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LIST OF CONTRIBUTORS TO VOL. XV.

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| <p>J. Workman, M.D., Toronto.</p> <p>C. W. Covernton, M.D., M.R.C.S. Eng., Toronto.</p> <p>A. M. Rosebrugh, M.D., Toronto.</p> <p>W. Canniff, M.D., M.R.C.S. Eng., Toronto.</p> <p>T. W. Poole, M.D., Lindsay, Ont.</p> <p>J. Stewart, M.D., L.R.C.P. & S. Ed., Brucefield, Ont.</p> <p>A. Worthington, M.D., Clinton, Ont.</p> <p>W. F. Coleman, M.D., M.R.C.S. Eng., St. John, N. B.</p> <p>W. S. Christoe, M.D., Flesherton, Ont.</p> <p>J. A. Temple, M.D., M.R.C.S. Eng., etc., Toronto.</p> <p>T. T. S. Harrison, M.D., Selkirk, Ont.</p> <p>T. K. Holmes, M.D., Chatham, Ont.</p> <p>J. Skirving, M.D., Tavistock, Ont.</p> <p>T. R. Dupuis, M.D., M.R.C.S. Eng., Kingston.</p> <p>L.-L. Palmer, M.D., Toronto.</p> <p>W. O'D. Robinson, M.D., St. Jacobs, Ont.</p> <p>A. McPhedran, M.D., Toronto.</p> <p>R. Johnston, M.D., Charlottetown, P. E. I.</p> <p>S. S. Burt, M.D., New York.</p> <p>J. F. McDonald, M.D., Hopewell, N. S.</p> <p>G. E. Coulthard, M.D., Fredericton, N. B.</p> <p>J. B. Mattison, M.D., Brooklyn, N. Y.</p> | <p>H. McNaughton, M.D., Erin, Ont.</p> <p>J. Campbell, M.D., L.R.C.P., Seaforth, Ont.</p> <p>W. Graham, M.D., Brussels, Ont.</p> <p>E. Playter, M.D., Toronto.</p> <p>A. B. Atherton, M.D., L.R.C.P. & S. Ed., Fredericton, N. B.</p> <p>G. S. Ryerson, M.D., L.R.C.P. & S. Ed., Toronto.</p> <p>N. A. Powell, M.D., Edgar, Ont.</p> <p>R. A. Alexander, M.D., Grimsby, Ont.</p> <p>W. G. Stark, M.D., Hamilton, Ont.</p> <p>G. H. Coburn, M.D., Fredericton, N. B.</p> <p>T. W. Duncombe, M.D., Waterford, Ont.</p> <p>G. T. McKeough, M.D., M.R.C.S. Eng., Chatham, Ont.</p> <p>S. S. Murray, M.D., Thorndale, Ont.</p> <p>H. B. Small, M.D., Ottawa.</p> <p>A. J. Horsey, M.D., M.R.C.S. Eng., Ottawa.</p> <p>T. A. Haultain, M.A., Peterboro', Ont.</p> <p>A. D. McGillvary, M.D., Sydney, N. S.</p> <p>J. McCrea, M.D., Campbellford, Ont.</p> <p>J. H. Barker, M.D., Upper Keswick, N. B.</p> <p>W. Burt, M.D., Paris, Ont.</p> <p>J. E. Graham, M.D., Toronto.</p> |
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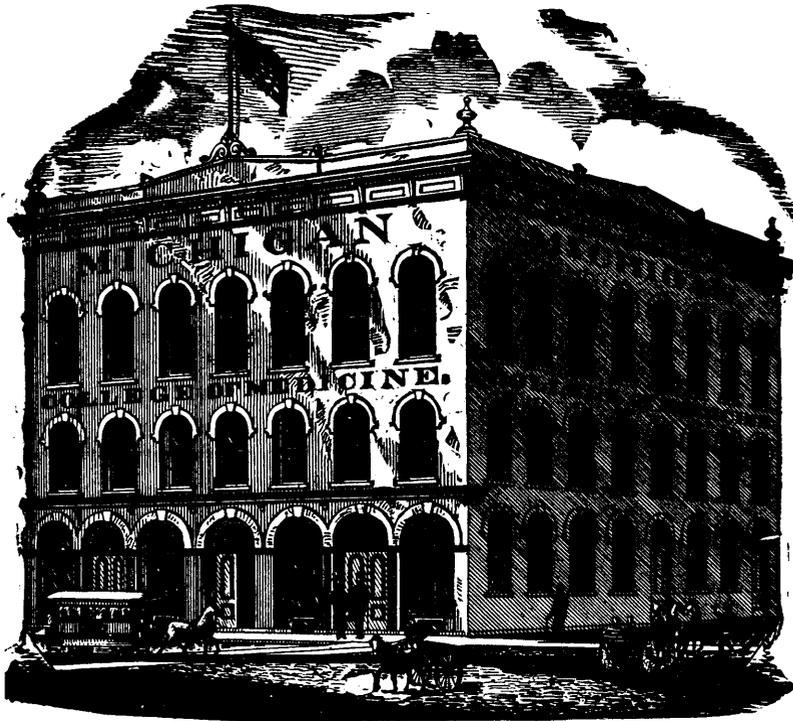
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The WINTER SESSION of 1882-83 will commence on MONDAY, OCT. 2d, 1882.

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WALTER B. GEIKIE, M.D., F.R.C.S., Edin., L.R.C.P., Lond.; F.O.S., Lond.; Consulting Physician to the Toronto General Hospital. Dean of the Faculty, 324 Jarvis St.

Prof. of Practice of Medicine and Clinical Medicine.

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J. ALGERNON TEMPLE, M.D.; M.R.C.S., Eng.; F.O.S., Lond.; Consulting Physician to Toronto General Hospital, and Attending Physician Burnside Lying-in Hospital.—191 Simcoe St.

Prof. of Obstetrics and Diseases of Women and Children.

J. E. KENNEDY, A.B., M.D.; F.O.S., Lond.; Physician to Toronto General Hospital.—68 John St.

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Prof. of Sanitary Science.

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G. S. RYERSON, M.D., L.R.C.P. & S., Edin.; Surgeon to the Mercer Eye and Ear Infirmary, and Toronto General Hospital.—317 Church Street.

Lecturer on the Eye, Ear and Throat.

MATRICULATION.—Students are advised before commencing their medical studies, to pass the Matriculation Examination of the Medical Council of Ontario or Quebec, either of which will be accepted by the University of Trinity College. Students from the Maritime Provinces, Ontario, or the United States, who do not desire to pass the Council Examination, will be admitted to attendance on Lectures, but must present themselves for the Matriculation Examination of Trinity University, on the 2nd Friday and Saturday of October or March, or the Matriculation in Toronto University at the usual time. The matriculation of the Universities may be passed at any time before graduation.

REQUIREMENTS FOR DEGREE.—The candidate must be 21 years of age; and (1) must have studied medicine four years, and during that time attended *four winter sessions*; or (2) present a certificate of one year's study with a medical practitioner, and tickets of subsequent attendance upon *three winter sessions*.

HOSPITALS.—The Toronto General Hospital has a very large number of patients in the wards, who are visited daily by the medical officers in attendance. The attendance of out-door patients daily is also very large, and thus abundant opportunities are enjoyed by students, for acquiring a familiar knowledge of Practical Medicine and Surgery, including not merely major operations, but minor Surgery of every kind, ordinary Medical Practice, the treatment of Venereal Diseases, and the Diseases of Women and Children. The Burnside Lying-in Hospital, amalgamated with the Toronto General Hospital, has recently had its staff largely increased, and will afford special and valuable facilities for the study of Practical Midwifery. The large new building, close to the Hospital and School, will be very convenient for students attending its practice. The Mercer Eye and Ear Infirmary is also amalgamated with the Toronto General Hospital, and affords special facilities for students in this department.

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CLINICAL TEACHING.—Daily clinical instruction in the spacious wards and theatre of the Hospital, will be given by members of the Hospital Staff on all interesting cases, Medical and Surgical. Arrangements have also been recently made for the delivery of *daily clinics*, in the theatre of the Hospital, by the respective professors in medicine and surgery of both schools, in addition to the usual clinics.

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Full information respecting Lectures, Fees, Gold and Silver Medals, Scholarships, Certificates of Honor, Graduation, Diplomas, Fellowship, etc., will be given in the annual Announcement, for which, apply to

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FACULTY OF MEDICINE.

FIFTIETH SESSION, 1882-3.

The Collegiate Courses of this School are a Winter Session, extending from the 1st of October to the end of March and a Summer Session, from the end of the first week in April to end of the first week in July.

Founded in 1824, and organized as a Faculty of McGill University in 1828, this School has enjoyed, in an unusual degree, the confidence of the Profession throughout Canada and the neighboring States. One of the distinctive features in the teaching of this School and the one to which its prosperity is largely due, is the prominence given to Clinical Instruction. Based on the Edinburgh model it is chiefly bed-side, and the Student personally investigates the cases under the supervision of special Professors of Clinical Medicine and Surgery.

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WILLIAM WRIGHT, M.D., L.R.C.S., Edin., Prof. of Materia Medica and Therapeutics.	WILLIAM GARDNER, M.D., Professor of Medical Jurisprudence and Hygiene.
ROBERT P. HOWARD, M.D., L.R.C.S., Edin., Prof. of the Theory and Practice of Medicine, and Acting Dean.	FRANK BULLER, M.D., M.R.C.S., Eng., Lecturer on Ophthalmology.
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J. W. DAWSON, L.L.D., F.R.S., Professor of Botany and Zoology.	RICHARD L. MACDONNELL, B.A., M.D., M.R.C.S. Eng., Assistant Demonstrator.
ROBERT CRAIK, M.D., Emeritus Professor.	WILLIAM SUTHERLAND, M.D., L.R.C.P., Lond., Curator of the Museum.
G. E. FENWICK, M.D., Professor of Surgery.	ARTHUR A. BROWNE, B.A., M.D., Instructor in Obstetrics.
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WILLIAM OSLER, M.D., M.R.C.P., Lond. Professor of the Institutes of Medicine.	

MATRICULATION.—Students from Ontario and Quebec are advised to pass the Matriculation Examination of the Medical Councils of their respective Provinces before entering upon their studies. Students from the United States and Maritime Provinces must present themselves for the Matriculation Examination of the University, on the first Friday of October, or the last Friday of March.

