arm, it is natural to assume that the pain is erroneously located. But Dr. Head finds that such pains are uniformly accompanied by tenderness in the secondarily painful region, and makes this a diagnostic criterion between "local" and "referred" pain in certain cases. Thus, pain felt in the region of the heart is "local" if there be no hyperalgesia of the skin in that region; "referred" if slight pressure is painful.

Now, when we find that in a spontaneously painful area the pain is aggravated by pressure that would not, in a healthy condition, be painful, are we not justified in believing that, whatever may be the cause of the pain, that is its seat, so far as it can be said to have a seat outside the brain? It seems to us that "transferred," or "associated," would better characterize the relation of such pains to the lesion which occasions them. This, however, is a matter of secondary importance so long as the facts are understood.

It would scarcely be practicable, within reasonable limits, to give a full exposition of the associations between special lesions and definite painful areas as described by the author. Under the head of diseases of the heart he takes up the topics of aortic valvular disease, aneurism of the aorta, mitral valvular disease, enlargement of the liver, produced by failure of the right side of the heart, and paroxysmal pain of cardiac origin (angina pectoris), discussing the distribution of the referred pains in each. Thus, in a case of aortic obstruction and regurgitation, there

was pain, anteriorly, over the second left intercostal space; posteriorly, close to the vertebral border of the angle of the scapula, and headache over the eyes, with superficial tenderness over the painful areas in the chest and above the left eye. In a case of mitral stenosis the pain was in the areas supplied by the left sixth and seventh dorsal segments and the left temple, with slight corresponding spots of tenderness on the right side. In a case of acute enlargement of the liver, due to cardiac failure, there was tenderness in the right eighth, ninth, and tenth dorsal areas, extending from the spinal column behind to the median line in front, and over the right half of the occiput.

The author believes the pain in aneurism of the aorta to be much more frequently referred than local, *i. e.*, due to pressure on adjacent organs, nerve-trunks, etc., and gives cases showing the distribution of pain and tenderness in the areas supplied by nerves which could not have been pressed upon by the tumor.

The second chapter is devoted to the theoretical consideration of the conditions in the heart which give rise to referred pain. In valvular lesions he believes it to be due to over-distension. Thus, in aortic regurgitation, the blood returns into the left ventricle as soon as it relaxes, giving it no rest, and any slight exertion is likely to bring on an attack of pain. When the distension of the ventricle results in mitral insufficiency, allowing the blood to be emptied into the pulmonary circulation, the pain disappears.

The distribution of the pain he endeavors to explain by the sensory supply to the various portions of the heart and the developmental relations of its nerves. The localization of the pain in lesion of the various segments of the heart is such as to indicate that the distribution of its nervous supply dates back to the time when the heart was a straight, tubular organ, of which the most anterior portion was the bulbus aortæ, the median portion the ventricle, and the auricle the hindmost.

The third chapter is taken up with pain in diseases of the lungs. The only disease of these organs, so far as appears, in which he finds referred pain, is phthisis. Pneumonia in itself is painless; the pleurisy which is often associated with it gives rise to local but not referred pain. In phthisis no pain accompanies rapid and complete consolidation of a lobe or its excavation, but multiple foci of disease, scattered through relatively healthy tissue, are apt to be associated with superficial pain and tenderness, which the author ascribes to the sensory terminations of the nerves being irritated rather than destroyed. The areas of pain and tenderness appear on the same side of the body and scalp as the lesion to which they are due. An attempt is made to determine the painful areas corresponding to lesions of different parts of the lung.

The gastric disturbances of phthisis are thought to be, in many cases, due to reflex disturbance.

The author's views are illustrated by a profusion of clinical cases, with diagrams showing the location of the pain in each. The work evidently represents an immense amount of labor. One interesting theoretical question is not touched upon. Leaving aside the question of routes of nervous connection, and assuming for the time, that for instance, the

hyperalgesic areas in the thorax, arm, and scalp, in a case of aneurism, are innervated from common or intimately related nuclei, by what mechanism does distension of the aorta cause tenderness or pressure in the skin of the arm.

Two possibilities suggest themselves—an alteration in the peripheral nerves, rendering them unduly sensitive, or in the ganglionic centres, rendering them painfully impressible by normal impulses. According to current theories this would be merely locating the disturbance in different parts of the same neurons.

If we were warranted in assuming that the heart and the various related areas are supplied by collateral branches of the same neurons, it would seem to account for pain in one part of their distribution being referred to another part, but not, in the present state of our knowledge, for the interpretation of normal impulses in the area supplied by the healthy branches being interpreted as pain.

PATHOGNOMONIC SIGNS OF CONGENITAL SYPHILIS.—P. Silex (*Berliner Clinische Wochenschr. Paediatrics*). The following is taken from an address delivered before the Berlin Med. Gesellschaft:

The author recognizes three characteristic signs of congenital syphilis. The first relates to the eyes, the second to the teeth, and the third to the skin. As the only real pathognomonic symptom relating to the eyes, he mentions a chorioidea areolaris, in which are found scattered over the fundus, particularly in the neighborhood of the macula, black points and patches, which present here and there white spots of different size, and larger areas with a black border. These represent atrophic colonies in the chorioidea, and pigment patches derived from the pigment of the stroma and pigment epithelium. The retina also being involved, vision in these cases is always very much impaired. Mercurial inunction and exhibition of potassium iodide effected no change. In a few cases the process, which is rare, remained unilateral. Of the numerous deformities of the teeth usually mentioned he only considers that one form pathognomonic where the permanent upper incisors present a central excavation denuded of enamel, beginning on the surface for mastication and continuing upward in the shape of a crescent. As a sign, which is only found in congenital syphilis, he considers the well-known scars radiating outward in straight lines, which do not confine themselves to the corners of the mouth or to the lips, but radiate further to cheek and chin. The histological examination of a case, which was particularly marked, proved that these lines are not scars in the anatomical sense, as papillæ, glands and vessels were well preserved in the tissue under consideration. Very likely the peculiar furrow-like appearances, which are called pseudo-scars by him, are due to a muscular tension of the skin. These three kinds of conditions, which were demonstrated by the author both on the subject and through illustrations, are considered by him absolutely pathognomonic. So that the presence of even one of them will lead to positive diagnosis of congenital syphilis.

NOSE AND THROAT.

IN CHARGE OF

J. MURRAY McFARLANE, M.D.,
Laryngologist to St. Michael's Hospital. 32 Carlton Street.

D. J. GIBB WISHART, B.A., M.D.C.M., L.R.C.P.L.
Professor of Laryngology, etc., Ontario Medical College for Women; Lecturer in Laryngology and Rhinology, Trinity Medical College; Rhinologist and Laryngologist to the Hospital for Sick Children, St. Michael's Hospital, and the Girl's Home; Assistant Rhinologist and Laryngologist Outdoor Department Toronto General Hospital, etc. 47 Grosverner Street.

EUCAINE AS A LOCAL ANÆSTHETIC IN THE SURGERY OF THE THROAT, NOSE AND EAR.

[PRELIMINARY COMMUNICATION.]

BY W. JOBSON HORNE, M.A., and MACLEOD YEARSLEY.

M. B. Camb., M.R.C.P. Lond., Physician in Charge, F.R.C.S. Eng., Surgeon in Charge of the department for Diseases of the Throat, Nose and Ear, Farringdon General Dispensary and Lying-in Charity.

Since the discovery of the anæsthetic action of cocaine by Niemann, and its introduction into practice by Koller, that alkaloid has held its own among the more valuable drugs of the *Pharmacopœia*, despite its disadvantages. But the untoward effects which have unexpectedly followed the use of cocaine have led those constantly using it to realize that its action is uncertain, and that it is therefore as well to keep antidotal remedies at hand.

Quite recently a rival has been introduced in the shape of eucaine, which is said to possess the anæsthetic action of cocaine without producing any of the toxic effects. The importance of a drug which could make good its claims to those properties it would be difficult to overrate, and, in order to arrive at its clinical value, we have lately used eucaine exclusively in throat, nose and ear surgery.

Eucaine was first investigated by Dr. Gaetano Vinci, under the direction of Professor Liebreich. At the same time that Vinci's results were communicated to the Hufeland Society in Berlin, Professor Emile Berger, in Paris, was engaged in an extensive clinical examination of the drug. Both Vinci's and Berger's investigations, however, deal chiefly with eucaine from its ophthalmological aspect, one which is not within the province of this communication to deal with. A third observer in this branch of surgery is Professor Deneffe, of the University of Gand, Belgium. Dr. Hal Foster recently published some short notes on the Use of Eucaine Hydrochloride in the Nose and Throat, giving two cases—one of turbinate hypertrophy reduced by galvano-cautery, one of tonsillotomy. He also mentions other cases. His results were completely successful.

Dr. A. L. Fuller used eucaine (by the endermic injection of 20 minims of a 10 per cent. solution) with complete success for the removal of a mole. He mentions also a case in which it was used to anæsthetise a tuberculous ulcer for curetting. Parlaghy, of Paris, is reported to have demonstrated the powers of eucaine before several physicians in the Assistance Publique de Paris, who proclaimed it an ideal anæsthetic. Other dental surgeons who have experimented with it are Kiesel, Warnekros, and Wolff, of Berlin; their verdicts are uniformly favorable. We shall have occasion to refer again to Kiesel's work.

Eucaine is the methylester of benzoyl-n-methyl-tetra methyl-gamma-oxy-piperidine-carboxylic acid. Its physical characters were thus defined to the Berlin Pharmaceutical Society by G. Merling:

Eucaine base crystallises from ether or alcohol in large glistening prisms, which melt at 104° C. Eucaine hydrochloride crystallises from methyl alcohol solutions in large glistening efflorescent prisms containing two molecules of methyl-alcohol and from watery solutions in glistening leaflets containing one molecule of water of crystallisation and permanent in the air. Eucaine hydrochloride dissolves in about ten parts of water at room temperature.

Vinci carried out certain physiological experiments with eucaine on mice, rabbits, and dogs. He found that the instillation into the eye of a rabbit or dog of a 2 to 5 per cent. solution produced complete anæsthesia in one or two minutes, which lasted on an average ten or twenty minutes. A slight hyperæmic action was thereby developed, sometimes accompanied by slight symptoms of irritation of the conjunctiva. Eucaine acts upon the central nervous system at first as an excitant, later on in toxic doses producing paralysis. Small doses of eucaine increase the reflex excitability of mice and rabbits. Doses of $\frac{1}{3}$ grain per kilo body weight cause tonic and clonic convulsions, which last several seconds, and recur at moderate intervals. An increase of the dose causes paralysis, under which the animal dies. Should the dose be resisted, the paralysis following upon the convulsions totally disappears. Vinci found that the pulse is gradually slowed by subcutaneous and intravenous injections of small and moderate doses to the extent of 20 to 30 beats per minute. There is no increase of blood pressure.

Berger's investigations corroborated those of Vinci upon all important points. The former demonstrated the action of eucaine to be analogous to that of cocaine, with the following important differences:

1. Eucaine is less toxic.
2. It slows the pulse.
3. It does not affect the pupils.

Dr. Charteris, Professor of Materia Medica and Therapeutics at the University of Glasgow, read a paper before the Royal Society of Edinburgh, in which he described experiments corroborating those of Vinci and Berger.

Before concluding this short review of the work done by others, we should like to quote the following remarks of Kiesel summarising the advantages of cocaine:

1. The heart is not influenced in any way; with nervous patients I have often had the opportunity of observing that the pulse before the operation had risen to 120, or 130, whilst after injection it rapidly fell to its normal rate without irregularity, and maintained its normal character.

2. Anæsthesia is more extensive than with cocaine, both as regards time and locality. In my experience the anæsthesia has in individual cases extended to the muscular tissues.

3. Solutions prepared with sterilized water and maintained at the room temperature remain always clear even without the addition of carbolic or salicylic acid, and never become flocculent like those of cocaine.

One more advantage—considered by Berger to be one of its most valuable properties—is that eucaine can be sterilised by boiling without undergoing decomposition.