HOSPITALS.—The Montreal General Hospital has an average number of 150 patients in the wards, the majority of whom are affected with diseases of an acute character. The shipping and large manufactories contribute a great many examples of accidents and surgical cases. In the out-door department there is a daily attendance of between 75 and 100 patients, which affords excellent instruction in minor surgery, routine medical practice, venereal diseases, and the diseases of children. Clinical clerkships and dresserships can be obtained on application to the members of the hospital staff.

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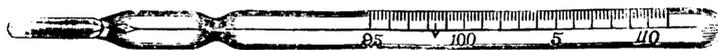
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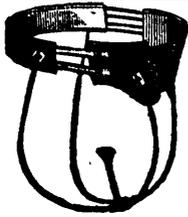
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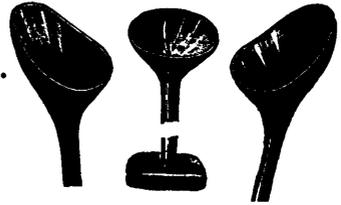
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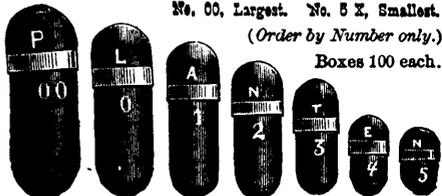
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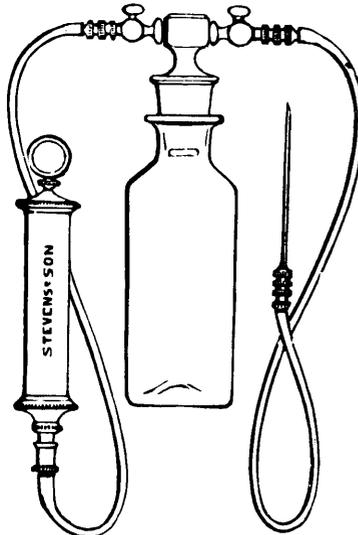
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The **Wheaten Bread Crust** is prepared from the best wheat by a peculiar method, which preserves all the nitrogenous substances, and makes the crust rich in gluten, while, by being baked at a high temperature, the gluten is rendered soluble; and being browned *throughout* to a certain shade, the starch is converted into dextrine, thus removing a very forcible objection made to many farinaceous foods, viz.: Infants cannot digest starch cells; further, the crust is pulverized to an impalpable powder.

The **Sugar** added is cane sugar, not for the purpose of sweetening, as it is already sufficiently sweet from the sugar of milk in the condensation, but a small percentage for the purpose of supplying the carbon requisite, cane sugar being about 98 per cent. pure carbon.

These constituents are then united in such proportions, that by the addition of *water only* (thus doing away with the danger of milk, usually impure and frequently diseased) in the proportion of ten of water to one of the food, it forms a liquid which, chemically analyzed, will be found to be almost *identical with the analysis of Woman's Milk*. Such are the constituents and preparation of **NESTLE'S MILK FOOD**.

The unequalled favor with which Nestle's Milk Food has been received in Europe and America has, as might be expected, resulted in several imitations under the name of *Milk Food*. We request M. D.'s and mothers not to be influenced by their experience of these imitations.

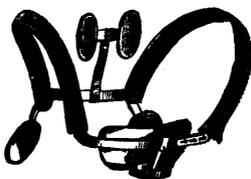
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We would call attention to **NESTLE'S CONDENSED MILK**, as the richest and purest in the world.

Fig. No. 3 is a comfortable support to the abdomen, but is not so effective as No. 8 in supporting the bowels, spine or chest.

THE IMPROVED BODY BRACE.
FIG. 3.



ABDOMINAL AND SPINAL
(SHOULDER AND LUNG BRACE.)
FIG. 8.



No 8 is a general and grateful support to the hips, abdomen, chest, and spine, simultaneously and by itself alone, is ordinarily successful; but when not so particularly in spinal and uterine affections, the corresponding attachments are required.

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PRACTITIONERS

report to the Medical Journals and to us that cases of

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FIG. 19.



HOW TO MEASURE FOR ANY OF THESE APPLIANCES
1st. Around the body, two inches below the tips of hip bones.
2nd. Around the chest, close under the arms.

3rd. From each armpit to corresponding tip of hip bone.
4th. Height of person. All measures to be in inches.
Measure over the linen, drawing the measure moderately tight.

NO. 19. — THE IMPROVED REVOLVING SPINAL PROP, for sharp angular curvature, or "Pott's Disease" of the spine. Recent and important improvements in this have led to its adoption by the most eminent physicians.

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The method of preparing Phosphorus in pilular form has been discovered and brought to perfection by us, without the necessity of combining it with resin, which forms an insoluble compound. The element is in a perfect state of subdivision and incorporated with the excipient while in solution. The non-porous coating of sugar protects it thoroughly from oxidation, so that the pill is not impaired by age. It is the most pleasant and acceptable form for the administration of Phosphorus.

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AVOID THE SUBSTITUTION OF CHEAPER AND INFERIOR BRANDS OF PHOSPHORUS PILLS AS THEY MAY PROVE INERT OR DANGEROUS.

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(PREPARED FOR PHYSICIANS' PRESCRIPTIONS.)

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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.

2.—PIL. PHOSPHORI CO. [Warner & Co.]

R Phosphori, 1-100 gr.; Ext. Nucis Vomicae, $\frac{1}{4}$ 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 digestion.

3.—PIL. PHOSPHORI CUM NUC. VOM. [Warner & Co.]

R Phosphori, 1-50 gr.; Ext. Nucis Vom., $\frac{1}{2}$ gr.

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

THERAPEUTICS.—This pill is especially applicable to *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.

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DOSE.—For Adults—Two, twice or three times a day, at meals; for children between 8 and 12 years of age—one, twice or three times daily, with food.

THERAPEUTICS.—This combination is particularly indicated in *consumption*, *scrophula* and the scrofulous diseases and debilitated and anæmic condition of children; and in *anæmia*, *chlorosis*, *sciatica*, and other forms of neuralgia; also in carbuncles, boils, etc. It may be administered also to a patient under cod-liver oil treatment.

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THE CANADA LANCET,

A MONTHLY JOURNAL OF

MEDICAL AND SURGICAL SCIENCE
CRITICISM AND NEWS.

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Original Communications.

TONSILLOTOMY AND ITS COMPLICATION BY HÆMORRHAGE.*

BY N. A. POWELL, M.D., EDGAR, ONT.

A three-fold purpose has induced me to present, at this meeting, certain points regarding tonsillotomy and one of its occasional complications. To give you in brief a history of the case which first directed my attention to this subject, to bring out in discussion some of the experience at present stowed away in the gray matter of the cerebral convolutions of the members of this association, and with such help to reach sound conclusions as to what the treatment of the complications in question should be, have been the objects which I have had in view in the preparation of this paper.

At the last meeting of the American Laryngological Association, its secretary, Dr. George M. Lefferts, of New York, discussed "The Question of Hæmorrhage after Tonsillotomy," and classified its frequency and severity thus:—

- 1st. A fatal hæmorrhage is very rare.
- 2nd. A dangerous hæmorrhage may occur.
- 3rd. A serious one, serious as regards both possible, immediate, and remote results is not very unusual, and
- 4th. A moderate one requiring direct pressure, and strong astringents to check it is commonly met with.

Of the first or fatal class, the writer had not been unfortunate enough to meet with an example. Other surgeons have, however, placed on record a small number of cases fatal from hæmorrhage following the excision of the pharyngeal tonsils, while a much larger number of deaths have been caused by the loss of blood succeeding operative procedures, other than amputations, in the tonsillar region.

Read before the Ontario Medical Association, June 7, 1882.

Coming within the *second* class, two cases have occurred in the practice of Dr. Lefferts from a total of about 500 operations. Both are recorded in his paper. The history of the first I shall read to you since I am able from the standpoint of the patient to add to it somewhat. In the fall of 1874, while at Demilt Dispensary attending the throat-clinic, held on alternate days by Drs. Lefferts and McBurney, I requested the former to remove my tonsils, as they were subject to recurrent attacks of follicular inflammation. I give you in his language what then occurred.

"I amputated both excessively hypertrophied tonsils with the tonsil bistoury. My incisions, I may say here, were made with care, and were such as I had made many times before in other instances. A few moments after the operation, an inspection of the throat having shown no excessive bleeding, I left the dispensary, where the operation had been performed, and my patient, who was using an ice-water gargle. I did not see him again for several hours, and then found him almost exsanguinated and pulseless. Profuse bleeding commenced almost immediately upon my departure, occurring very suddenly. The flow was so rapid that the patient could not clear his mouth of it. Blood passed into the stomach, giving rise to repeated attacks of vomiting, and into the larynx, causing strangulation. As described to me, his condition was for a time a dangerous one. All the resources at hand at the moment that suggested themselves to the doctors present, except pressure, were tried without avail. The hæmorrhage persisted. I was sent for, but not found, and finally my colleague, Dr. McBurney, fortunately reached the case some three hours after the commencement of the bleeding. He at once did what should have been done before, cleared all blood clot out of the pharynx, differentiated the source of the hæmorrhage and applied direct pressure over the spot on the right side from whence it was found to come. In a short time it had ceased. I arrived later, and found my patient stretched upon a bench, as I have said, white, bloodless, and almost pulseless. After an anxious night spent with him where he lay, he was carried in the morning to his home, and slowly convalesced during the following month. There was at no time a recurrence of the bleeding."

In the removal of the right tonsil, the one that gave rise to the trouble afterwards, Dr. Lefferts was

assisted by a surgeon who happened to be present. This latter gentleman held the vulsellum forceps in order to free Dr. L.'s right hand for the use of the bistoury. I noticed that as the section was made strong traction was also made upon the tonsil, and this must have placed on the stretch the tissue last divided, which was the lower part of the gland. In this part lay the artery—probably the tonsillar branch of the ascending pharyngeal—from which the subsequent bleeding occurred. Its mouth opened deep in the sulcus, between the tongue and the stump of the tonsil, and it was so obliquely divided that the contraction and retraction by which natural hæmostasis is effected could not take place. Possibly this vessel was enlarged at the expense of the others supplying the gland; possibly also the indurated tissue through which it ran prevented its closure. About half-an-hour after Dr. Leffert's hurried departure to fill his next engagement, the bleeding became very free. I then asked some of the physicians from other departments of the dispensary to look at the wound. They did so and one prepared for me a tannic acid gargle as advised by Mackenzie, while another immediately after its use applied to the part a solution of the persulphate of iron with a brush. Between them they filled the fauces and pharynx with ink manufactured on the spot; a third gentleman then began giving me ten grain doses of quinine, while another spoke rather indefinitely of the hypodermic use of ergotine or the ligation of the carotid. The fifth could only offer his regrets that he had to leave at once, as he "wanted to wait and see Lefferts stop this." These gentlemen were all educated and skilled physicians in their own specialties, and all but the last seemed anxious to be of service, but none of them remembered the simple surgical fact that direct pressure on the mouth of any bleeding vessel will control the loss till other and more permanent means of checking it may be adopted. The flow being rapid I became faint and exsanguinated in a short time, and in the opinion of those better able than myself just then to form a correct opinion, I could not have survived another hour without the help which Dr. McBurney afforded. It was estimated by several gentlemen present that the loss of blood amounted to between six and seven pints. If either my friends, the throat specialists, or a good practical surgeon had been present when it began,

it would not probably have reached as many ounces, nor would the general condition have become a dangerous one. Since that time I have frequently had occasion to perform tonsillotomy, and have met with nothing more unsatisfactory afterwards than the loss of an occasional fee for so doing. I have knowledge, however, of nine cases besides my own in which a fatal result was all but reached. One of these occurred in the practice of an old fellow-student of mine who now fills a chair in a western college. In this case the doctor left a student to watch his patient, and was recalled in haste two hours later. He found it necessary to apply pressure with a sponge on a holder for many hours, and has stated that without the recollection of my experience and treatment to guide him he would have been at a loss to know what to do.

From the statistics which I have at hand, based chiefly on the practices of leading surgeons, I am disposed to think that a dangerous degree of hæmorrhage occurs in about 1 per cent. of all tonsillotomies. If with proper after treatment it is thus frequent, may we not consider its risks to be greater in connection with that slap-dash and happy-go-lucky surgery with which even in Ontario we are not altogether unacquainted? We know how often some physicians meet with post-partum hæmorrhage, and are apt to connect this frequency with a faulty or careless treatment of the third stage of labor. That obstetrician will see least of it, probably, who has its dangers and its prevention most constantly in his mind. The same reasoning will apply to this form of hæmorrhage. With the conviction that the liability to hæmorrhage from the stump of an amputated tonsil will be lessened by the right performance of the operation that may cause it, I submit without arguments the following conclusions for your adoption or amendment:—

The surgeon who proposes to remove a tonsil should have at hand a strong and perfectly manageable light such as is obtained from a student's lamp and a forehead protector of four inch diameter and short focus. He should not be dependent upon the kitchen cupboard for a part of his armament, but should have a good tongue depressor, and this is almost the same as saying that he should have Turke's model, as for any operation on the back of the throat it is the only good one.

He should use the tonsillotome preferably for children, and especially if ether be not given. If

the part to be removed be prominent he should use this instrument for adults also, and should prefer McKenzie's or Hamilton's models, which cut by propulsion to any of the forms in which a sickle-shaped knife makes the section as it is being retracted.

He should use the vulsellum forceps or double-hook and probe-pointed bistoury for all cases in which the gland is sessile, or in which a particular portion of it is to be excised. In operating he should stand before the patient, seize the left tonsil and cut from above downwards, so as to remove all that projects beyond the anterior pillar of the fauces. Then, standing behind the patient, he should remove to the same degree the right gland by cutting from below upwards.

Bearing in mind the manifold risks of operating on even small inflamed parts he should select a period of quiescence for the amputation, the exceptions to this rule being: first, that class of cases in which the gland is very small and flat between the catarrhal attacks upon its secreting surface; and second, the rare condition of actual danger to life from combined hypertrophy and inflammation.

The surgeon after a tonsillotomy should not lose sight of his patient for several hours, but should make frequent and careful inspection of the throat. He should remember, that, especially in children, blood may pass into the stomach and give no external sign till blanching of the face or faintness shows its loss. Should this examination reveal actual hæmorrhage in unsafe amount he should resort at once to direct pressure, either with the fingers or a sponge on a firm holder. After this has been some time applied he should examine for bleeding points, and if found they should be caught and twisted. Cold, in the form of ice-water or ice in substance may be made use of, but it is better to avoid the application of the styptic preparations of iron or other astringents. In the rare event of pressure, torsion, and cold being, when properly applied, insufficient, the ligating of the external carotid artery, and this also failing, of the common trunk may be taken into consideration.

A CASE OF ECLAMPSIA.*

BY THOS. T. S. HARRISON, M.D., SELKIRK, ONT.

I bring this case before the Association, not to show my skill in treating it, or to boast of the

favorable result of the treatment, but because the case made a profound impression on me, and because I have often asked myself if I could have done better had I taken a different course. We have a right to pride ourselves on our successes, but my experience is that we are taught more by our failures.

On the 8th of last month, I was called at midnight to see a patient some eight or nine miles distant—was told it was a case of confinement and that the woman was very bad. I took with me my instruments, chloroform, ergot, and my ordinary pocket-case. I got there between one and two a.m., and found that the patient—a primipara—had been delivered before I was sent for, having had a very easy and short labor, the nurse—a neighbour's wife—who attended her, telling me that she had not had more than a couple of real labor pains, and that she was over it before they could get a messenger ready to send for me. After her delivery she said she was pretty comfortable, but had a slight headache and pain in the stomach. Without the slightest warning she went into convulsions. When I saw her she had just recovered from a convulsion, the seventh or eighth. There was no œdema, nor was there any history of swelling or puffiness; the placenta was retained. I made an examination, and found that the placenta was still in the uterus. Thinking it likely to be adherent, to save the shock to the nervous system that might ensue if I had to pass the hand into the uterus, I administered chloroform. I removed the placenta by just hooking my finger behind it without the slightest trouble. It lay loose in the uterus. I ceased giving chloroform, and she lay easy for some fifteen minutes, when, with a groan, she went into another convulsion. As soon as possible I gave her about half a grain of morphia by the stomach and resumed the chloroform, keeping her under its influence about an hour. The pupils were contracted, the lids closed, but on raising the lids, under the influence of light the pupils rapidly dilated, and oscillated between dilatation and contraction, but on the approach of a convulsion they became widely dilated. I gradually withdrew the chloroform, but long before she came from under its influence she had a severe fit, and another quickly followed. I now sent for my hypodermic syringe, bromide of potassium and chloral. In the mean time I bled her to about

*Read before the Ontario Medical Association, June 8th, 1882.

thirty ounces. She was quiet and breathed easily for some three-quarters of an hour after bleeding, without chloroform—before bleeding the breathing had been growing slightly stertorous—when she again went into convulsions. I now kept her under chloroform until the return of my messenger, when I injected about one-third of a grain of morphia hypodermically, and by the rectum a drachm of bromide of potassium with half a drachm of chloral hydrate, gave chloroform upwards of an hour and a half, when, upon gradually withdrawing it, the convulsions returned in an aggravated form.

I now kept her under its influence until about eight o'clock a.m., when the breathing became stertorous, the pupils dilated, and her state so alarming that I withheld the chloroform without having a return of the convulsions; but she lay comatose until the next midnight, when she died. About the middle of the afternoon she seemed dying, but on hypodermic injection of ether and brandy, she recovered, only to sink again.

Now, the question with me is, Did I treat this case judiciously? Would the result have been better if I had had bromide or chloral at first? Was it good treatment to give morphia with contracted pupil, even if it did dilate under the influence of light? Ought I to have delayed venesection as long as I did? In olden times I used to bleed largely and at once, but of late—in fact for many years, have treated cases successfully without bleeding at all. I attended a case last winter in which the attack came on a couple of hours after delivery, and under the use of morphia, bromide, and chloral it did well. It is a long time since I have seen a death from eclampsia, and the death of this young woman deeply affected me.

LOCOMOTOR ATAXIA—RIGHT SCIATIC NERVE STRETCHED FOR RELIEF OF "LIGHTNING PAINS."

BY J. STEWART, M.D., ETC., BRUCEFIELD, ONT.

M. Shea, aged 43, when first seen in September of 1881, complained of shooting pains in his legs, thighs, and lower part of the abdomen. He also complained of inability to walk in the dark, and giddiness. The pains made their first appearance twelve years ago while he was engaged in working

in the lumber woods of Wisconsin. His occupation was that of a driver, and he was compelled to sit for hours on the cold logs, and it is to cold, contracted in this way, that he attributes his present trouble. For several years the pains only recurred at long intervals; but lately he is seldom—rarely more than 24 hours—free from them. They have also greatly increased in severity during the last two years, and especially during the last few months. He first noticed that he was apt to stumble in the dark, five years ago. The ataxia has steadily increased during this period. For several months it has been so pronounced that he has been unable to perform his usual work. With the exception of gonorrhœa, he never had any illness. He is certain that he never had syphilis. Family history is good. He says he never ate or drank to excess.

Condition on the 1st of October, 1881, two weeks prior to the stretching of the right sciatic nerve.