In investigating the uses of eucaine in the surgery of the throat, nose, and ear, we feel that the points to which we should endeavor to direct special attention are :

1. The strength of solution required.
2. The rapidity, intensity, and extent of the anæsthesia.
3. The general and local action upon the circulatory system.
4. The after-effects.

Although upon all these points the opinions we have been enabled to form are favorable, we wish it to be clearly understood that they are but tentative, and our final verdict is withheld until we have given the drug a more extended trial.

The number of occasions on which we have employed eucaine is thirty-two, and they may be classified as follows :

A. Examinations :		
1. Ear.....		2
2. Laryngoscopy and posterior rhinoscopy.....		4
B. Operations :		
I. Ear :		
1. Myringotomy.....		4
2. Furuncle.....		1
II. Nose :		
1. Galvano-cautery.....		11
2. Spurs.....		4
3. Polypi.....		1
4. Other growths.....		1
III. Throat :		
Tonsillotomy.....		4

—32

Of these, 19 were males varying in age from 4 to 42, and 13 were females, from 6 to 70 years. Moreover, 6 of the patients (3 males and 3 females) had experienced the local anæsthesia of cocaine, a fact to which we shall revert later.

1. *Strength of Solution required.*—The solutions used were in three strengths, 2, 5, and 8 per cent. Of these, we found that the 2 per cent. is quite sufficient for anæsthetising the uvula, etc., for laryngoscopy or posterior rhinoscopy, and for aural examinations. In one case (Case 11, male, aged 21) seven drops of a warm 2 per cent. solution dropped into the left ear and retained (with the head inclined to the right) for 5 minutes, caused complete anæsthesia of the membrana tympani lasting nearly 20 minutes. Another man (Case xxvii, aged 42), who was most intolerant of laryngoscopy, permitted a complete examination. In the latter case, the 8 per cent. solution was first used, but on the next occasion the 2 per cent. was found sufficient, as also for Case xxxii and for Case xxix (posterior rhinoscopy). The 5 or 8 per cent. solutions have been used for operative procedures on nose, throat, and ear; and although in Case iv an aural furuncle was incised without pain under the 5 per cent., and in Cases iii, vi, vii, and x the same solution sufficiently anæsthetised the membrana tympani to permit of myringotomy, it was generally found

that for all operative measures on throat, nose, or ear the 8 per cent. solution was the more reliable. Furthermore (as will be noted below), eucaine being in our experience (so far) devoid of unpleasant after-effects, it is of advantage to use the stronger solution. In Case 1 an attempt was made to cauterise an inferior turbinate body under a 2 per cent. solution, thus obtaining our only unsatisfactory result, the case requiring the 5 per cent. before proceeding.

Methods of Application Used.—1. For the ear, warm instillation retained for from five to eight minutes by inclining the head to the opposite side. 2. For the nose, either simple swabbing or the insertion of a pledget of cotton-wool (soaked in eucaine) for five to ten minutes. 3. For the throat, simple swabbing with a pledget of cotton wool. On no occasion was eucaine applied by means of a spray.

2. *Rapidity, Intensity and Extent of Anæsthesia.*—We have found that the anæsthesia is slightly slower in onset than that of cocaine, and that the cases required from five to ten minutes to elapse before they were ready for operation. When established the anæsthesia is fully equal to that of cocaine, and in this our opinion is endorsed by the patients who had previously experienced the latter. The duration of the anæsthesia is from ten to twenty minutes, fifteen minutes being the most usual. In the extent of the anæsthesia we have had no reason for dissatisfaction. We found that when the membrana tympani was anæsthetic, the tympanum and ossicular chain were equally so. A pledget of wool passed into the anterior half of the naris rendered the inferior turbinate body anæsthetic in its whole extent. Similarly, simple swabbing of the tonsils rendered them anæsthetic throughout.

3. *Action upon the Circulation.*—*a. General.* So far our investigations as to the effect of eucaine on the pulse are inconclusive. In many instances the observations must be excluded as unreliable, on account of the mental influences in the patient due to operation. In the few instances however, in which the observations may be considered reliable, the pulse has remained the same in rate and character throughout. In no instance have we noted any slowing of the pulse. In only three cases have we seen any unpleasant effects upon the circulation following an operation or examination under eucaine, and in each of these there was sufficient reason to otherwise account for the trouble without attributing it to the drug. We have judged it best to relate briefly these three occurrences.

CASE XV.—J. W., aged 25, male, has been suffering from chronic suppurative otitis media for twenty years. A warm 8 per cent. solution of eucaine was introduced into both ears and retained for ten minutes to allow of an examination with the probe. The anæsthesia was complete, but on touching a small granulation on the inner wall of the left tympanum the patient fell from the chair in a swoon, his face becoming livid, his lips blue, and his pulse small and irregular. He revived as soon as he was laid upon the floor, and then broke out into a profuse cold sweat. Later he stated that with the swooning sensation he experienced one of intense nausea, and thought he would vomit. He had experienced similar sensations before, while syringing the left ear. The unpleasant symptoms in this case were undoubtedly due to the combined cardiac and gastric aural reflexes.

CASE XVI.—A. C., aged 70, female, suffering from a large new growth in the right nostril. A piece was removed for microscopic examination after being swabbed with 8 per cent. eucaine. The pulse was 72, and remained unchanged in rate or character

throughout. The anæsthesia was complete. After the operation the patient complained of feeling faint. She had, however, been suffering from attacks of profuse epistaxis for five months, and was also the subject of aortic insufficiency.

CASE XXV.—A. A., aged 28, female.* A nasal polypus was removed from this patient under an 8 per cent. solution of eucaïne. Immediately after the operation she became faint, but did not lose consciousness. Pulse 108. This patient was in a very low state of health, having active syphilitic ulceration of the soft palate, and active tuberculous deposit at both apices, while she was also suffering from anemia and debility, consequent upon a recent miscarriage.

b. Local.—Our observations upon the local effects of eucaïne on the circulation are at present incomplete, several points having arisen requiring further consideration. We have not, however, found it to cause hyperæmia of the turbinate bodies, in fact in several cases it has induced slight ischæmia. In two cases it has been noted that a turbinate body which before the application was in contact with the septum was not touching it in any part when anæsthesia was established. Of course, any ischæmia observed was not to be compared to that caused by cocaine. This is a point upon which we hope to make further observations in the future. In no case has there been the hæmorrhage after an operation which so often forms an unpleasant feature of cocaine anæsthesia. We would here wish to mention an apparent effect upon the salivary secretion. In the first case (xxvii), in which an 8 per cent. solution was used to anæsthetise the uvula for laryngoscopy, a considerable increase of saliva was noted. On another occasion, when a 2 per cent. solution was used, this feature was absent. A similar increased salivation was noted in Case xxxii under the 2 per cent. In Case xxix (posterior rhinoscopy) the saliva was not increased. Out of four tonsillotomies, in only one was increased salivation noted. This is an important point for decision by future observation, as its upholding will establish another point of difference from cocaine (which decreases the saliva secretion), and may detract from the usefulness of eucaïne in operations upon the oral cavity.

4. *After-effects.*—With the exception of Cases xv, xvi, and xxv, we have not noted a single instance of what might be construed as an unpleasant after-effect; the three excepted cases have been already related and explained. We have alluded to 6 cases as having experienced the effects of cocaine. In the first of these (Case iii), a female, aged 55, the use of cocaine for the removal of a nasal spur had caused such alarming syncope as to necessitate the employment of ether and amyl nitrate. This case has since been three times under eucaïne without the least discomfort. The 5 remaining cases all declared that, whilst cocaine had caused unpleasant sensations in the mouth and throat (variously described as "contracting," "freezing," and "numbing.") lasting for some hours, eucaïne, on the contrary, rendered them anæsthetic to the operation without causing any after-effect greater than (in one case) an unpleasant taste lasting half an hour.

Several points remain for further experience to decide, but we consider that our results so far justify us in continuing the investigation. Eucaïne cannot, however, wholly replace cocaine, since the effect of the latter in reducing the size of the turbinate bodies gives it a value as an aid to diagnosis which eucaïne does not appear to possess.—*B. M. J.*, 16th January, '97.

PAEDIATRICS.

IN CHARGE OF

ALLEN M. BAINES, M.D., C.M.

Physician, Victoria Hospital for Sick Children; Physician, Out-door Department Toronto General Hospital. 194 Simcoe Street, and

J. T. FOTHERINGHAM, B.A., M.B., M.D., C.M.,

Physician, St. Michael's Hospital; Physician, Outdoor Department Toronto General Hospital; Physician, Hospital for Sick Children. 39 Carlton Street.

THE OPERATIVE TREATMENT OF DISEASES OF THE HIP-JOINT OF CHILDREN.

Dr. T. Pickering Pick in a clinical lecture recently delivered at the Victoria Hospital for Children in London, England, makes the following suggestions: There is no surgeon nowadays who would deny that as soon as an abscess is formed, the time has arrived for operative interference. And it must be understood that in using the word abscess, which is perhaps not a very correct one, but at the same time a very convenient one, I mean to include all those cases where the tuberculous material has caseated and broken down, and formed a curdy fluid, no doubt in most cases mixed with pus from the surrounding inflamed tissues.

When this has taken place, there is no prospect of any amelioration except by the evacuation of the curdy material which has formed. But we should be very sure that there is pus or caseated tuberculous material before operating. I do not agree with Mr. Croft in thinking that it is necessary to incise every swelling in hip-joint disease. I have seen many cases with swelling at the hip-joint in which the swelling has existed and remained even for months, and then finally has disappeared, and the child has recovered without any operation or incision being necessary. Therefore make sure that matter is present, and there is any easy way of making sure by the exploring syringe.

In those cases where I have to open an abscess, I always make the incision from a little external and below the anterior superior spine of the ileum, in a direction downwards and inwards in an oblique direction, cutting between the sartorius and the tensor vaginae femoris, and then between the rectus and the glutei. By this means the neck of the femur and the capsule of the joint may be easily reached and the puriform fluid evacuated. This latter should be done as rapidly as possible, and the abscess cavity scraped and well sluiced out with hot sterilized water or anti-septic solution, so as to get rid of all caseated material as quickly as may be, so as to prevent any more contamination of the wound than is absolutely necessary. A careful exploration should now be made, and the exact condition of things ascertained as far as possible.

The first thing is to ascertain whether the disease began in the synovial membrane or in the bone. In a few cases on introducing the finger

the bone will be found to be quite hard and firm though denuded of cartilage, and on passing a probe it will be found to impinge on hard bone into which it cannot be buried. These, I assume, are cases where the disease has begun in the synovial membrane, and under these circumstances I do not remove the head of the bone, but I do what I call a limited erosion; I scrape away as far as I can all the tuberculous tissue and diseased synovial membrane and flakes of cartilage which remain on the surface of the bones. I then wash out the joint with hot sterilized water or some antiseptic lotion, generally using corrosive sublimate, introduce a drain into the joint, inject some iodoform emulsion, and sew up the wound. I do not do what is recommended by some, turn the head of the bone out of the socket, and then replace it. Subsequent treatment consists in daily flushing, and the fluid which I use is iodine, a drachm of the tincture in a pint of hot water. The joint is thoroughly flushed out with this, and the limb is kept perfectly at rest on a double Thomas's splint. If the discharge continues for six weeks and shows no prospect in becoming thinner or less quantity, then under these circumstances I give up the case as hopeless, and I at once proceed to excise the joint. But if, on the other hand, the discharge becomes less in quantity and thinner in quality, then I persevere in this line of treatment, and in some cases secure a bony ankylosis between the head of the bone and acetabular cavity, and a better limb than I should have gotten by excision. I am bound to confess, however, that in a large majority of cases this fails, certainly in fifty per cent., but my argument is that the procedure does no harm, and that if it succeeds you get a much better limb than you would get if you had excised the head of the bone.

Next we consider those cases where the disease of the hip started in bone, and these, as we have seen, constitute the greater portion of the cases with which we have to deal. The disease may begin in four different situations. By far the most common place for it to begin is in the ossifying tissue of the diaphysis in contact with the epiphysal cartilage; but it may also begin in the center of the cartilaginous epiphysis of the bone, or in the ossifying tissue of the trochanter or in the acetabulum.