The lightning-like pains with which he is afflicted recur very frequently; the longest interval of freedom from them during the last year has been only five days. They generally affect the lower extremities. It is but seldom he complains of pain elsewhere, and then only in the left arm. The pains are of extreme severity, but only of momentary duration. They generally last 24 hours, and during that time are nearly always confined to a small spot. A favorite situation for them is the dorsum of the right foot. When they last for 24 hours it is always noticed that the limb which has been their seat has atrophied. Repeated measurements have shown a diminution of half an inch in the circumference of the limb. He is very slow to appreciate painful sensations when applied to the two lower and left upper extremities. In the feet there is an interval of about six seconds before he is able to feel a severe pinch or the prod of a needle. In the legs this interval is five, and in the thigh eight seconds. He feels the simple rubbing of the hairs on his legs much more readily than a severe pinch of the skin. He is able to distinguish, although slowly, the difference between a hot and a cold application, when applied to his lower extremities. With his eyes shut he is unable to touch the point of his nose with either hand, nor is he able to point out the position of his feet. His sight is good, although there is commencing atrophy of both discs. The pupils react slowly to

light, but readily when the eyes are accommodat- ing. There is no myosis or paralysis of any ocular muscle. He is able to distinguish colors. His hearing, taste, and smell are all normal. He complains greatly of numbness of both lower extremities, and of a very disagreeable sensation, as if the skin were too tight for his legs. When walking he has to keep his eyes on his feet or he would fall, and he feels as if he were treading on some soft substance. There is a loss of sensation in the thumb, index, and middle fingers of the left hand. He is able to retain his urine without it causing him the least inconvenience for over twenty-four hours. To empty his bladder he has to strain very much. He is troubled with obstinate constipation. He says he often feels as if a weight of one hundred pounds was compressing his waist. When standing or walking he complains of what he calls a cramp-like condition of the muscles of the lower part of the abdomen. The patellar tendon reflex is absent on each side. There is no ankle clonus or plantar reflex. The cremasteric and epigastric reflexes are absent. When walking, his knees often give way suddenly under him. He says that for this reason he avoids as much as possible walking on the streets. He has the characteristic gait of an ataxic. He is unable to walk or stand with his eyes shut. Intelligence and memory are not affected. Lately he has been at times melancholy, at other times he is in the best of spirits.

On October 14th the right sciatic nerve was stretched. The right was chosen on account of the pain being generally more severe in that limb. The night following the operation the pains set in on the outer side of the right knee and were more severe than they ever had been. The following day they left, and did not reappear for three weeks. This was the longest interval of freedom from the pains since they first commenced, twelve years previously. It is now about eight months since the operation was performed, a period sufficiently long to judge what, if any, influence the stretching has exercised on the disease or its symptoms. The results may be summed up as follows:—

(1.) *On the pain.* The result on the whole has been very satisfactory. Previously he suffered nearly one-fourth of the whole time from the pains which were of an agonizing character. Now he seldom has attacks oftener than once every three weeks, and he has been as long as six weeks free.

Before this operation the pains set in suddenly, with great severity, and left just as suddenly. Since its performance they come on by degrees, increase up to a certain pitch, then decline slowly. During the wave of ascent the intervals become shorter and shorter, and during the wave of descent they become longer and longer, until finally they cease altogether.

(2.) *On the patellar reflex.* Previous to the stretching there was absolutely no response, but since, there has been an appreciable jerk when the tendon is struck. It is, however, very late in making its appearance, there is often an interval of two seconds between the tap and the response. According to Eulenburg* the interval should be only $\frac{1}{3}$ of a second. This he found to be the interval in the examination of eighty healthy male adults.

(3.) *On the delayed sensation.* Prior to the operation it took him from five to eight seconds to feel the stab of a needle in either lower extremity. He can readily appreciate now, and has, since the stretching, a similar irritation in from one to two seconds.

(4.) *On the muscular sense.* Up to the time of operating it was with the greatest difficulty, and then only after repeated trials that he could touch his nose, or point to the position of his toes when his eyes were shut. He can readily perform these acts now.

(5.) *On the ataxia, etc.* The operation did not exercise the least beneficial effect over the ataxic symptoms. Neither was there any favorable change made over either the bladder or rectum symptoms. The ataxia has been steadily progressive. The sense of weight around the lower part of the abdomen is as great as ever.

A very interesting symptom occurred six days after the stretching, viz.: a very extensive hæmorrhage from the wound and into the subcutaneous tissue of the limb operated on. The bleeding was copious enough to saturate all the antiseptic dressings, and even find its way through the bed. This was likely the result of the pains which set in a few hours after the operation, and lasted with great severity for nearly 24 hours. This is a more probable explanation than that the result was from any injury sustained by the vessels from the stretching.

*Ueber die Latenzdauer und den pseudoreflexorischen charakter der schnenphanomene. Nemg. Centl. No. 1.

Straus* reports several cases of extensive subcutaneous hæmorrhages following the pains of ataxia. These ecchymoses are probably induced by direct irritation of the vaso-dilator fibres. It has been shown, both by Brown-Séguard, and Stricker, that the posterior roots contain vaso-dilating fibres. If this view be correct, then the ecchymoses and the lightning pains are caused by the same morbid process.

QUARTERLY REPORT ON THE PROGRESS OF MEDICAL SCIENCE.

BY J. STEWART, M.D., L.R.C.P. AND S., EDIN., BRUCEFIELD, ONT.

THE ANTISEPTIC TREATMENT OF PHTHISIS.

The treatment of phthisis by the constant inhalation of antiseptic substances, has received a great impetus since the discovery of the *tubercle bacillus*, by Koch and Baumgarten.

Undoubtedly in the future this mode of treatment of phthisis will not be so neglected as it has been in the past. We ought soon to be in a position to estimate what benefit is likely to be derived from it. That it will be of marked utility, at least in warding off some of the complications (septicæmia) is clear, but to treat a case of phthisis without any other form of medication would be very irrational. Of the many antiseptic substances used up to the present, the following may be mentioned:—Carbolic acid, creasote, spirits of turpentine, thymol, terebene, camphor, eucalyptol, tincture of iodine, etc. Dr. Yeo, of King's College Hospital, uses a combination of carbolic acid or creasote with equal parts of the spirits of chloroform. The latter is said to diffuse these substances, and is itself somewhat of an antiseptic, and has a soothing effect on the often irritable bronchial mucous membrane. If cough is present it has a wonderful influence in allaying it. Twenty drops of a mixture of equal parts of creasote and spirits of chloroform dropped on the tow of the inhaler, and repeated when exhausted, is enough to bring about these results in a short time.

Benzoate of soda has been much used in Germany during the last two years, in the form of

spray, but as it requires the constant attention of the patient it is not so convenient as the above method, and further, it is doubtful whether it possesses antiseptic properties as pronounced, as carbolic acid, creasote, etc.

The following case is well worth quoting as a good example of the influence exercised over pulmonary tuberculosis:—The case was under the care of Dr. Burney Yeo. The patient was a married lady, aged 28, who had lost two brothers from consumption. For the past two years she was losing flesh, and had been troubled with a cough. She was confined last Christmas, and since that she was much worse. Her cough was bad and attended by a profuse expectoration. She was also troubled with night sweats. Voice almost lost; appetite poor; pulse 112; respiration 20; temperature 101. Great emaciation. There was pronounced physical evidence of consolidation of the left apex and a part of the right lung posteriorly corresponding to the spine of the scapula.

She was ordered to wear as constantly as possible a respirator, charged with from five to twenty drops at a time of a mixture of equal parts of creasote and chloroform. She was to take iron, quinine and the hypophosphite of lime internally. After three weeks of the above treatment the improvement was very marked. The temperature had become normal and the night sweats had entirely disappeared; her voice had returned, and the cough and expectoration were greatly lessened. The dulness over the left apex was much less evident; her general condition was greatly altered. Dr. Yeo, in speaking of this case, said: "I have never seen a more striking improvement in so short a time, under any plan of treatment, or in any locality. But this patient had been unusually obedient to the instructions that had been given to her. She had devoted herself at once, and unhesitatingly to all the details of the treatment. She had removed immediately to an aseptic if not antiseptic atmosphere; she had passed a great part of her time in a hammock suspended between fir trees, and she had perseveringly worn her inhaler as I had directed."

For many years Prof. Jaccoud, of Paris, has been in the habit of treating certain cases of phthisis by the internal administration of creasote. "This remedy," he says, "more rapidly and more surely than any other, diminishes the expectora-

* *Archives de Neurologie*, No. 4, 1881.

tion and limits the extent of the catarrhal lesions, and thus reduces considerably the area of the pulmonary changes. But that is not all; I am induced to believe that creasote may act on the fundamental lesions, and promote indurative changes, which, as you know, is the method of cure."

He gives it in doses of three minims to commence with, and increases it by a minim every ten days until five, and not more than six minims. It can be given in the cod-liver oil, or if the patient is not taking this, in glycerine. The following is the formula:—Glycerine, 10 drachms; brandy, 2 drachms; creasote, 3 to 6 minims; a third of this to be taken three times a day.

The internal use of carbolic acid has been recommended also, but it is not likely to come into favor when we are in the possession of as trustworthy but much less dangerous antiseptics. Of all antiseptics benzoate of magnesia can be given in the largest doses internally. As much as an ounce can be given in the twenty-four hours without causing any inconvenience.

Fränkel, on the strength of results obtained by the direct injection of antiseptics into the lung tissues of rabbits, recommends a similar procedure in phthisis, putrid bronchitis, and gangrene of the lungs. He has only put this idea into practice once in the human subject. In a patient with fœtid expectoration he made six injections, each one containing fifty minims of a five per cent. solution of carbolic acid. There was no fever or reaction following the injection. No beneficial action on the expectoration followed. He considers that these injections set up inflammatory action in the lungs, and that as a result of this there is left cicatricial bands which limit the tuberculous process when the part injected is healthy and in the neighbourhood of the diseased portion. When the injections are made directly into a diseased part of the lung the agent acts, he considers, by changing the character of the inflammation.

THE TREATMENT OF EPILEPSY BY LIGATURE OF THE VERTEBRAL ARTERIES.

Dr. Alexander, of Liverpool, in the current number of *Brain*, gives an account of the treatment of twenty-one inveterate cases of epilepsy, by ligature of the vertebrales. Three of the cases have been free from fits for a year. In nine others

the freedom from fits has been so long that a cure may be said to have resulted, and eight have "improved in so many respects, or are improving so steadily, that the operation would be justifiable were no better results ever obtained."

Dr. Alexander considers that the treatment will become general for that class of cases of epilepsy that are uninfluenced by drugs or removal of all possible peripheral causes.

He finds the artery by making an incision of three inches in length along the external border of the sterno-mastoid, commencing about an inch above the clavicle, and at the lower end and outer side of the external jugular vein. The layers of fascia are cut through until the fatty tissue over the anterior scalenus is reached. The sulcus between this muscle and the longus colli being reached, the sixth cervical vertebra is easily made out. The artery will then be easily found, provided no veins are met with. There is little or no hæmorrhage if the operation is performed carefully.

To afford a reasonable hope of success, the operation should not be put off too long, but should be performed when it is evident that no hope of cure arises from the judicious use of medicinal agents. Even in cases of chronic epilepsy, Dr. Alexander has found the operation beneficial, and he is inclined to think that many of even the most inveterate of these cases can be cured.