In the great majority of cases where the disease has arrived at the stage of formation of abscess external to the bone, that is to say, the stage at which operative interference is undertaken, it will be found that the joint is implicated, and is full of pus. In these cases, in spite of the implication of the joint, I am sometimes disposed to attempt to save the head of the bone, provided there is no evidence of the disease having extended itself to this structure, that is to say, in those cases where the bone is smooth and hard and not in any way eroded.

But in the majority of cases of hip-joint disease where suppuration has taken place, we must excise the joint. For in most cases when the abscess is opened and the parts examined, there will be found to be such evidence of disease in the bone as will make it perfectly clear to the operator that the only way of bringing about a successful issue is to remove the head of the bone.

There are many ways of doing this: one way is by the posterior incision through the glutei muscles—this was the old plan; then, secondly,

there is the plan by the external incision: and thirdly, the plan by the anterior incision to which I have already alluded. The second plan, by the external incision, was in vogue twenty years ago, when surgeons were inclined to advocate a much more extensive removal of bone than is usually adopted in the present day. Of these three plans I give decided preference to the anterior incision, in the first place because it is the most convenient for exploration, and having made the opening to explore, if it is found desirable to continue the operation, it is not necessary to make another incision; and then another advantage of the anterior incision is that no structure of any importance is cut through.

The abscess having been opened in the manner I have before indicated, the parts are flushed out so as to get rid of all tuberculous material as quickly as possible, and then any structures about the joint are cleared with a scalpel, and the neck drawn through with an Adams' saw, and the head removed with a pair of sequestrum forceps. The acetabulum must now be examined by the finger to ascertain whether it is involved in the disease, and to what extent. It and the whole abscess cavity must be thoroughly scraped until every particle of diseased tissue is gotten rid of. In doing this the most useful instrument will be found to be Barker's flushing gouge, which washes away the débris as fast as it is separated. When the cavity is cleaned, it should be dried and a sponge introduced: stitches are then inserted through the edges of the wound, but these are not tied at once. As soon as everything is ready, the sponge is removed, iodoform emulsion is introduced into the cavity, and is allowed to remain there for a minute or two, and is then pressed out by the hands of an assistant, while the stitches are tied. The limb is then abducted, and in this position the wound is dressed. The whole limb is put up in Plaster of Paris or Thomas's splint, or arranged with sand-bags. These cases do not as a rule require dressing for ten days, provided the temperature remains normal: the wound is then dressed and the stitches removed, and that is all that is necessary. The child is, however, to be kept on a double Thomas's splint for three months with the limb in a position of abduction. If the weather is warm, it of course can be carried out of doors, but must be kept flat on its back. After this it may be allowed to use a single Thomas's splint. I make it a rule never to allow a child to put the excised limb to the ground for twelve months after the operation, so as to ensure a firm union.—(*The Clinical Journal*, July 8, 1896.)—*Ann. of Gynec. and Pæd.*, Jan. '97.

Dry papular asquamous eczema, with much itching.

℞

Menthol	.....	gr. ij
Ichthyol.	.....	gr. iv. vj
Zinci Oxidi	.....	ʒ j
Lanolini	.....	ʒ iv.
Ungt. Aq. Rosæ ad	.....	ʒ j

Sig. Apply frequently.

“APERTA”

THE BEST NATURAL APERIENT WATER

Bottled at the Springs, Buda Pest, Hungary.

UNDER EMINENT SCIENTIFIC CONTROL.

“We know of no stronger or more favorably constituted Natural Aperient Water.”

L. Liebermann
Royal Councillor, M.D., Professor of Chemistry, and Director of the Royal Hungarian State Chemical Institute (Ministry of Agriculture), Buda Pest.

Approved by the *ACADÉMIE DE MÉDECINE, PARIS.*

“The proportion of sulphate of Soda to sulphate of Magnesia is 15.432 to 24.4968 in the litre, so that this Water may be classed with the best Aperient Waters, and be pronounced one of the strongest.”

PROFESSOR OSCAR LIEBREICH,
University of Berlin (“Therap. Monatshefte”).

“The water is constant in its composition.”

“The predominance of sulphate of magnesia, the existence of iron in organic combination, the presence of lithia and of bicarbonate of soda (the traces of bromine, boron, fluorine, and thallium) are all advantages demanding the attention of therapeutists to this purgative water, and recommending it to practitioners.”

DR. G. POUCHET,

Professor of Pharmacology in the Faculty of Medicine of Paris.

“THE CANADA MEDICAL RECORD” says :

“A very reliable and satisfactory Aperient.”

“More agreeable to the palate than any we have knowledge of.”

“An ideal purgative.”—Practitioner.

EMPLOYED in Toronto at Toronto General Hospital, The Hospital for Sick Children, Grace Hospital, etc., and at the **Leading Hospitals of England** and on the **Continent of Europe.**

.....

CHARLES GRAEF & CO., - 32 Beaver Street, NEW YORK.

Sole Agents of

THE APOLLINARIS COMPANY, LD., - LONDON.

JOHN WYETH & BROTHER'S ELEGANT PHARMACEUTICAL PREPARATIONS.

EFFERVESCING LITHIA TABLETS.

*Tablets contain Three and Five
grains Lithium Citrate
respectively.*

For the treatment of subacute and chronic rheumatism rheumatic gout, uric acid diathesis, renal calculi composed of uric acid, and irritable bladder from excess of acid in the urine.

These Lithia Tablets embrace advantages not possessed by any other form of administration: economy, absolute accuracy of dose and purity of ingredients; convenience, ready solubility and assimilation. An agreeable, refreshing draught.

In response to numerous requests, Messrs. John Wyeth & Bro. have prepared Effervescing Tablets of Salicylates of Potassium and Lithium, in the proportions mentioned, which are readily soluble and effervesce quickly and freely. Salicylates Potassium and Lithium are invaluable remedies in all febrile affections inducing headache, pain in the limbs, muscles and tissues, also are particularly indicated in Lumbago, Pleurisy, Pericarditis, and all muscular inflammatory conditions.

ANTI-RHEUMATIC TABLETS OF SALICYLATES POTASSIUM AND LITHIUM.

EACH TABLET REPRESENTS
3½ GRAINS OF THE COMBINED
SALTS.

ELIXIR TERPIN HYDRATE.

Elixir Terpin Hydrate Comp.
Elixir Terpin Hydrate with Codeine.

REMEDIES FOR THE CURE OF

**Bronchitis, Coughs, Bronchial
Catarrh, Asthma and like
Affections of the Throat
and Organs of
Respiration.**

There seems to be little or no doubt from recent investigations and the flattering results of the internal exhibition of this derivative of Turpentine, that it plays a very important part in the therapeutics of the profession. In the treatment of chronic and obstinate Cough, Bronchitis, etc., it has proven itself of great value. A number of our medical men most familiar with the treatment of diseases and ailments of the lungs and throat have pronounced it as the best expectorant in existence. In addition to the elixir forms, Messrs. John Wyeth & Brother manufacture it in a compressed tablet form, affording a most convenient, agreeable and efficient mode of administration. Made of two, three and five grains.

Practical physicians need hardly be told how frequently ordinary cough remedies and expectorants fail; the agents that *relieve* the cough *disorder* the stomach. It is a misfortune of the action of most remedies used against coughs that they are apt to distress the stomach and impair the appetite. As in all cases of chronic cough it is of vital importance to maintain the nutrition, the value of a remedy such as Wyeth's Syrup White Pine can be readily appreciated.

Syrup White Pine.

DAVIS & LAWRENCE CO. (Ltd.), General Agents, Montreal.

As Sunlight is to Darkness

is the condition of the woman who has been relieved from some functional disturbance to her state before relief. Don't you know, Doctor, that there are few cases that pay the physician so well as those of women—and the Doctor that relieves one woman, lays the foundation for many more such cases—all women talk and your patient will tell her friends ASPAROLINE COMPOUND gives relief in all cases of functional disturbance—Leucorrhœa, Dysmenorrhœa, etc., and in the cases it does not cure it gives relief. We will send you enough ASPAROLINE COMPOUND—free—to treat one case.

DR. BRETON, of Lowell, Mass, says :

“ I wish to inform you of the very satisfactory results obtained from my use of Asparoline. I have put it to the most crucial tests, and in every case it has done more than it was required to do. I recommend it in all cases of dysmenorrhœa.”

FORMULA.	
Parsley Seed	Grs. 30
Black Haw (bark of the root)	“ 60
Asparagus seed	“ 30
Gum Guaiacum	“ 30
Henbane leaves	“ 6
Aromatics	
To each fluid ounce	

Prepared solely by

HENRY K. WAMPOLE & CO.,

Pharmaceutical Chemists,

PHILADELPHIA, PA.

Medical Therapeutics

Various Neuroses of the Larynx

In a “Note on Codeine,” in the *Lancet*, Dr. James Braithwaite, of Leeds, says: “Codeine seems to have a special action upon the nerves of the larynx; hence it relieves a tickling cough better than any ordinary form of opium. One-half of a grain may be given half an hour before bedtime. It was in my own case that I first began to use codeine. For more than twenty years, usually once every winter, I have been seized with a spasmodic cough just before going to sleep, which becomes so severe that I am compelled to get up and sit by the fire. After an hour or two I return to bed and am free from the cough till the next winter. In other respects I enjoy good health. Many years ago I found that one-half grain of codeine, taken about two hours before bedtime, absolutely stops the attack and leaves no unpleasant effect the next morning. In cases of vomiting from almost any cause, one-quarter grain doses of codeine usually answer exceedingly well. In the milder forms of diarrhœa one-half to one grain of the drug usually answers most satisfactorily, and there are no unpleasant after-effects.”

We find, however, that where there is great pain, the analgesic effect of codeine may not be sufficient, and a combination with anti-

kamnia is required. It is best given in the form of a tablet, the proportions being $4\frac{3}{4}$ grains antikamnia and $\frac{1}{4}$ grain codeine. Sometimes chronic neuroses may be cured by breaking the continuity of the pain, for which purpose we have found this combination peculiarly suited.

Clinical reports in great numbers are being received from many sections of this country, which, while verifying Dr. Braithwaite's observations as to the value of codeine, place even a more exalted value upon the advisability of always combining it with antikamnia in treatment of any neuroses of the larynx, coughs, bronchial affections, excessive vomiting, milder forms of diarrhœa, as well as chronic neuroses; the therapeutical value of both being enhanced by combination. The tablets of “Antikamnia and Codeine,” containing $4\frac{3}{4}$ grains antikamnia and $\frac{1}{4}$ grain codeine, meet the indications almost universally.—*The Laryngoscope*.

Muscular Soreness and Lagrippe Pains

℞ Antikamnia (Genuine).
 Quin. Sulph.....aa grs. xl
 Pulv. Ipecac et Opii.....grs. xx
 M. ft. Capsules No. xx, dry.

Sig.—One every two or three hours.

—*Buffalo Med. and Surg. Jour.*

We should be glad to have
you write for a sample of



TAKA-DIASTASE.



Acts more vigorously on Starch
than does Pepsin on Proteids.

: RELIEVES :

Starch * Dyspepsia.

We are now able to relieve a large number of persons suffering from faulty digestion of Starch, and can aid our patients, during convalescence, so that they speedily regain their weight and strength by the ingestion of large quantities of the heretofore indigestible, but nevertheless very necessary, starchy foods. We trust that the readers of the *Gazette* will at once give this interesting ferment a thorough trial, administering it in the dose of from 1 to 5 grains, which is best given in powder, or, if the patient objects to powder, in capsule.—*The Therapeutic Gazette*.

Pepsin is
of no Value

In ailments
arising from

Faulty Digestion
of Starch.



PARKE. DAVIS & CO.,

BRANCHES:

NEW YORK : 90 Maiden Lane.
KANSAS CITY : 1008 Broadway.
BALTIMORE : 8 South Howard St.
NEW ORLEANS : Tchoupitoulas and Gravier Sts.

Manufacturing Chemists,

DETROIT, MICH.

Branch Laboratories: LONDON, ENG., and WALKERVILLE, ONT.

The Canada Lancet

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

☞ *Communications solicited on all Medical and Scientific subjects, and also Reports of Cases occurring in practice. Address, DR. J. L. DAVISON, 20 Charles St., Toronto.*

☞ *Advertisements inserted on the most liberal terms. All Cheques, Express and P. O. Orders to be made payable to DR. G. P. SYLVESTER, Business Manager, 585 Church St., Toronto.*

AGENTS:—Eastern Agents, MONOHAN & FAIRCHILD, 24 Park Place, New York; J. & A. McMILLAN, St. John, N.B.; Canadian Advertising Agency, 60 Watling St., London; 5 Rue de la Bourse, Paris.

The Largest Circulation of any Medical Journal in the Dominion.

Editorial.

BRITISH MEDICAL ASSOCIATION.

Since our last issue there has been much accomplished in connection with the forthcoming meeting, but most of the work has been of a nature that, while useful, does not lend itself to being chronicled.

Most of all has been Dr. Roddick's journey to England and its result. He was warmly received by the President-elect, and welcomed to the dinner which was given in his honor, in London, a dinner presided over by the President of the Council of the Association, Dr. Saundby, and at which were present many of the old Presidents of the Association, together with Dr. Barnes of Carlisle, the present President of the Association as a whole; Dr. Wilks, President of the Royal College of Physicians; Mr. Macnamara, Senior Vice-President of the College of Surgeons; Mr. E. Taggart, Master of the Apothecaries Society; Mr. Butlin, President of the Pathological Society. Dr. Roddick made an excellent campaigning speech, which was published in full in the *British Medical Journal* of January 23rd.

Evidently the fact that the President-elect ventured to cross the Atlantic in the middle of winter, simply to attend a Council Meeting of the Association, made a great impression.

Until the list of officers is officially declared we cannot, unfortunately, make public the names of those appointed as readers of addresses and as Presidents of the various sections. This much, however, we can say, that the Council at home is determined that there shall be 11 sections: Medicine, Surgery, Gynæcology and Obstetrics, Anatomy and Physiology, Pathology and Bacteriology, Pharmacology and Therapeutics, Public or State Medicine, Psychology, Laryngology and Otology and Dermatology, and that the list of Presidents of these various sections will comprise the names of a greater number of distinguished men than has been the case at any previous meetings of the Association, the meetings in London itself, perhaps, excepted. If we accomplish nothing more, Dr. Roddick, by his efforts in obtaining these Presidents, made it certain that the '97 meeting of the Association must in this respect be most memorable.

We are glad to note that the other colonies of the Empire, even as far away as Australia, are showing great interest in the forthcoming meeting, and that letters received from Australia and the Cape, not to mention British possessions nearer home, such as Bermuda and Barbadoes, show that we are assured that the profession there will help to increase the success of the meeting.

It is a matter of genuine satisfaction, in Montreal, that the efforts made by the Local Executive to render the meeting national rather than local, and to associate the leaders of the profession throughout the Dominion in the work of the Association, is being so highly appreciated.

No steps have as yet been taken to ask for subscriptions outside Montreal, and unless the meeting attains enormous dimensions it is probable that nothing more will be attempted. All the same, it was with genuine pleasure that the announcement was received at the last meeting of the Local Executive that a leading member of the profession in Manitoba had offered no less than \$100.00 in aid of the expenses of the meeting.

We are asked by the Secretary of the Museum Sub-Committee to state that although many applications for space in the Museum Building have been received, the space for which tenders are asked will not be allotted until March 27th, in consequence of the necessary length of time required for correspondence with British exhibitors.

With most hearty appreciation of the goodwill shown by the great Canadian railways towards the meeting, we announce that the Canadian Pacific and Grand Trunk Railways have agreed to extend to Canadian members of the Association the privileges granted to foreign members and to guests—namely, half rates. So considerable a concession has never been previously granted and is a sign of the great national importance attached by the companies to the meeting in August. In other words, to quote the words of a joint letter received from Dr. W. E. Davies of the G.T.R., and Mr. D. McNicoll of the C.P.R.: "It has been decided to extend to Canadian members of your Association the same basis of rates to and from the convention, and excursion fares, as we have already advised you we are willing to extend to visiting members from over the sea." Practically every Canadian member can thus attend the meeting and return at the rate of a single fare for the journey and can join the excursions at the same rate.

THE LONDON MEDICAL ASSOCIATION.

The annual meeting of the London Medical Association, held on Monday evening last, was well attended and proved most interesting. The retiring President, Dr. Meek, gave an elaborate résumé of the work done during the past year, and, after thanking the members for the support and assistance given him, expressed the hope that the incoming year might prove, if possible, more successful than that just closing. The following officers were elected for 1897:—President, Dr. J. Wishart; Vice-President, Dr. A. Graham; Recording Secretary, Dr. W. M. English; Corresponding Secretary, Dr. W. J. Weeks; Treasurer, Dr. R. Ferguson.

TRINITY MEDICAL ALUMNI ASSOCIATION.

The annual meeting of the above Association will be held in Convocation Hall, Trinity University, on Wednesday, April 7th, 1897. The programme of the meeting includes the names of men well known to the profession from the United States, as well as from our own Province, so that papers of a high degree of excellence may be looked forward to. The annual banquet will be held in the evening, at which the gold medal offered by the Association for the Thesis of most distinguished merit, written by a member of the Association and read at the general meeting, will be presented to the winner.

The officers, past and present, are to be congratulated on the steady growth of the Association and its present prosperous condition. As in the past, we have no doubt but the meeting will be a pleasant reunion of the graduates in medicine of Trinity.

SANOFORM.

Schlesinger (*Therapeutische Monatshefte Univ. Med. Mag.*) recounts the advantages of sanoform, the latest substitute for iodoform. Sanoform is obtained by the action of iodine on gaultheria oil, and is the methyl ether of di-iodo-salicylic acid. It is a white, odorless, and tasteless powder, and can be heated up to 200° C. without decomposing. It is soluble in 200 parts of cold or ten parts of hot alcohol, and readily in ether, chloroform, benzole, and carbon disulphide, but very insoluble in water or glycerine. It forms with caustic alkalies salts which are sparingly soluble in water. It contains 62.7 per cent. of iodine. The results of its use in surgery and gynaecology are extraordinarily good; healing ensues more quickly and more certainly than with iodoform, signs of irritation are absent, and the drug is both odorless and non-poisonous. Arnheim has published seventy-two cases, including twenty-two of soft sore, twenty of hard sore, six of bubo, sixteen of phimosis, and three of surgical wounds, and finds that sanoform powder renders a secreting ulcer practically dry in two days, the secretion being soaked up by the powder, and forming with it an antiseptic covering beneath which suppuration speedily ceases. It does not appear that the iodine in sanoform is set free by cell activity; on the contrary, it seems to be extremely closely combined. Fifteen grains were injected under the skin of an animal in fine emulsion, but no potassium iodide could be detected in the urine, in which the presence of iodine could only be proved after evaporation and incineration. The drug is very slowly absorbed; it first appears in the urine about twenty-four hours after injection, and does not entirely disappear for about fourteen days, the maximum excretion being from the third to the sixth day. Sanoform can be used as powder, as a 10-per-cent. ointment, or in a 1-per-cent solution in collodion. Schlesinger particularly recommends sanoform gauze (10 per cent.), which, owing to the high temperature at which the drug decomposes, can be easily steril-

ized—a great advantage over iodoform gauze. A further point in its favor is that it contains no coloring matter, and stains neither the tissues nor the bandage.

LARYNGEAL OR WINTER COUGHS.

Walter M. Fleming, A.M., M.D., Examiner in Lunacy, Superior Court, City of New York; Physician to Actors' Fund of America, etc., in giving his experience in the treatment of the above and allied disturbances, in *The Journal of Nervous and Mental Disease*, submits the following:

"In acute attacks of laryngeal or winter cough, tickling and irritability of larynx, faith in antikamnia and codeine tablets will be well founded. If the irritation or spasm prevails at night, the patient should take a five-grain tablet an hour before retiring and repeat hourly until allayed. This will be found almost invariably a sovereign remedy. After taking the second or third tablet the cough is usually under control, at least for that paroxysm and for the night. Should the irritation prevail morning or mid-day, the same course of administration should be observed until subdued. In neuroses, neurasthenia, hemicrania, hysteria, neuralgia and, in short, the multitude of nervous ailments, I doubt if there is another remedial agent in therapeutics as reliable, serviceable and satisfactory; and this without establishing an exaction, requirement or habit in the system like morphine.

"Finally, in indigestion, gastritis, pyrosis, nausea, vomiting, intestinal and mesenteric disorders and the various diarrhœas, the therapeutic value of antikamnia and codeine is not debatable. The antipyretic, analgesic and antiseptic properties are incontrovertible, and therefore eminently qualified to correct the obstinate disorders of the alimentary canal."

ARTIFICIAL PRODUCTION OF AMYLOID DISEASE AND OF CIRRHOSIS OF THE LIVER.

Krawkow's work on the artificial production of amyloid disease by infecting animals with pyogenic microbes was referred to in the *Epitome* of June 22nd, 1895, par. 49^o. He now records experiments (*Arch. de Méd. Expér.*, 1896, No. 2) showing that, as well as the amyloid changes, a certain degree of cirrhosis of the liver may likewise be produced by the microbe infection. He injected cultures of staphylococcus aureus into fowls and pigeons. In none of the five pigeons could he produce any amyloid changes, though he succeeded in all the fowls, the amyloid change commencing in the spleen. Krawkow finds that any preliminary treatment of the specimens by alcohol sometimes prevents the proper color reaction with methyl violet. Experiments on the effects of extirpation of the spleen in influencing the development of the amyloid changes have not yet yielded decisive results. The bone-marrow of the fowls was very little affected, even when the changes in the other organs had reached an advanced stage. The natural resistance towards amyloid

disease varies considerably, not only in different species of animals, but even in different animals of the same species. Krawkow was unable to produce amyloid disease in frogs, though, as a result of staphylococcus infection, varying degrees of hepatic atrophy or necrosis of hepatic cells were observed. The rapidity with which amyloid disease may follow microbic infection in animals varies considerably, as it does in men. It is recorded that amyloid disease could be made out microscopically in the organs of a boy, aged 17, who died one month after being attacked with osteomyelitis. Amyloid disease has probably often been overlooked in human subjects, because the sections cut for examination have not been fresh. Krawkow failed to produce amyloid disease by introducing the microbes, not into the flesh, but into the alimentary canal. By this means, however, he sometimes produced a cirrhotic change in the liver, and, apparently, even in the spleen and kidneys. Interstitial changes in the liver of animals have been noted by him, with or without accompanying amyloid disease, as a result of chronic infection by staphylococcus aureus, bacillus pyocyaneus, the bacteria of putrefaction, and the cholera vibrio. He has been able to obtain the same hepatic change by prolonged use of a sterilized culture of bacillus pyocyaneus. Krawkow suggests, therefore, that hepatic cirrhosis in human beings may be due sometimes to the absorption of abnormal putrid matters from the intestines. In such cases, alcohol may only play the part of producer of the gastro-intestinal catarrh, which leads to the absorption of the abnormal matter. In respect to the rôle of alcohol, Von Kahliden was unable to produce even a commencing hepatic cirrhosis by the use of alcohol in animals, though the kidneys showed hyperæmia, hæmorrhages, and necrosis of cells. Straus and Blocq, however, succeeded in inducing commencing cirrhosis by alcohol in rabbits. Charrin produced a hepatitis in the liver of a rabbit by injecting the toxins of bacillus pyocaneus into the portal vein. Krawkow concludes that many cases of hepatic cirrhosis, supposed to be alcoholic, are really due to the action of microbes.

EXCESSIVE INTESTINAL PUTREFACTION.