He considers that the operation acts by diminishing in a marked degree the hyper-sensitiveness of the medulla, and before the collateral circulation is re-established the sensibility of the epileptic centres are so benumbed that they do not respond as formerly. The dangers of the operation are insignificant. There was only one death in over thirty operations. The cause of death in this case being septic pleurisy, due to the tearing off of the antiseptic bandages by the patient, who was an idiotic girl.

THE INFLUENCE OF ACUTE NEPHRITIS UPON THE HEART AND BLOODVESSELS.

Dr. Riegel, of Giessen, in an excellent paper, brings forward a large amount of evidence which shows that in many cases of acute nephritis, changes take place in the heart and bloodvessels even during the first few days. The first evidence of this change is seen in the state of the pulse.

From an artery beating quickly and with low tension, we have as the result of vessel changes, one beating slowly and with high tension. It is not long before we have hypertrophy of the heart when once there is marked and constant high tension in the smaller arteries. Whether this change is to be a permanent one or not depends altogether on the duration and severity of the nephritis. The more severe and extensive the nephritic changes the earlier appears the vessel and heart changes. Until quite recently the danger of circulatory disturbances following the acute forms of Bright's disease, was not even thought of. The attention of the profession was exclusively directed to the relation between chronic Bright's, and changes in the circulatory system. The late, much lamented, Friedländer was about the first to demonstrate that in acute nephritis we have changes in the heart corresponding to those which attend the chronic forms of nephritis. In the anatomical examination of a large number of cases of scarlatinal nephritis in children, which had lasted a longer time than usual, an almost never-failing condition of hypertrophy of the heart was found, often combined with dilatation, in some cases uniformly developed on both sides, in others more strongly on the left. The increase of the heart's volume was in nearly all cases very considerable, the ventricle and auricle being widely dilated; the muscular substance with the exception of the increase of volume, was mostly unchanged; only in a few cases was there found a partial degeneration of the muscular fibres. Clinical observations have not corroborated marked changes in the circulatory apparatus as the result of acute nephritis, at least nothing has been mentioned respecting such conditions. In Traube's work, edited by Fränkel, there is only the general statement, that an abnormal tension of the aortic system can be observed in the fourth week of a nephritis. This will appear most important perhaps, when we consider that Traube, in another place, says that in the more severe cases of diffused nephritis, in previously healthy young patients, in the first week of the disease, a number of palpatory and auscultatory signs can be recognized, which establish beyond doubt, the existence of a considerable sympathy between these two systems.

Henoch was not able to satisfy himself that circulatory changes followed scarlatinal nephritis.

Riegel, speaking of the way to recognize these changes, says, that the abnormal tension of the pulse is so clear and characteristic a symptom, that one with a little practice in the estimation of the tension of the vessels, without being aided by the results of examination of the urine, will have his attention drawn to the existence of a kidney disease. "I, myself, am repeatedly, on the first examination of a patient, first directed to the existence of a nephritis by this remarkable increase of tension. Also in diseases attended with fever, the sudden occurrence of high tension of the pulse, although by no means the most important symptom, will arouse a well-grounded suspicion of the complication of acute nephritis. I remember several such cases, more especially one of recurrent fever, in which the suspicion was first aroused by this high tension, together with continued high temperature, that the case was not one of febrile albuminuria, but a complicated acute nephritis. Further investigation and observation confirmed this suspicion. Fever, indeed, as is well known, always lowers the blood pressure in the aortic system. If, under such circumstances, there enters suddenly in the course of a febrile disease, an abnormally high tension, in the place of a hitherto lowered tension, we have an indication of a special complication. In the trifling number of as yet well-recognized causes of high tension in the aortic system, there is usually no difficulty in determining to which cause in particular this change is owing. Without doubt, acute nephritis is one of the most important and most frequent of these causes."

Riegel reports the case of a previously healthy boy, aged 15, who was admitted under his care on the 25th of January of the present year, with scarlet fever. The eruption had already begun to abate, and in some parts slight desquamation was to be seen. The urine was albuminous; there was no other complication. The patient improved rapidly. On the 6th of February vomiting occurred. Before this there was every indication of complete recovery. There was also noticed a slight angina tonsillar. On the 7th of February the urine was as albuminous as ever. The angina speedily disappeared, whilst vomiting occurred repeatedly during the next few following days. On the 10th there was noticed a hitherto unrecognized hardness and tension of the pulse, with slowing of the same. The sphygmograph showed a very

marked increased tension, the secondary being even higher than the primary one. Urine could not be obtained for examination, the patient stating on being questioned, that he had passed none from the previous evening.

On the 12th there was observable, along with the continuance of the abnormal tension, an increase in the area of the heart's dulness, and in the strength of the apex beat. These signs increased during the remainder of the course of the disease. On the 18th there were convulsions; the pulse became quick. Patient died on the 19th in a general convulsion. On *post mortem* there was found a hæmorrhagic and glomerulo-nephritis with well-marked dilatation and hypertrophy of the left ventricle. There was already commencing fatty degeneration of the fibres of the ventricle. There was also complete suppression of urine for ten days. In this case all the above extensive heart changes had occurred within a period of ten days as the result of the acute nephritis. Riegel gives an account of six additional cases where the circulatory disturbance was pronounced, although not so great as in the above case. They were all instances of vessel and heart changes, as the result of an acute nephritis.

Correspondence.

UNITY OF ACTION AMONG PHYSICIANS.

To the Editor of THE CANADA LANCET.

SIR,—You are probably aware that at the last meeting of the Ontario Medical Association a resolution was drafted and generally approved of, asking for a committee to report at the next meeting of the Association some plan by which the individual influence of medical men could be united and exercised for the benefit of the profession and the country. Several reasons prevented the resolution coming up.

We hear a good deal about the influence our profession might exercise if united—an influence, doubtless, which would be absolutely irresistible; and probably there never was a time when there were greater reasons for united action amongst us than the present. Almost every physician will admit that we ought not to have any thing to do with politics commonly so-called, and that the words Reformer and Conservative should not enter,

practically, into our vocabulary. We should, I am sure all will acknowledge, support the right sort of men, without reference to party. The sexanary of legal gentlemen now forming the government of Ontario may be all well enough in their way, politically speaking, but when they come to deal with matters affecting the interests of the profession or the health of the public, what a spectacle they present! That hideous monstrosity known as the "Coroners' Act," and the recent Act relating to public health, may be cited as examples. With reference to the latter, many of the leading physicians in the Province, after a number of meetings, in view of the large amount of preventable sickness, decided to ask the Government for \$5,000 with which to pay the expenses of a Board of Health for the Province, deeming this a small sum for the purpose—as small as an efficient board could be worked with. Though the Government readily acknowledged the value and usefulness of preventive medicine, and, be it observed, though they give hundreds of thousands of dollars to less worthy objects, after two or three years of shilly-shallying, they throw down the bone of \$2,000, with which the medical profession is to "run" a Board of Health for Ontario. A loaf is asked; not half a loaf is given. Many supposed, as did the writer, until the last meeting of the Association, that \$5,000, as asked, had been appropriated.

I am loath to take up too much of your valuable space; but this is a very important question to which attention is being drawn. I have a proposition to make, in which, however, I shall be as brief as possible. It is now more than a quarter of a century since a medical man occupied the position of a member of the Government of this Province—the Hon. Dr. Rolph. No class of persons know better the wants and needs of the country than do the doctors, chiefly from their constant intercourse with the masses of the people; and in the interests of the country and of the profession, which are identical, I propose that means be taken by which some competent physician shall be made a member of the next Government. I am not prepared to say at present how this may be best promoted, but, as before stated, it is a very important matter, concerning as it does directly the Governmental affairs of this Province, and is unquestionably worth the while of the profession to give some time and attention to it.

I should like to suggest also, in this connection, that we advocate changes, and important ones too, looking towards the simplification of the public educational system, which will soon, if not simplified and improved, do irreparable mischief, and send pupils, teachers and parents to the insane asylums. Finally, in view of the agricultural and manufacturing interests of Ontario, would it not be well if there were a practical farmer and a practical manufacturer as members of the Government, and not more than three lawyers at most. There are many who would be glad to learn the opinion of members of the profession on these questions.

Yours, etc., M.D.

Reports of Societies.

HURON MEDICAL ASSOCIATION.

The last regular quarterly meeting of the Huron Medical Association was held in Clinton, on Tuesday, July 18th, Dr. Holmes, of Brussels, President, in the chair. The following members were present:—Drs. Holmes, Worthington, McLean, Taylor, Hyndman, Young, Sloan, Graham, Williams, Bethune, and Stewart.

Dr. Young, of Londesboro', showed a very well marked case of annular malignant stricture of the rectum, in a man, aged 51 years. The first symptoms of stricture showed themselves about a year ago.

Dr. Taylor presented a man, aged 55, who has mitral stenosis and commencing degeneration of the heart. The organic heart changes in this case, appear to have followed a pneumonia which affected the patient about nine months ago, at least there was no physical evidence of any valvular or mural changes during the progress of his pneumonia.

Dr. Stewart exhibited a man, aged 35, who has well marked atrophy of the left scapular muscles. The case is one of *progressive muscular atrophy* commencing in the shoulder muscles. The supra- and infra-spinati are almost completely gone. The disease is of two year's standing. Lately he has had considerable pain about the right shoulder, but up to the present there is no wasting of the muscles in its neighbourhood. The atrophied muscles, and in fact nearly all the voluntary muscles of both upper and lower extremities are the seat of fibrillary twitchings when percussed. The

treatment pursued in this case is the use of the faradic current direct to the atrophied muscles. It has not as yet been used sufficiently long to say whether it is going to do any good or not.

Dr. Graham, of Brussels, related the particulars of a remarkable case which he recently saw. The patient is a girl, aged 12. During her waking hours she only breathes six or seven times in the minute. With each inspiration the epigastrium sinks in, and the shoulders are drawn forwards and upwards very forcibly. She has been breathing in this manner for six months. Some time previously she is said to have had inflammation of the lungs. She is otherwise perfectly healthy. She is said to breathe naturally during sleep.

TORONTO MEDICAL SOCIETY.

Ordinary meeting, June 15th, 1882, Dr. A. H. Wright, Vice-President, in the chair.

Dr. Bray, President of the Medical Council, and Drs. Rosebrugh, McCargow and Day, members of the Council being present, were cordially welcomed by the Vice-President.

Dr. Zimmerman showed a young girl affected with psoriasis guttata and nummularis. The disease began eight weeks ago.

Dr. Oldright reported the following case:—A lad, aged 18, overgrown, had pains of a rheumatic nature for some days, when pneumonia developed, followed in a few days by pleurisy. Shortly afterwards a peculiar hissing endocardial murmur became evident. Feet became œdematous, pulse irregular, and temperature varied from 100°—103°. Urine gave reaction indicating coloring matter of bile. As these symptoms improved he became dull, morose, not answering when spoken to; refused food and had to be fed with a stomach pump.

Dr. Cameron reported a case of popliteal aneurism in a man aged 50 under his care at the Toronto General Hospital. The tumor was first noticed last December, increasing steadily since; impulse and bruit distinct. During the last week, treatment by flexion and instrumental compression alternately as they could be borne has been tried, but with only indifferent results. It was then proposed to apply an Esmarch bandage up to the hip omitting the tumor, but a systolic cardiac murmur contra-indicated anæsthesia. Besides, a second aneurism was discovered in the lower part of the epigastric

region which would probably be injured by the increased pressure resulting from the application of the bandage as proposed. Only two alternatives were left, digital compression and ligation of the femoral.

Dr. Oldright deprecated such serious means as ligation until digital compression had been tried, and related a case of aneurism of the lower part of the femoral, under his care, cured by this treatment after compression for 18 hours by relays of students.

Dr. Zimmerman suggested passing a small trocar through the sac, and introducing a horse hair to be left in situ.

Dr. McCargow said the galvanic needle might be tried.

Dr. Cameron then showed a cysto-sarcoma of the testicle removed from a man aged 60. The testicle was adherent to the sac at many points, and had to be dissected off. The glands in both groins were enlarged, and the disease extended up the cord, so that it was thought advisable to ligate it *en masse* in order to remove as much as possible of it.

Dr. Rosebrugh, of Hamilton, gave a short account of several cases of ovariectomy occurring in his practice.

The Society then adjourned.

Ordinary meeting, June 29th, 1882, Dr. George Wright, President, in the chair.

Dr. Cameron showed a tumor taken from the side of the neck of a woman aged 70. Three years ago it was as large as a hen's egg, hard and freely moveable. Was supposed to be enchondromatous. It became cystic, and as the cysts ruptured from time to time, considerable hemorrhage occurred. Also uterus and ovaries from a young girl who died from puerperal fever in the Lying-in-Hospital four days after delivery. Labor was natural and temperature normal. A few hours afterwards she had a severe chill and temperature rose to 105°. P.M. showed distinct evidence of peritoneal inflammation with considerable sero-purulent fluid. Ovaries much inflamed, left more so than right.

Dr. Oldright reported in reference to the boy whose case he had brought to the notice of the Society at last meeting. He began to take food a few days afterwards, spoke a little, but gradually sank and died. No post mortem.

Dr. King reported a case of pernicious anæmia in a woman who died after four months illness. Pulse usually over 100, highest temperature 102½°. Thought the red corpuscles were decreased, but had made no accurate examination of the blood.

Dr. Cameron drew attention to the statement of Dr. Fenwick of London, that in many of these cases there was degeneration of the glands of the pyloric end of the stomach, and disease, usually cancerous or tubercular, of the supra-renal capsules. A general conversation on the treatment of anæmia followed, and on the relative merits of the various preparations of iron in these cases.

Dr. Riddel reported two cases of death from coma; in one, there was pus in the lateral ventricle and in the other a clot in the right parietal region.

Ordinary meeting, July 13th, 1882, Dr. Geo. Wright, President in the chair.

Dr. Macdonald in the absence of Dr. Temple showed a uterus in which rupture had occurred during labour. The woman, a primipara, was unmarried, aged 26, healthy. Labor began at 2 p.m. Saturday, July 8th, membranes ruptured shortly afterwards, during, or before removal to the Lying-in-Hospital. Pains moderate. At or during a pain of greater severity than the preceding ones, though not excessive, she felt something give way. The pain ceased, moderate hemorrhage followed, tenderness over uterine tumor. Collapse gradually set in and was marked at 10½ p.m., when first Dr. Temple arrived. Hemorrhage now profuse. On examination a rent was discovered in the anterior wall of the uterus, through which the hand passed easily into the abdominal cavity. Ether and ergot were administered subcutaneously and long forceps applied, but they slipped. Ether was then given, and delivery affected by turning. Child dead. Uterus responded but slightly to all stimuli used. The woman rallied somewhat, but died the following Monday morning, 39 hours after the rupture. A large quantity of fluid extract of ergot, and five drachms of ether and brandy were given subcutaneously. Post-mortem showed a ragged rent in the uterus 7 inches long, extending from the juncture of the neck and body on the left side downwards and to the right, to the os uteri.

Dr. Oldright showed a fatty tumor from the head of a woman, aged 65. Also a small fibroid poly-

pus removed from the uterus on account of persistent hemorrhage.

Dr. McPhedran reported a case of Railway accident to a child aged 9, at Oshawa, in 1876. He saw the case with Dr. Rae. The child was comatose the scalp cut in several places; blood flowed from the mouth, nose and ears, and there was considerable sub-conjunctival extravasation. Two pieces of brain matter, each as large as a bean, escaped from the left ear. The left humerus and clavicle were broken. Complete recovery ultimately took place.

Dr. Macdonald next read a long and interesting paper on "Menorrhagia and Metrorrhagia" with their causes and treatment, which was fully discussed.

Selected Articles.

MITRAL STENOSIS IN A GOUTY HEART.

BY J. MILNER FOTHERGILL, M.D., LONDON.

Our knowledge of valvular affections of the heart does not rest on the detection of a murmur, its seat, the point of its maximum intensity, and its precise time in the cardiac cycle. Nor does their treatment consist in the administration of iron and digitalis promiscuously. Such simplicity may be admirably adapted to the requirements of an examination table, but it is perilously inadequate to the wants of actual practice. For the latter some familiarity with the natural history of each form of valvular disease is eminently desirable, which alone will enable the medical practitioner to read his case aright. There is first the individual to be estimated; then the disease to be measured. Then 2 and 2, or the nearest approach to that numeral in each case, have to be put together; and then 4 is the resultant product. But the equation has points of practical difficulty not represented in the mathematical formula. It is not always easy to determine the precise "2" of each factor. For instance, let me adduce the following case:—

E. A. W.—, aged fifty-four, the mother of a family in a south-western county, came to me a little while ago, because her local medical man had found something amiss with her heart. She had been a very active person, but recently had not felt so equal to effort. Yet she had no shortness of breath on exertion, and only a little palpitation on effort at times. She had some dilatation with hypertrophy of the left ventricle, and beyond that a long mitral stenosis-murmur heard to the right of the left apex; but over a limited area only. There were no indications of regurgitation. Now, what

was the significance of this murmur? Was it—(1) The evidence of contracting or sclerotic endocarditis of Rosenstein? was it (2) the result of an old-standing injury, the outcome of a bypast acute endocarditis? or was it (3) a mere peculiarity, a sound produced at the mitral ostium, which has been, and was, and is, and will be without any significance whatever. I am not ashamed to confess that the problem is insoluble to me. The symptoms were quite accounted for by her general condition, for she was bilious and somewhat malnourished. Any failure of power in her could be perfectly accounted for without the hypothesis of contraction of the mitral ostium. There was no thrill accompanying the murmur; but such is usual in the contracting endocarditis of middle age and advanced life. There was no irregularity in the heart's rhythm. Nor would the presence of irregularity or a thrill have cast the least ray or glimmer of light upon the case, in my opinion. There was the unmistakable murmur—seat, maximum of intensity, period in time; and a long murmur to boot. The minutiae of mitral stenosis is not recorded in my note book. There was no possibility of mistake as to the presence of that murmur which is held to be pathognomonic of stenosis of the mitral ostium. There was the murmur, true; but what was the anatomical condition underlying it? That was the essential question to be asked; and, if possible, answered. The murmur of itself was nothing; but its cause was fraught with the most intense interest. With which of the three conditions spoken of above was it casually connected? I summed up the evidence against its being the outcome of a steady progressive diminution of the mitral ostium due to sclerosing endocarditis, and gave a prognosis accordingly. Whether the diagnosis, and with it the prognosis was correct or not time alone can tell. The case was certainly one where contracting endocarditis might be present; for its associations were there as regards the general conditions; but the essential features of mitral disease were not sufficiently prominent to establish its presence.

From the negative aspect of a case like this, it may be well to go on to describe the positive features of mitral stenosis. Assuming that some of my readers are not thoroughly acquainted with the natural history and features of mitral stenosis in all its varieties, it may be well to point out that such mitral stenosis has very different features from the mitral stenosis of young subjects. Perhaps in the dead-house the features are more alike than they are clinically. In the mitral stenosis of the young, set up by acute endocarditis, there is the weak pulse of a small left ventricle; shortness of breath on exertion; enlarged right ventricle; tendency to dropsy in the serous cavities, or the lower limbs. Often there is the "heart cough," of excess of blood in the pulmonic circulation. There is a murmur, presystolic in time, conveyed to the right

of the left apex, often accompanied by a thrill. Such are the leading features. The case may get worse steadily, and even with considerable rapidity; or, as is more commonly the case, the patient is fairly well when quiet, but effort produces distinct shortness of breath, with palpitation. Anything which impairs the strength may elicit some œdema. But though the organism is crippled by the injury done to the mitral valve, the injury itself remains static, and manifests no tendency to go on from bad to worse; or if it does, it is immeasurably slowly. In such a case the administration of digitalis and iron would be likely to be of distinct service.