Dr. Barclay points out, *Brooklyn Med. Jour.*, that there are two forms of intestinal fermentation produced by micro-organisms, the one of the carbo-hydrates, the other of the proteids present in the gut, and that they are mutually antagonistic to one another. The fermentation of carbohydrates leads to the evolution of gases, and to the formation of organic acids. The gases cause discomfort and the acids interfere with pancreatic digestion, but the products formed are not very poisonous nor irritating. On the other hand, the fermentation of proteid bodies caused by bacteria results in the formation of gases of more varied character, though in some cases no gas may be evolved, and in the production of many derivatives of a poisonous and dangerous action. The fæces are most offensive. In acute cases there are febrile symptoms; in chronic, depression, and nervous affections. In practice, the tests for the ethereal sulphates in the urine are too complicated, but the ordinary color tests

for indoxyl and skatol often afford valuable information. As to treatment, that by antiseptics is often disappointing; of them calomel is the best; a milk diet, with cheese or without, is the surest method of diminishing the fermentation. Salol and sodium salicylate do not act very well. Resorcin, given along with castor oil or magnesia, is frequently very effective. Irrigation of the colon is often of benefit, especially in the case of children. Gilbert et Dominici, by giving a healthy man 15 grammes of sodium and magnesium sulphates, found that they could reduce the number of bacteria in the fæces very markedly. The salts were given before breakfast, and the number of bacteria in the fæces rose from the 67,000 per milligramme of the day before to 272,000 per milligramme. The stool of the day after contained only 55,000, and of the second day following the dose 1,350 bacteria in each milligramme. The purgative had, therefore, acted rapidly in bringing down the number of organisms in the fæces from 67,000 to 1,350 per milligramme.

Book Reviews.

A SYSTEM OF PRACTICAL MEDICINE. By American authors. Edited by Alfred Lee Loomis, M.D., late Professor of Pathology and Practical Medicine in the New York University, and William Gilman Thompson, M.D., Professor of Materia Medica, Therapeutics and Clinical Medicine in the New York University. To be completed in four imperial octavo volumes, containing from 900 to 1,000 pages each, fully illustrated in colors and in black. Vol. I.—Infectious Diseases. Just ready. Vol. II.—Diseases of the Respiratory and Circulatory Systems, and of the Blood and Kidneys. In press. Vol. III.—Diseases of the Digestive System, of the Liver, Spleen, Pancreas, and other Glands; Gout, Rheumatism, Diabetes and other Constitutional Diseases. In active preparation. Vol. IV.—Diseases of the Nervous System and of the Muscles; Diseases of doubtful origin, Insolation, Addison's Disease, etc. In active preparation. Per volume, Cloth, \$5.00; Leather, \$6.00; Half Morocco, \$7.00. Lee Brothers & Co., Publishers, Philadelphia and New York. McAinsh & Kilgour, Toronto.

Systems of medicine have been growing in numbers of late, and though much good work has been done, leaving, one would almost think, no room for new work, yet the volume now before us is a proof that medical research has never been so active as at present, for the work was really needed.

This system is intended to be and, so far as we can judge from Vol. I., is thoroughly practical. There are no disquisitions therefore upon Hygiene, Bacteriology, Pathology or Symptomatology, but these subjects are separately presented in connection with each disease, thus facilitating reference and making each article a complete practical treatise in itself. It is evident from the contents of this volume that much original research and investigation have been undertaken by the authors expressly for this work, the results of which the reader will find both in the text and in the illustrations. The latter have been made a special feature of those articles which admit of such elucidation. Minute details are given in each practical subject, as examination of the blood in malaria and in anemia, the examination of sputa, physical diagnosis of the chest, the localization of disease of the brain, spinal cord, etc. Particular attention has everywhere been bestowed on full directions for treatment, while original prescriptions, formulæ, diagrams, charts and tables have been inserted wherever their admission seemed desirable.

The list of contributors to Vol. I. is large, and contains among other names well known in the scientific medical world, those of Osler, Park, Sternberg, West, Welch and Wilson. We are sure that every practitioner who secures the work will find it a safe and trustworthy guide in the daily routine of practice. We heartily commend it to the notice of our readers.

A
Palatable
Laxative
Acting without pain
Or Nausea.

WEYTH'S
Medicated Fruit Syrup,
The New Cathartic Aperient and Laxative.

We make many hundred cathartic formulas of pills, elixirs, syrups and fluid extracts ; and for that reason, our judgment in giving preference to the **MEDICATED FRUIT SYRUP**, we feel is worthy of serious consideration from medical men.

The taste is so agreeable that even very young children will take it without objection ; the addition of prunes and figs having been made to render the taste agreeable rather than for any decided medical effect. It is composed of Cascara, Senna, Jalap, Ipecac, Podophyllin, Rochelle Salts and Phosphate of Soda.

The absence of any narcotic or anodyne in the preparation, physicians will recognize is of great moment, as many of the proprietary and empirical cathartic and laxative syrups, put up and advertised for popular use, are said to contain either or both.

It will be found specially useful and acceptable to women, whose delicate constitutions require a gentle and safe remedy during all conditions of health, as well as to children and infants, the dose being regulated to suit all ages and physical conditions ; a few drops can be given safely, and in a few minutes will relieve the flatulence of very young babies, correcting the tendency of recurrence.

JOHN WYETH & BRO.,
DAVIS & LAWRENCE CO., Ltd., General Agents, Montreal.

SYP. HYPOPHOS. CO., FELLOWS

CONTAINS

The Essential Elements of the Animal Organization—Potash and Lime ;

The Oxidizing Elements—Iron and Maganese ;

The Tonics—Quinine and Strychnine

And the Vitilizing Constituent—Phosphorus ; the whole combined in the form of a Syrup, with a slight alkaline reaction.

It differs in its effects from all Analogous Preparations : and it possesses the important properties of being pleasant to the taste, easily borne by the stomach, and harmless under prolonged use.

It has gained a Wide Reputation, particularly in the treatment of Pulmonary Tuberculosis, Chronic Bronchitis, and other affections of the respiratory organs. It has also been employed with much success in various nervous and debilitating diseases.

Its Curative Power is largely attributable to its stimulant, tonic and nutritive properties, by means of which the energy of the system is recruited.

Its Action is Prompt : It stimulates the appetite and the digestion, it promotes assimilation, and it enters directly into the circulation with the food products.

The prescribed dose produces a feeling of buoyancy and removes depression and melancholy ; hence the preparation is of great value in the treatment of nervous and mental affections. From the fact, also, that it exerts a double tonic influence, and induces a healthy flow of the secretions, its use is indicated in a wide range of diseases.

When prescribing the Syrup please write, "Syr. Hypophos. FELLOWS." As a further precaution is advisable to order in original bottles.

For Sale by all Druggists,
DAVIS & LAWRENCE CO. (Ltd.), Wholesale Agents, Montreal.

EARLY SYMPTOMS OF RACHITIS.—Professor A. Jacobi says: “The very young infant and the young child suffer from rachitis in many ways. Insomnia is quite frequent. Many sleep better when carried about on the arm, because the cerebral congestion is lessened in the erect posture. As soon as they are laid down the brain becomes hyperemic, the child wakes up and makes night hideous. Such children have night terrors on waking up, they are very irritable, easily frightened, peevish or morose and bad-tempered, sometimes to a degree of moral or intellectual insanity. The suspicion of rachitis ought to be aroused when children perspire copiously all over, or mainly on the head. They rub their heads on the pillow to such a degree as to become bald on the occiput. I wish I could impress the necessity of connecting these signs with rachitis, and the advisability of not waiting for all its most prominent symptoms to appear before the diagnosis is made. The regulation of the diet is the principal remedy; but it is a mistake to believe that a food which does not disturb the bowels is for that reason alone a sufficient nutriment and a safe-guard against rachitis.”—*Archives of Pediatrics.*

A New System of Medicine

✿ ✿ ✿ In Contributions by Eminent Specialists

Edited by

ALFRED LEE LOOMIS, M. D.,

Late Professor of Pathology and Practical Medicine in the New York University.

.. AND ..

WILLIAM GILMAN THOMPSON, M. D.,

Professor of Materia Medica, Therapeutics and Clinical Medicine in the New York University.

To be Completed in Four Volumes, Containing from 900 to 1000 Pages each, Fully Illustrated in Colors and in Black. Per Imperial Octavo Volume: Cloth, \$6.00; Leather, \$7.00; Half Morocco, \$8.00.

- Vol. I. Infectious Diseases. Ready.
 Vol. II. Diseases of the Respiratory and Circulatory Systems, and of the Blood and Kidneys. In Press.
 Vol. III. Diseases of the Digestive System, of the Liver, Spleen, Pancreas and other Glands, Gout, Rheumatism, Diabetes and other Constitutional Diseases. Shortly.
 Vol. IV. Diseases of the Nervous System and of the Muscles. Diseases of doubtful origin, Insolation, Addison's Disease, etc. Shortly.
 DESCRIPTIVE CIRCULAR WITH LIST OF CONTRIBUTORS SENT ON APPLICATION.

LEA BROTHERS & CO., PUBLISHERS.

Sole Agents for Canada

MCAINSH & KILGOUR,

Confederation Life Building, TORONTO.

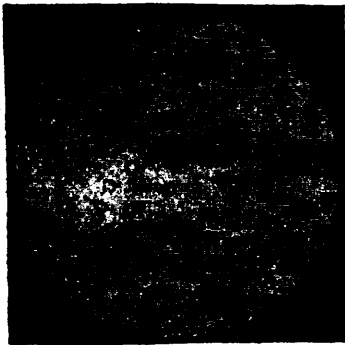
THE CROWNING DEVELOPMENT OF PRACTICAL MEDICINE

IN HÆMATHERAPY, OR BLOOD TREATMENT.

BLOOD, AND BLOOD ALONE, is physiologically ascertained to be the essential and fundamental Principle of Healing, of Defense, and of Repair, in the human system; and this Principle is now proved, by constant clinical experience, to be practically available to the system in all cases, to any extent, and wherever needed, internally or externally.

And the same overwhelming clinical demonstrations have also proved that the Vitality and Power of Bovine Blood can be and are *PRESERVED*, unimpaired, in a portable and durable preparation, sold by all druggists, and known as Bovinine. Microscopic examination of a film of Bovinine will show the *LIVING BLOOD CORPUSCLES* filling the field, in all their integrity, fullness, and energy; ready for direct transfusion into the system by any and every mode of access known to medical and surgical practice; alimentary, rectal, hypodermical, or topical.

A FILM OF BOVININE:
Showing the Blood-corpuses Intact.



Micro-photographed
by Prof. R. R. Andrews, M.D.

In short, it is now an established fact, that if Nature fails to *make* good blood, *we can introduce it*. Nothing of disease, so far, has seemed to stand before it.

Apart from private considerations, these facts are too momentous to mankind, and now too well established, to allow any further reserve or hesitation in asserting them to the fullest extent.

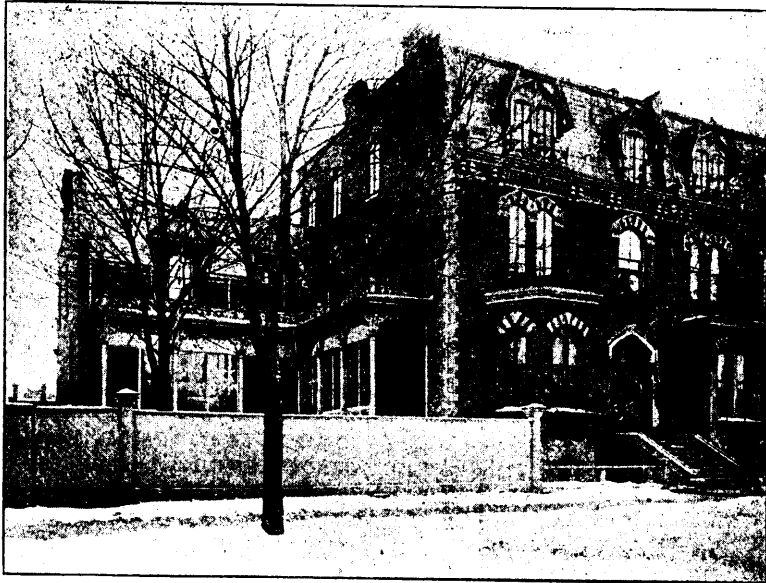
We have already duly waited, for three years; allowing professional experimentation to go on, far and near, through the disinterested enthusiasm which the subject had awakened in a number of able physicians and surgeons, and these daily reinforced by others, through correspondence, and by comparison and accumulation of their experiences in a single medical medium adopted for that provisional purpose.