Now, as to the mitral stenosis of the gouty heart. Here there is a permanent high-blood pressure in the arteries, leading to hypertrophy of the left ventricle, with subsequent hardening of the arteries; the cardio-vascular changes which constitute the first stage of the granular kidney, so ably described by Dr. Mahomed in his recent thesis "Chronic Bright's Disease without Albuminuria." The hypertrophied ventricle contracts with vigor, so overcoming the resistance offered by full arteries to the cardiac systole, and forcing the blood into the aorta, which on its recoil closes the aortic valves with a loud sound indicative of forcible closure; and this forcible closure frequently sets up valvulitis, with subsequent mutilation of the aortic valves. This association of aortic disease with a gouty heart is now well recognised. But the powerful contraction of the hypertrophied left ventricle causes also forcible closure of the mitral valves; they have to sustain a strain equal to the force required to overcome the resistance of a full aorta, and this strain tells upon them in time, leading to sclerosing endocarditis. Such valvulitis may give either stenosis or insufficiency of the mitral valve. When the free edges become puckered or contracted, then insufficiency with regurgitation follows; when the valve curtains are soldered together by a slow inflammatory growth extending from the attachments of the valve, then stenosis with obstruction is the result. Now, whatever the form assumed by the valvulitis, the features of the gouty heart will remain to the end; even when all the phenomena of advanced mitral disease are developed and implanted thereon. The aspect is never that of a simple primary mitral stenosis; nor does the interest centre round the murmur evoked by the morbid process, but attaches itself rather to the associated general condition of the vascular system.

A certain amount of injury to, and deformity of, the valves has gone on before it is sufficient to produce a murmur. But there may be the rational symptoms of a mitral lesion before the ominous murmur is set up. It may be possible to "suspect" a mitral valvulitis before the tell-tale murmur can be heard; there is indeed a pre-murmuric

stage in all probability. It is no part of the design of the writer here to discuss the early stage, but to confine himself to the consideration of stenosis—i. e., of a stage so advanced that it carries with it a murmur indicative of the character of the injury done. What are the features of this form of mitral stenosis?

The patient is elderly; has a more or less pronounced senile aspect. The complaint is that the power to undergo exertion is impaired. There is shortness of breath upon effort. There may be nothing more. The pulse may be feeble and rapid, but there is nothing else about it, nothing characteristic. But on auscultating the heart over a very limited area, at or near the right apex, a tiny "whiff" can be caught. Only over a small spot; move the stethoscope ever so little and it is apt to be lost; certainly lost if the stethoscope be distinctly moved. Here the presence of a murmur is significant, and unmistakable enough; at least in the majority of cases. But there is also a strong heart very commonly, and a fairly full artery—i. e., there are the associations of a gouty heart along with the mitral stenosis. Usually the nature of the cause of the murmur is clear and patent, and not a matter for reasonable doubt, as in the case given above. Here is a distinct explanation of the failure of power complained. Or there may be a more advanced condition attained before the case came under notice, and the patient is confined to bed with or without some positive patch of pulmonary congestion. But there are the significant murmur, the rational features of mitral disease, linked with the cardio-vascular changes of the gouty heart, or granular kidney, as the case may be. The diagnosis bears on the prognosis and the treatment, especially as to the administration of digitalis. Here there is not an old-standing limited injury to valves, as static and non-progressive as the scar of a burn; limiting the patient's powers, but possessing no tendency to further advance. There is a contracting or sclerosing valvulitis afoot, which tends to go on from bad to worse, because the mitral valve has to bear the strain put upon it by a hypertrophied left ventricle. It is a progressive form of valvulitis. Certainly; but granting that, at what rate is it progressing. "*Quien Sabe!*" as the Spanish girl said when they asked her who was the father of her child." (Kingsley). One would like to know, but how can one get to know? Only, in the language of Oliver Wendell Holmes, by "getting an arc big enough to determine the size of a circle"—i. e., getting a period of observation long enough to calculate the rate of progress. This may entail personal observation, or may be fairly made out by the history of the case. In one case there can be a definite date made out, since which there has been such a falling off in the patient as reveals pretty plainly the time when the lesion began to tell upon the organ-

ism. In another case there will be no data pointing to any special time when the health was obviously impaired. The patient is not very well, feels weak and unequal to exertion, and is scant of breath, and on examination of the chest the murmur of mitral stenosis is audible. Such a case presented itself to me in June, 1880.

A gentleman, aged sixty-seven, who had led an active life, but who latterly had pains which he called "rheumatic," though, he wrote, "his water is more or less high-coloured, and the red sediment is always round the bottom of the pot," which looked like gout—came to me for some "fluttering or palpitation" at the heart. The diagnosis then made was "gouty heart, with mitral stenotic murmur." He was put upon a pill containing some strychnia and digitalis. On this treatment he lost his uncomfortable sensations, and felt very nicely. He went abroad for some time, being conscious of his heart only by some shortness of breath on attempting to climb a hill. A year later he was nicely; his tongue clean, and urine clear; not perceptibly worse. This June he presented himself after an attack of bronchitis, which had pulled him down considerably. The heart was acting irregularly, and the beats were unequal in force. This was due to muscular debility in the heart, the right heart having been severely taxed by the extra demand upon it made by the bronchitis. He had been given carbonate of ammonia, nux vomica, and digitalis by his medical man, according to the formula at p. 367 of the "Practitioner's Handbook of Treatment" (2nd edition), which had suited him well. Indeed, he feels so well that he will not give the heart the rest required for it to recover itself. On his old pill he is doing well, and the muscular tone of the heart is being regained.¹ Even with the recent demand upon the heart there is no evidence that the mitral lesion is perceptibly advancing. In some other cases the inactivity of the valvulitis seems about the same; but in others, again, the progress has been steadily, if not rapidly, downwards. In one case there are violent paroxysms of angina pectoris present.

As to the treatment of these cases, the prevention of the production of uric acid by an approximate dietary and the use of hepatic stimulants, its solution by antilithic alkalies, are measures about whose adoption there can be no question. To keep the blood-pressure in the arteries as low as possible means lessening the strain on the diseased mitral valves on each ventricular systole; and this is attained by reducing the amount of albuminoid waste in the blood, or dissolving it and so letting it escape by the water emunctories. So far so good. But how about the administration of digitalis? To increase the vigour of the ventricular contractions means increase of the strain on the valves. Cer-

¹ Since writing the above he has had some distinct gouty symptoms.

tainly; and therefore grave and valid doubts may honestly be entertained about the wisdom of giving digitalis and iron, in a routine manner, in all such cases of mitral valvulitis. When the heart is fairly vigorous, and there are none of the rational symptoms of mitral mischief present, then, probably, it is well to withhold the digitalis and to be content with an appropriate dietary and regimen. But when there are evidences of cardiac failure, then, in all probability, it is well to give the digitalis; albeit in doing so the ventricle does strike harder, and so tax more the mitral valves. Here the ventricle is striking feebly, and the advantage of improving the heart's vigour is not more than counterbalanced by further strain put on the sclerosing valves. In practice each case must be decided by its own indications; and the indications will vary at times in the same case. Nor is it possible to lay down any rules of thumb for the administration of digitalis. The practitioner must weigh carefully the indications for its adoption or the withholding of it in each case. It is not necessary or desirable to give it merely because there is a mitral murmur present; as Rosenstein puts it, "Digitalis helps the heart to pump the blood out of the veins into the arteries," and the fulness of the veins and the comparatively empty state of arteries are the indications for its exhibition; no matter what the murmur, or whether there be a murmur or not. Probably when the rational symptoms of mitral mischief are present it will always relieve them. Whether at times such relief is antagonistic, or prejudicial to the ultimate interests of the case, and therefore it is better to withhold digitalis, is a matter for the exercise of private judgment on the medical adviser. This is certain, the indications for digitalis in such mitral stenosis (or insufficiency, too, for that matter) are not so unmistakable as is the case in mitral valvulitis in the young, where a distinct injury, be the same more or less, has been wrought; but where there is no tendency in the valves to further mutilation, the distorting process being over and done with, the said injury crippling the organism and leading to death from the disturbance so wrought in the circulation, here digitalis can scarcely do any harm; but the same cannot be said of the sclerosing valvulitis of the gouty heart.—*Lancet*.

ORGANIC MURMURS OF THE HEART.

CLINIC, BY AUSTIN FLINT, M.D., NEW YORK.

I proceed now to the subject proper of my remarks to-day, and I will say in the outset that I assume that many of you have already given considerable attention to the study of endo-cardial murmurs; but although this is the case, I think it will be of service to you to go over the ground again, since it is important that you should have this knowledge

so readily at command that you can bring it to bear in a practical way at any moment. No apology is necessary, therefore, for introducing this subject.

The most important endocardial murmurs which we meet with are in connection with the left side of the heart, those of the right side being so comparatively rare that they are of much less practical significance. The murmurs which we will study to-day are four in number, two in connection with the mitral valve, and two in connection with the aortic. The first murmur to which I direct your attention is the mitral direct or obstructive. It is also called the mitral systolic from the time at which it is heard. The second murmur is called the mitral regurgitant, and signifies, as the name denotes, insufficiency of the mitral valve and consequent regurgitation from the left ventricle into the left auricle. The first murmur in connection with the aortic valve is the aortic direct. It may imply an obstruction, or if not this a certain amount of roughness of the surface over which the blood passes. The second murmur is the aortic regurgitant, which involves of necessity insufficiency of the aortic valves with resulting regurgitation from the aorta into the left ventricle. It is a matter of importance, I hardly need say, that all should acquire the ability to recognize each of these murmurs when occurring alone, and also when in combination. All four of them may be met with in the same individual, and we should be able in such a case to differentiate the several murmurs. This knowledge involves, in addition, a recognition of what these different murmurs denote.

In the first place, then, how are we to distinguish the several murmurs, singly or in combination? By way of preface I may remark that every adventitious sound about the heart is called a murmur, the word murmur being always used in this connection in a conventional and technical sense. The regular heart sounds themselves, although certain modifications are noted in them also, are entirely distinct from these. These murmurs, as sounds, present differences among themselves. Thus they may be either loud or faint, soft or rough. They are said to be soft when they sound like a current of air passing from a bellows. When they have not this bellows-like character they are called *rough*, and if the roughness is quite marked they are sometimes designated as *rasping*. Again they are sometimes characterized by a distinct musical note. There are, then, three kinds of murmur as regards the matter of sound, soft, rough, and musical. The sound of the murmur, however, gives us no information as to its origin. Any of the four murmurs pointed out may partake of either of these characteristics. Let us proceed, then, to inquire by what points we may recognize the several murmurs, and differentiate them when they are found in combination.