It is now laid upon the conscience of every physician, surgeon, and medical instructor, to ascertain for himself whether these things are so; and if so, to develop, practise and propagate the great medical evangel, without reserve. They may use our Bovinine for their investigations, if they cannot do better, and we will cheerfully afford every assistance, through samples, together with a profusion of authentic clinical precedents, given in detail, for their instruction in the philosophy, methods and technique of the New Treatment of all kinds of disease by Bovine Blood, so far as now or hereafter developed.

Among the formidable diseases overcome by the Blood Treatment, in cases hitherto desperate of cure, may be mentioned: Advanced Consumption; Typhoid Fever; Pernicious Anæmia; Cholera Infantum, Inanition, etc.; Hæmorrhagic Collapse; Ulcers of many years standing, all kinds; Abscesses; Fistulas; Gangrene; Gonorrhœa, etc.; Blood-poisoning; Crushed or Decayed Bones; Mangled Flesh, and great Burns, with Skin-propagation from 'points' of skin; etc., etc.

N. B. Bovinine is not intended to be, and cannot be made, an article of popular self-prescription. As it is not a stimulant, its extended employment in the past has been, and the universal employment to which it is destined will be, dependent altogether on the express authority of attending physicians. Address

THE BOVININE COMPANY, 495 WEST BROADWAY, NEW YORK. /



HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM.

DR. MEYERS (M.R.C.S. Eng., L.R.C.P., Lond.) desires to announce to the Profession that he has obtained a large private residence which he has thoroughly furnished with all home comforts, and in which he is prepared to receive a limited number of patients suffering from

DISEASES of the NERVOUS SYSTEM

DR. MEYERS devotes his attention exclusively to the treatment of these diseases, for which he has especially prepared himself by several years' study, both in England and on the Continent. He has trained nurses, a skilled masseuse (Diploma Philadelphia), also all forms of electricity and other appliances which are so necessary for the satisfactory treatment of these cases.

This is the only Institution at present in Canada in which Nervous Diseases only are treated.

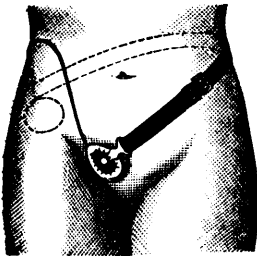
Massage given to patients in their own homes when desired.

For Terms, etc., apply to

CAMPBELL MEYERS, M. D.,

192 Simcoe Street, Toronto.

The Smith Silver Truss



This Cut shows the Truss properly fitted.

Now acknowledged by the leading Surgeons of America as the best TRUSS on the market. Dealers all say they give

Better Satisfaction than any other Truss.

Thousands of recommendations on application from the best physicians and those that have been cured by wearing the



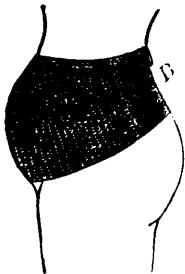
SILVER TRUSS



This Truss is now made of solid German Silver Wire, and warranted to last a lifetime.

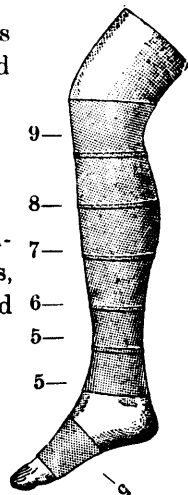
The Imperial Abdominal Supporter

It is superior to all others, and adapts itself readily to all parts, and very elastic and strong.



The Circular Elastic Bandage

These bands are made in sets and numbered, taking the place of elastic stockings, and are more comfortable and durable, and much cheaper.



Umbilical Bands FOR CHILDREN IN CASE OF HERNIA.

Elastic Bands of all descriptions.



THE SMITH MANUFACTURING COMPANY,
GALT, - - ONT.

Please mention
CANADA LANCET.

THE JARVIS

Anatomical, Ball Bearing and Self-Adjusting

Bicycle Saddle

PRICE \$5.00.

BEAUMONT JARVIS, ARCHITECT, INVENTOR, TORONTO.

The only perfect Saddle. Easy riding, and will save its cost in wear of pants.

MEDICAL TESTIMONY.

The most important feature of the bicycle of to-day is the saddle, and up to the introduction of the Jarvis Saddle the least perfected.

The importance of this cannot be over estimated. It should be free from pressure upon the delicate perineum. That the continuous, tremulous, jarring pressure of the ordinary saddle, even though apparently light and not disagreeable or painful, is injurious, is well attested by every surgeon.

The Jarvis Saddle answers every requirement from a surgical standpoint. It is constructed with a clear conception of the anatomical indications. It fits. It is easy. It forms a perfect seat, and presses upon parts only that nature intended for a seat. It presses nowhere objectionably. I have used the Jarvis Saddle for several weeks, and am more and more convinced that all others should be laid aside in its favor

Toronto, Aug., 1896.

After having given the Jarvis Saddle a thorough test for the last six weeks, I can, without prejudice, conscientiously state that, for ease and genuine comfort I prefer it to any of the many saddles I have ever ridden. As there is no pressure on the vital parts, it obviates all tendency to inflammatory actions that are quite liable to occur from repeated pressure.

Toronto, Aug. 17th, 1896.

(Signed) C. F. MOORE, M.D.

DEAR SIR,—I have ridden on your saddle over 500 miles, and have tested it thoroughly on all kinds of roads. During the five years I have been riding a wheel, I have used nearly every variety of saddle, including Brooke's, Christie's, etc., and can honestly say yours is the most comfortable and perfect in every respect that I have used. The pressure comes where nature intended it, and not on the perineum, which is the fault of most saddles, and which is so injurious. It is as suitable for women as for men. Yours truly,

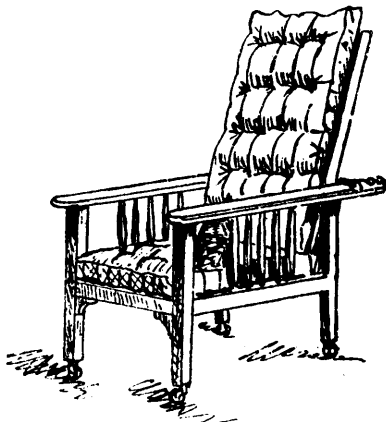
London, Aug. 18th, '96.

(Signed) D. OGDEN JONES, M.D.,
L.R.C.P., London.

SEND FOR CIRCULARS TO OUR

Head Office, JARVIS SADDLE CO., 191 Yonge St., TORONTO, ONT.

FURNITURE.



- Writing Tables
- Secretaries
- Library Tables
- Office Chairs
- Hall Stands
- Sideboard
- Lounges
- Wash Chairs
- Brass Beds
- Upholstered Beds
- Chiffonniers
- Bed-Room Suites

We have Special Bargains to offer just now in the above Lines, and our Stock is particularly large and well assorted. We have unsurpassed facilities for making anything in Furniture or interior woodwork to order, and we cheerfully submit estimates and sketches.

The CHAS. ROGERS & SONS CO., Ltd.
97 YONGE STREET.

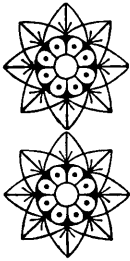
Pointers

FOR
INVESTORS
IN

... Mining Stocks



INVESTIGATE



The District and Values
Facilities for Transportation
Cost of Mining, Smelting, Etc.
Title to the Property
Organization
Capitalization
Amount of Working Capital
Amount of Development
Management

We will be pleased to forward our pamphlet treating on the above, also general literature and map of the Trail Creek District. We issue a weekly market report, which will be sent regularly on application.

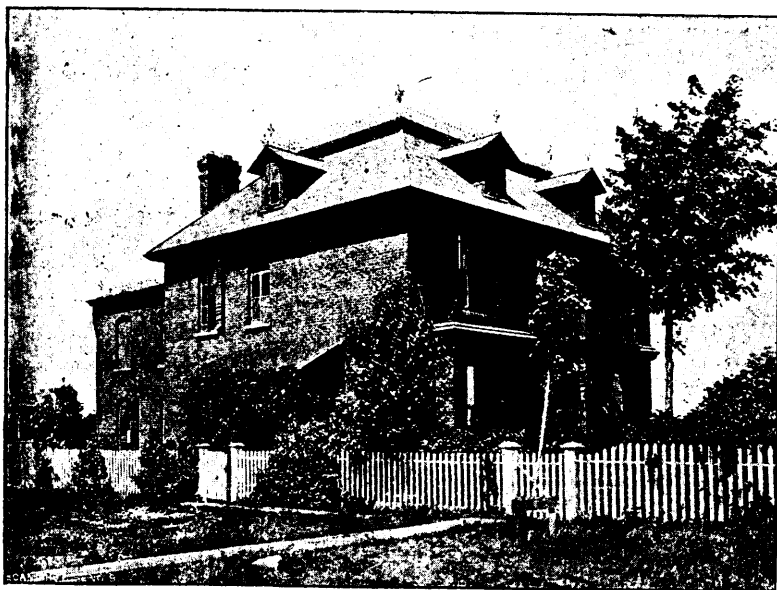
.....

Sawyer, Murphey & Co.,

CANADA LIFE BUILDING, - - TORONTO.

OFFICES :—Rossland, Spokane, Montreal.

Agents on Victoria, Chicago and New York Mining Stock Exchanges.



SYDENHAM HOUSE, OTTAWA (Photo View).

Dr. Edward Playter's Sanatorium for the treatment of the above named diseases and any intractable cases which cannot be successfully treated at home.

Situation: Delightful, elevated, sandy soil, extensive river and country outlook; all advantages of both city and country.

Hydrotherapy (warm, medicated shower and other baths) a specialty: with massage, electricity, and any special medication; as may be indicated.

Cases of Marked tubercular phthisis taken to Gatineau Mountains, a few miles from the city.

Midway between the Atlantic and Great Lakes, the atmosphere here is dry, sunny, aseptic and most invigorating,—sparkling with “highly vitalized oxygen”; practically germless, in winter especially from the constant sheet of snow over the ground; and free from the moister air of the alternate thaws of Western Ontario and the more cloudy Muskoka. Studiously selected, on *meteorological data*, as of the best on the continent for curable cases of consumption; consumption being comparatively rare.

ADDRESS: EDWARD PLAYTER, M.D., OTTAWA, ONT.

OF DR. PLAYTER'S RECENT BOOK ON CONSUMPTION

The *British Medical Journal* records:—“The parts . . . dealing with prevention and treatment are full of thoughtful suggestions.”

New York Med. Jour.:—“This is a remarkably interesting book, in which the whole subject is treated in a clear and able manner. . . . Sufficiently complete and scientific to satisfy the needs of the physician.”

Journal of the American Medical Association:—“We opened this book with the intention of glancing through it hastily, and ended in reading it carefully. . . . It should appeal, not only to physicians, but to intelligent victims of the disease.”

The *Maryland Medical Journal*:—“The subject is treated in a very thorough and scientific manner. The author has read the literature of the subject with great care. . . . The book is an excellent one.”

Archives of Pediatrics, New York:—“It is thoroughly up-to-date as to the infectiousness of consumption, its *de novo* origin, possible opium-growth of the bacillus, etc., and thus commends itself to the profession.”

Dominion Medical Monthly:—“Chapters 8, 9 and 10 are alone well worth the price of the book.”

Dr. Daniel Clark, Professor of Medical Psychology, University of Toronto, writes:—“Dr. Playter's work on consumption is a valuable contribution to Medical literature. . . . The work shows the author well acquainted with all the modern theories and practice known in respect to this deadly disease.”

Sir James Grant, Ottawa, writes:—“Dr. Playter has . . . devoted great attention to the investigation of all phases of this disease, and his able efforts in various scientific journals have contributed much toward the diffusion of valuable knowledge as to preventive means and treatment. His recent work will amply repay careful study by even the scientific expert.

In one volume, 343 pages, strongly bound in cloth, price, \$1.50. Toronto: William Briggs. New York: E. B. Treat.

For Incipient Phthisis

(Pretubercular without expectoration.)

Heart Disease

(Schott Method.)

Rheumatisms

Neuroses, etc.

Tubercular Phthisis

(With expectoration.)

TREATED AT

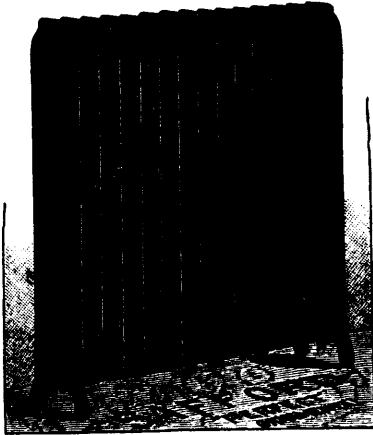
GATINEAU MOUNTAINS,

Near Ottawa.

(SEE BELOW.)

HONESTY Our Motto

The Business in "Safford" Radiators has been built on honest methods.



Millions of Safford Radiators have been made and sold, and none returned because of defective workmanship. They are in use in every civilized country on the globe's surface.

Safford . . .

THE WORLD'S BEST

. . Radiators

Are the Crowning Triumph of Genius.

MADE WITHOUT BOLTS, PACKING
OR WASHERS, AND

NEVER GET OUT OF REPAIR.

SAFFORD . . THE KING OF RADIATORS

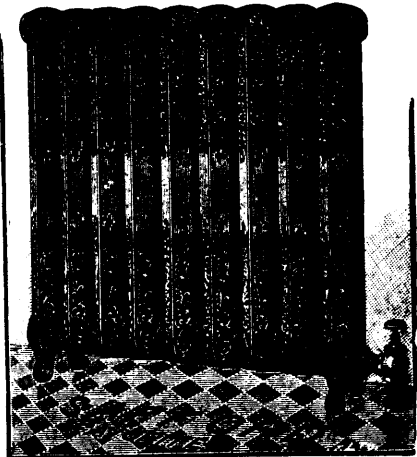
Are built in a vast number of shapes and a variety of styles.

Conveniently arranged to suit the various turns in the walls of a modern house.



*Hot Water and Steam are the
Cheapest Heating Systems
of the age.*

Full particulars from



THE TORONTO RADIATOR MFG. CO., LTD.

TORONTO, ONT.

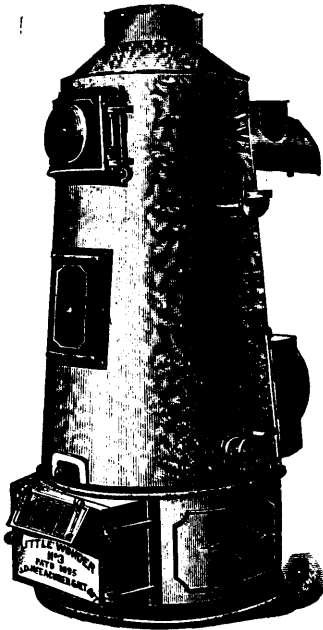
AND . . . H. McLAREN & CO., Montreal.

THE LITTLE WONDER

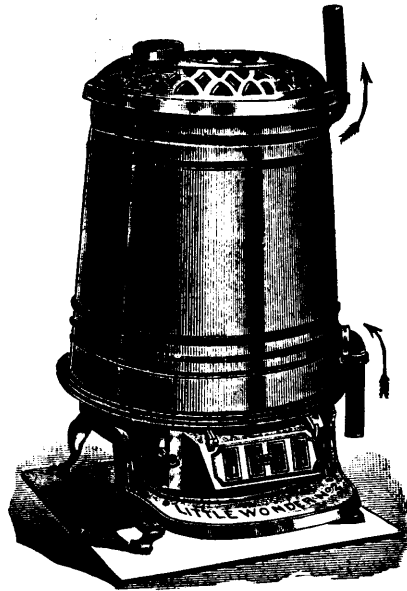
—AND—

New Hot Water Heating and Ventilating System.

PATENTED 1896.



As used in Basement.



As used on same level as Radiators.

This Hot Water Boiler and System takes the above name for the following reasons:—

- 1st. It is the smallest Hot Water Boiler in the market, of equal heating capacity.
- 2nd. It is the wonder of all who see it, that such a small Boiler, using so small a quantity of fuel, should heat such a large space and get up the required heat so quickly.
- 3rd. All practical observers wonder at such an efficient, neat and durable hot water heating system being supplied at such small cost.

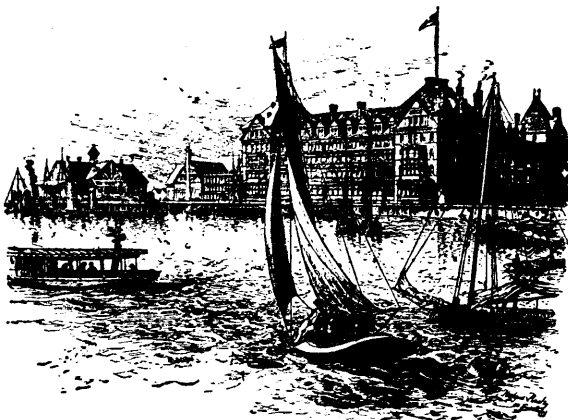
It costs about half as much as the hot water systems now in general use, and consumes from half to two-thirds the quantity of fuel.

For illustrated catalogues and full particulars of this and our Blast Heating, Drying and Ventilating Systems, address

The McEachren Heating and Ventilating Company,

MANUFACTURERS,

GALT, ONT. - CANADA.



The Hotel . . . Chamberlain

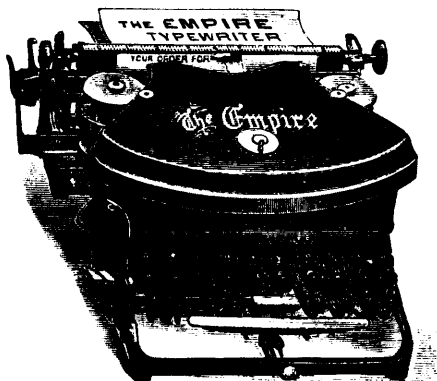
OLD POINT COMFORT,
VA.

The Finest Hotel on the
Atlantic Coast.

The Winter and Spring climate of Old Point Comfort is delightful. . . . Located between the extremes of the North and South, it blends in happy proportion the good qualities of both. . . . Write for illustrated pamphlet. . . .

GEORGE W. SWETT, Manager,
OLD POINT COMFORT, VA.

Mr. Swett was for many years Manager of the Windsor at Montreal. A cordial welcome awaits Canadians.



WHY PAY \$120.00 ?

When you can purchase a BETTER machine for less than half that amount. . . .

...THE EMPIRE...

Equal to ANY, in EVERY way SUPERIOR to ALL in MANY IMPORTANT FEATURES.

Permanent Alignment, Visible Writing, Simplicity, Durability, Utility, Portable, only weighs 15 lbs.

PRICE ONLY **THE WILLIAMS MFG. CO. Ltd.**
\$55.00 MONTREAL, P.Q.

TIRE TROUBLES are UNKNOWN..

To the rider who uses . . .

DUNLOP ..TIRES

They are the "Common Sense" tires of the World—Resilient, Durable, and Easy to Repair.

YOUR HANDS, whoever you may be, are the only tools needed to speedily mend any possible puncture.

There's no guess work, you can quickly see just what's wrong and easily remedy it.

You'll Be Thoroughly Satisfied with Dunlop's.
We Guarantee them Fully.

The American Dunlop Tire Co.

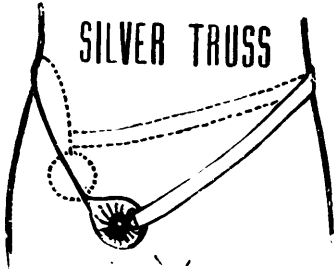
28 AND 30 LOMBARD STREET,
TORONTO.

The **J. STEVENS & SON CO.** Ltd. - 145 Wellington Street West, TORONTO.

.. MAIL ORDER DEPARTMENT ..

March Alterations in 1897 List.

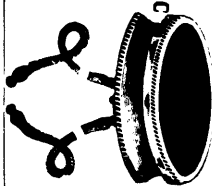
REDUCTIONS:



SILVER TRUSS

WIRE TRUSSES.—Best Quality.

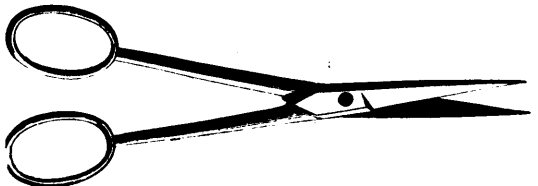
Reduced.....\$1.45



PHONENDOSCOPE.

New Design, in Metal Box.

Reduced.....\$1.50



DRESSING SCISSORS—New.....25 cts.

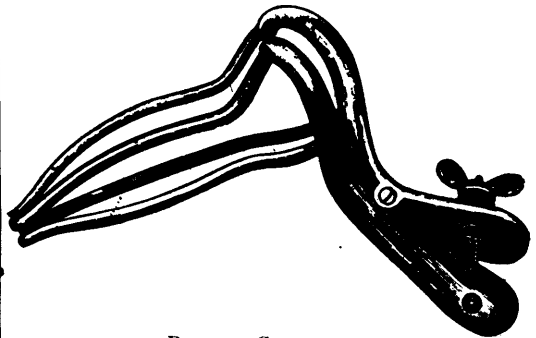


ASEPTIC UTERINE CURETTES.

Sim's Copper—New Pattern.....45 cts.

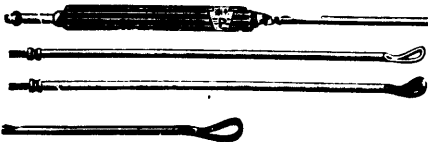


Applicators, Nasal..... .07
" Uterine..... .10
Imp. Handle, Nasal..... .15
" " Uterine..... .20



RECTUM SPECULUM.

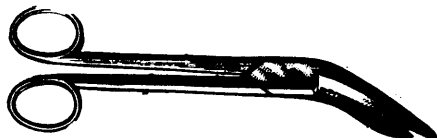
Mathews—New, (as Cut).....\$2.70
Sims, N.P. Reduced.....1.35



RINSING CURETTES.

Set of 3, with Universal Handle.

Reduced.....\$1.40



BANDAGE SHEARS.

5-in. Button Point.....\$1.00

No Discount. - Send the Money.

Another consignment of **FIRST QUALITY ENGLISH STEEL INSTRUMENTS** just received.



THE J. STEVENS & SON CO. LTD.

145 Wellington Street West : (Opposite Union Station) : TORONTO

WHEELER'S TISSUE PHOSPHATES.

Wheeler's Compound Elixir of Phosphates and Calisaya. A Nerve Food and Nutritive Tonic, for the treatment of Consumption, Bronchitis, Scrofula and all forms of Nervous Debility. This elegant preparation combines in an agreeable Aromatic Cordial, acceptable to the most irritable conditions of the stomach, Bone-Calcium Phosphate $\text{Ca}_2\text{P}_2\text{O}_8$, Sodium Phosphate $\text{Na}_2\text{H}_2\text{P}_2\text{O}_7$, Ferrous Phosphate $\text{Fe}_3\text{P}_2\text{O}_8$, Trihydrogen Phosphate $\text{H}_3\text{P}_2\text{O}_7$, and the active principles of Calisaya and Wild Cherry.

The special indication of this Combination of Phosphates in Spinal Affections, Caries, Necrosis, Ununited Fractures, Marasmus, Poorly Developed Children, Retarded Dentition, Alcohol, Opium, Tobacco Habits, Gestation and Lactation to promote Development, etc., and as a **PHYSIOLOGICAL RESTORATIVE** in Sexual Debility and all used-up conditions of the Nervous System should receive the careful attention of good therapists.

NOTABLE PROPERTIES. As reliable in Dyspepsia as Quinine in Ague. Secures the largest percentage of benefit in Consumption and all wasting diseases, by determining the perfect digestion and assimilation of food. When using it, Cod Liver Oil may be taken without repugnance. It renders success possible in treating Chronic Diseases of Women and Children, who take it with pleasure for prolonged periods, a factor essential to maintain the good will of the patient. Being a Tissue Constructive, it is the best general utility compound for Tonic Restorative purposes we have, no mischievous effects resulting from exhibiting it in any possible morbid condition of the system. When Strychnia is desirable, use the following:

R. Wheeler's Tissue Phosphates, one bottle; Liquor Strychniæ, half fluid, drachm

M. In Dyspepsia with Constipation, all forms or Nerve Prostration and constitutions of low vitality.

DOSE.—For an adult one tablespoonful three times a day, after eating; from seven to twelve years of age, one dessert-spoonful; from two to seven, one teaspoonful. For infants, from five to twenty drops, according to age.

Prepared at the Chemical Laboratory of T. B. WHEELER, M.D., MONTREAL, P.Q.

To prevent substitution, put up in pound bottles and sold by all Druggists at One Dollar.

The Jefferson Medical College of Philadelphia.

PROFESSORS—J. M. DaCosta, M.D., LL.D.; Robert S. Bartholow, M.D., LL.D.; Henry C. Chapman, M.D.; John H. Brinton, M.D.; Theophilus Parvin, M.D., LL.D.; James W. Holland, M.D.; William S. Forbes, M.D.; William W. Keen, M.D., LL.D.; H. A. Hare, M.D.; James C. Wilson, M.D.; E. E. Montgomery, M.D.; W. M. L. Coplin, M.D.; J. Solis-Cohen, M.D.; Henry W. Stelwagon, M.D.; H. Augustus Wilson, M.D.; E. E. Graham, M.D.; F. X. Dercum, M.D.; George de Schweinitz, M.D.; Orville Horwitz, M.D.; W. J. Hearn, M.D.; E. P. Davis, M.D.; S. MacCuen Smith, M.D.; Howard F. Hansell, M.D.; A. P. Brubaker, M.D.

Four years of graded instruction required. The annual announcement will be sent on application to

J. W. HOLLAND, M.D., Dean.

LIST OF TRAINED NURSES.

Terms for insertion \$1 per annum. New names can be added at any time

Toronto General Hospital.

Name.	Address.	Tel.	Rate.
EASTWOOD, Miss L.	10 Carlton St.	3398	\$15 to \$18
KAY, Miss A.	5 Clarence Sq.	2663	"
MOUNSEY, Mrs.	"	"	"
PHAIR, Mrs.	"	"	"
SMITH, Miss K.	"	"	"

Children's Hospital.

MILLAR, Miss E. 423 Church St. 3357. "

Kingston General.

PARSONS, Mrs. L.	419 Church St.	3290	"
WILLSON, Miss E.	"	4354	"
MIDDLETON, Miss I.	"	3290	"
KEITH, Miss M. S.	Lindsay, Ont. Box 337.	"	"
ANDERSON, Miss.	10 Carlton St.	3290	"
McKAY, Miss.	"	"	"

HILLCREST CONVALESCENT HOME

Wells' Hill, Toronto.

A quiet home for those seeking health and rest—and specially adapted for Typhoid and Nervous Convalescents. Terms for private rooms from \$5.00 to \$9.00 per week; for public wards \$2.40 per week. Telephone No. 4452.

Massage and Mechanico-Therapy.

Mr. George Crompton

TAKES pleasure in announcing to the Medical Profession that he is prepared to treat in the most modern form

PATIENTS REQUIRING MASSAGE.

First class accommodation for patients from a distance. Address—

32 Walton St., Toronto.

Phone No. 865.

The best of references given by the leading Physicians in the City

A. E. AMES & CO.,

BANKERS & BROKERS,

STOCKS bought and sold for cash or on margin.

DEBENTURES—Municipal, Railway and Industrial Co.—bought and sold on commission or otherwise.

DEPOSITS received at interest, subject to cheque on demand.

MONEY TO LOAN on stock and bond collateral.

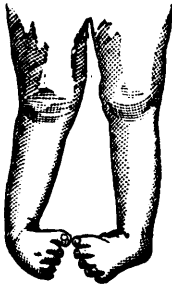
New York and Sterling Exchange.

AUTHORS & COX,

135 CHURCH ST., TORONTO,

TELEPHONE 2267.

Have had over twenty years experience in the manufacture of



Artificial Limbs

TRUSSES AND
Orthopædic Instruments

Spinal Supports, Instruments for Hip Disease, Disease of the Knee and Ankle, Bow Legs Knock Knees, Club Foot Shoes, Crutches, etc., etc.

REFERENCES:—Any of the leading Surgeons in Toronto.



"MONSOON" TEA....

Is packed under the supervision of the Tea growers, and is advertised and sold by them as a sample of the best qualities of Indian and Ceylon Teas. For that reason they see that none but the very fresh leaves go into Monsoon packages.

That is why "Monsoon," the perfect Tea, can be sold at the same price as inferior tea.

It is put up in sealed caddies of ½ lb., 1 lb. and 5 lbs., and sold in three flavours at 40c., 60c. and 80c. STEEL, HAYTER & CO., Front St., Toronto

WYATT & CO.

Members
Toronto
Stock Exchange.

46 King St. West, TORONTO.

Stocks, Bonds, etc., bought and sold on New York, Montreal and Toronto Stock Exchanges for cash or margin.

Grain and Provisions dealt in on Chicago Board of Trade.

Shares of Standard Mining Companies in British Columbia and Ontario bought and sold.

H. O'HARA & CO.,

(Members Toronto Stock Exchange).

Stock and Debentures Brokers,

24 Toronto Street,
TORONTO.

Shares bought in Toronto, Montreal and New York for cash or on margin carried at lowest rates of interest.

Telephone 915

HOTEL DEL MONTE *PRESTON*
MINERAL
OPEN WINTER AND SUMMER. *SPRINGS*



Mr. Thos. Heys, the celebrated analyst, says: "In my opinion Preston is the most healthy location in Canada. In addition, the Mineral Baths will prove very beneficial in many complaints. His analysis says per gal., temp. 47.8°; altitude 929 sea, 682 Lake Ontario.

Sodium Bicarb.....	grains,	7.231
Calcium	"	16.750
Ferrous	"	.620
Potassium Sulphate.....	"	2.830
Calcium	"	48.770
Magnesium	"	24.435
Chloride.....	"	2.268
Ammonium	"	.052
Silica.....	"	.910
Organic Ammonia.....	"	.007

103.873

Hydrogen Sulphate a trace, and Carbonic Acid Gas, cub. inches 10.28.

Physicians should send to R. Walder, Preston, for circulars to give to their patients requiring Mineral Baths. The many cures effected stamps them the best in Canada.

Cripple Creek Gold.



We advise the immediate purchase of the following stocks, for either a speculation or investment :—

Independence Extension

Just South, and within 300 feet of the world-famous Independence Mine. Write for prices.

Bull Hill Gold Tunnel Co.

A Tunnel Site through Bull Hill, running under many shipping mines, at 3c. per share.

The Mutual Benefit Mining and Leasing Co.

Has a three years' lease on Oldest Tunnel Site in Cripple Creek, containing 100 acres, between the Ancheria Leland and C. O. D. mines, also the Lelia mine, containing 10 acres. 700,000 shares out of 1,100,000 still in the Treasury. \$7,000 plant of machinery, etc. This stock is now selling at 5¼c.



Write or wire us for further information.

The Mechem Investment Company,

Colorado Springs, Col.

**THE SASKATCHEWAN
Buffalo Robes and Coats.**



These goods were exhibited at the World's Fair, where they received a Medal and Diploma of honorable mention. Patented in Canada and the United States, where manufactories have been erected in Galt and Buffalo. The Robes are as strong as any leather; handsome, soft and pliable; impervious to wind, water and moths; easily dried after being wet, and are without the effluvia arising from the old Buffalo Robes. Our Overcoats are the same, and are made either in regular Buffalo or Black Astrachan.



**LAKEHURST SANITARIUM,
OAKVILLE, ONT.**

THE attention of the Medical Profession is respectfully drawn to the uniform success attending the treatment of Alcoholism and Morphine Addiction at Oakville. A prominent medical man in Toronto has, within the last few weeks, paid a glowing tribute to its efficacy in the case of one of his patients who had long since lost susceptibility to the ordinary form of treatment employed and whose life seemed to hang in the balance. Many come to Oakville in the last stages of the malady, yet of these but two cases in four years have proved to be beyond reach of our treatment—a record well deserving thoughtful consideration of the Profession.

For terms apply

Toronto Office,

25 Bank of Commerce Chambers,

Or, **The Medical Superintendent,**

Oakville.



EVERY PHYSICIAN

is aware of the danger in riding the ordinary bicycle saddle. Sensitive tissue subject to pressure and irritation causes urethritis, prostatitis, prostatic abscess, cystitis and many other evils well-known to the medical profession.

**RIDE AND RECOMMEND THE
CHRISTY ANATOMICAL
BICYCLE SADDLE
MAKES CYCLING A PLEASURE.**



BLENNOSTASINE

**A Reliable
Remedy
for**

**INFLUENZAL COLDS
AND HAY FEVER.**

Superior to Quinine as a remedy for Colds, Influenza, etc.
Superior to Atropine, Belladonna, and their preparations
for diminishing excessive mucous secretion. - - -

A NON-TOXIC, VASO-MOTOR CONSTRICTOR.

DOSE.—One to four grains every hour; producing a rapid blennostatic or drying effect in cases of influenza, hay fever, and catarrhal hypersecretion. BLENNOSTASINE will cure an ordinary influenzal cold in twenty-four hours.

BLENNOSTASINE is supplied in crystalline form in 1-oz. bottles, and in pilular form.

• McK. & R. Pills Blennostasine, 1, 3 and 5 grs., Gelatine-Coated.

These are supplied in bottles of 100 pills.

Full information on application to

McKESSON & ROBBINS, 91 Fulton St., New York.

PRIZE WINNERS

IN THE

Borolyptol

LITERARY CONTEST

- 1st Prize, \$250** in cash, Dr. E. P. Bailey, Yardley, Pa., "A very poor leech-fecit."
- 2nd Prize, \$150** in cash, Dr. H. C. Harris, De Lay, Miss., "Aliquis."
- 3rd Prize, \$75** in cash, Dr. Howard Lilienthal, New York City, "A little leaven leaveneth the whole lump."
- 4th Prize, \$50** in cash, Dr. W. R. D. Blackwood, Philadelphia, Pa., "Pr. Vias Rectas."
- 5th Prize, \$25** in cash, Dr. D. S. Maddox Marion, O., "Rob Roy."
- \$10 Prize,** Dr. Russell Pemberton, Philadelphia, Pa., "Rontafeli,"
- \$10 Prize,** Dr. F. H. Strong, Yonkers, N.Y., "Saccharum Lactis, M.D."
- \$10 Prize,** Dr. Chas. A. Hough, Lebanon, O., "Dr. H. Hugo."
- \$10 Prize,** Dr. C. Fred. Durand, Lockport, N.Y., "Ad astra per aspera."
- \$10 Prize,** Dr. D. W. Dryer, La Grange, Ind., "Roentgen X Rays."

The various essays were, with but few exceptions, of a high order of excellence, both from a scientific and literary standpoint. We have been much gratified to note the interest to which this competition has given rise, and desire to extend our thanks to each and every contestant whether successful or otherwise.

A pamphlet containing the successful essays, with portraits of the authors, is now in press; it is being printed on good paper and in legible type, and will be mailed, together with a handsome fac-simile of Prize Painting in 14 colors, suitable for framing, to every physician sending his request for same to

THE PALISADE M'FG CO.,
YONKERS, N.Y.

CANADA BRANCH: 88 Wellington St. West, Toronto.

*Dr. E. Ross
Cincinnati, Ohio*

Without wishing to even question the possible advantages of antiseptic treatment in many cases of excessive intestinal fermentation, I am, however, inclined to lay special stress upon the influence of diet in such disorders. Everything else being equal, it is obvious that the more digestible the food-stuffs ingested, the less tendency there will be for intestinal fermentation. On the other hand, the accumulation of difficultly digestible material in the intestinal tract affords one of the best possible conditions favorable for putrefaction,"—CHITTENDEN, "Intestinal Fermentation."

Peptonised Milk, prepared with Fairchild's Peptonising Tubes, is a perfectly digestible and absorbable food. Its use precludes all accumulation of unassimilable matter in the intestinal tract.

**FAIRCHILD BROS. & FOSTER,
NEW YORK.**