This inquiry can be best answered, I think, by a reference to the case of the woman whom I now bring before you. In commencing an examination of the patient, I will call your attention first to the marked pulsation noticeable in the arteries of the neck. This sign, I may say, in passing, indicates, as a rule, aortic regurgitation, but we need not, of course, base our diagnosis on this alone. In auscultation of the heart the stethoscope is better than the unaided ear, as it serves to localize the sounds more satisfactorily. Now placing the stethoscope at the second intercostal space on the right side of the chest, but quite near the sternum, I get a distinct rough murmur. My first inquiry in connection with it is, With which of the two heart sounds does it occur? I find that it is connected with the first sound, and it is therefore a systolic murmur. Suppose, now, that I had some difficulty in determining the heart sounds, which might occur, for instance, with great rapidity and irregularity of action. In that case I might place my finger over the carotid artery while listening to the heart, which would give me the desired information, since the carotid pulsation corresponds with the first sound of the heart. Or I might place my hand over the apex of the heart, and if I could then connect the murmur with the heart impulse, which is synchronous with the first sound, I would know that it was systolic. On further auscultation I find that this murmur cannot be heard much below the base of the heart, but when I carry the stethoscope up to the neck I get a murmur which corresponds exactly to that heard at the second intercostal space. We have, then, a rough murmur at the base of the heart, which is systolic, and which is propagated to the carotid artery. The diagnosis, therefore, is a direct aortic murmur, due either to obstruction or to roughening about the aortic orifice. It is possible, however, that this may be an inorganic murmur, due to some abnormal condition of the blood, but as we shall not have time on the present occasion to enter into a discussion, we will assume that it is organic in character.

While listening to the heart in this same situation I recognize a second murmur, which I can very readily distinguish from the other because it follows the latter, and that not continuously. There is a little break between the two, and I find no difficulty in determining that this last murmur is coincident with the second sound of the heart. If, as is sometimes the case, the second sound could not be made out, the interval would be sufficient to indicate that it occurred at the time when the second sound was to be expected. I find, furthermore, that the murmur is propagated almost down to the apex, which shows that it is due to an insufficiency of the aortic valve. If the valve is sufficient or adequate, as we say, there can, of course, be no regurgitation, but if there is regurgi-

tation the blood in thus flowing back always give rise to a murmur, unless, indeed, the action of the heart is exceedingly feeble. The question now arises, Does the intensity and quality of the murmur give any intimation as to the amount of regurgitation? Experience shows that the answer is a negative one, and this is a practical point of considerable importance, since we should naturally infer that if the murmur was loud there would be a large amount of regurgitation. The reverse of this is perhaps more apt to be true, but there is really no definite rule about the matter. We have, then, two distinct murmurs which succeed each other, to and fro, like the ordinary sounds of the heart. There is one point to guard against when two murmurs exist in this way, and that is the danger of mistaking them for a pericardial friction murmur.

I next go down to the apex, wherever that may be. The rule is, that the point where the lowest appreciable impulse is found is the location of the apex; although it is often the case that we get a stronger impulse at other points than this when the heart is enlarged and the shape of the organ altered. One reason for this is that as the heart enlarges it pushes away the lung, and so comes nearer to the chest wall. You must bear in mind, however, that the lowest point of impulse is always the apex, whether it is in the normal position for the apex or not. As you are aware, we listen at the apex for mitral murmurs, and now placing the stethoscope at the apex in this case, I find a murmur which occurs just before the first sound of the heart. There is no difficulty in determining its relation to the first sound, since the latter is always synchronous with the impulse. This murmur is short, rough in character, and can be heard only over a very circumscribed space. It is worth while to note also that it ends abruptly with the first sound of the heart. From these points I know that I have here a mitral direct, obstructive, or presystolic murmur. This is a murmur which precedes the first sound of the heart, and is usually rough; the roughness being of a peculiar quality, which is described as vibratory. This vibratory character is due to the causes of the murmur, which we have not time to investigate minutely at present. I can only allude in passing to the fact that there are usually adhesions, which produce certain changes about the orifice.

Moreover, while listening to the apex I get still another murmur. This one begins with the first sound of the heart, and is of a soft and blowing character, so that it is readily differentiated from the other. An additional characteristic of it, in contradistinction to the latter, is that it is propagated laterally around the chest as far as the scapula. From these points we diagnose a mitral regurgitant murmur, so that we find all four of the murmurs which I have mentioned, present in this

patient. Here, as before, the loudness and quality of the regurgitant murmur affords no indication of the amount of the valvular insufficiency.

There is one point to which I will now call your special attention. Please to mark that two of the four murmurs occur synchronously, the aortic direct and the mitral regurgitant, which are heard with the first sound of the heart; while one, the aortic regurgitant, is diastolic, and one, the mitral direct, is presystolic. Given a systolic murmur, and if it is an aortic obstructive, it will be heard with the greatest intensity at the base of the heart and propagated to a very slight extent below this point. On the other hand, if the systolic murmur be a mitral regurgitant, the greatest intensity is found at the apex, and propagated laterally to the back of the chest. In case both these murmurs exist, as in the present instance, we shall find the characteristics of each. One is rough and the other soft, while each has its special location and direction of propagation. To determine the distinct presence of both we may carry the stethoscope gradually from apex to base, or *vice versa*, when we shall arrive at a point where one murmur ceases to be heard; while if we proceed further the other will presently commence to appear. On this occasion I will not go into the question whether there is enlargement of the heart in this patient, or, if so, whether its character is of the nature of hypertrophy or dilatation, or of both, as is more apt to be the case.

There are some points of interest in connection with the history of the case to which I will now direct your attention. The patient is a native of Ireland, twenty-eight years of age, and she is an embroiderer by occupation. She was admitted to the hospital two days since. Ten years ago she had a very severe attack of acute articular rheumatism (the first in her life, as far as we are able to ascertain), and since then the attack has been repeated regularly every spring, although with diminished intensity. About five years ago she began to suffer from palpitation, and more recently from dyspepsia, which has increased very much during the past year. Her feet have been swollen at times, and she has also suffered from dimness of vision. Her urine is now of a specific gravity of 1010, and contains no albumen. Of course, it is impossible to say with which of the attacks of rheumatism she had endocarditis. This certainly occurred with one of them, and may possibly have done so with all. As this complication is most apt to occur with a severe attack it is probable that she had it with the first. Another thing that renders this probable is that the symptoms of which she now complains commenced five years ago, and, as a rule, endocarditis does not produce these symptoms of distress until several years have elapsed. A few words now as to the subsequent history of the case. Although the patient has the

TUBERCULOSIS RESULTING FROM DEFICIENT NUTRITION.

Various as are the opinions regarding the treatment of consumption, all writers concur in the belief that whatever measure is adopted, the strength of the patient must be husbanded with the greatest care, and the most efficient means employed to supply the system with that element which the symptoms indicate as being required to keep up the vitality while such course of treatment is being pursued as is considered suitable. The most striking indication of the presence of this dreadful disease is rapid loss of weight. The patient himself, prone as he is to disregard premonitory warnings of this insidious malady, cannot but observe an extraordinary difference in the appearance of his form, as first the face, then the trunk and, lastly, the limbs become soft and flabby, and the once well-fitting garments hang loosely about him, his flesh seeming to melt away, so rapid is the change.

EMACIATION.

A natural course of reasoning as to the cause and effect of emaciation under these circumstances has developed the fact that the abnormal consumption of the tissues is the result of nature's efforts to supply the waste, through the blood from the fatty tissues of the body with the requisite amount of material whose oxidation is the source of heat and nerve force, the natural supply, through the assimilation of food, having failed in consequence of an unhealthy condition of the pancreatic secretions causing an insufficient supply of chyle, or a failure on the part of the lacteal tubes, through fever or some cause, to absorb sufficient nutriment.

TUBERCLE.

As the attack upon the tissues of the body progresses, not only fatty tissue is absorbed into the circulation from unnatural sources, causing loss of strength, but particles of albuminoid tissue are carried by the blood and being deposited in channels where the system has no provision for throwing them off, form desquamations centres of disease which, in their turn, throw off infectious matter to be absorbed into the general system. The immense extent of delicate mucous surface in the respiratory passages of the lungs exposed to the contents of the minute blood-vessels which permeate their entire texture, offers the greatest and most susceptible field for the reposition of a large amount of this effete albuminoid tissue. This deposit forms the tubercle whose establishment in the lung is the beginning of that train of circumstances which characterizes the progress of that fatal malady—consumption. Thus it is seen that tuberculosis is either due to the defective action of the pancreatic juice on the fatty elements of the food, or to the non-absorption of the chyle into the blood.

ASSIMILATION OF FATS.

Fatty matter, when introduced to the stomach, undergoes little change by the action of the gastric juice, but passes, together with

the chyme or digested fibrinous and albuminous matter, to the duodenum, where it comes into contact with the pancreatic juice, and is thereby transformed into chyle, which is a very delicate saponaceous emulsion or suspension of the oleaginous portion of fat. It is when in *this condition only* that fat is capable of absorption by the lacteals, thence passing directly to the venous blood which is supplied to the lungs through the right cavity of the heart; the lungs then absorb from that blood the hydrocarbons or fatty portion, and return the nitrogenous portion to the heart, to form the globulin of arterial blood before passing into the circulation.

This function of partly saponifying and partly emulsifying fats is enjoyed by no other secretion of the alimentary canal but the pancreatic juice, unless we take into consideration the action of the saliva, which is somewhat of that nature; but as the food in most instances is subjected to the action of the saliva in the mouth for so short a time, this feature in the economy is almost appreciable.

TREATMENT.

The close relations of non-assimilations of the fatty elements of food to wasting diseases, and especially to consumption, is understood, and reason would indicate that if by any artificial means the absorption of fat could be assisted by supplying, as chyle, a proper amount of oleaginous or fatty matter, a nutritive progress would be established which would modify the unhealthy action of the pancreas, and not only relieve the body from the depleting effects of the disorder, but afford an opportunity for treatment and recovery. With the assistance of a thorough knowledge of the chemical process which fat undergoes from the time of its introduction into the duodenum to absorption, a preparation has been introduced and extensively used by the profession in England with highly successful results, indicated by the very flattering commendations of it from many physicians who, having given the treatment of pulmonary disorders their special attention, are peculiarly qualified to attest its efficacy.

HYDROLEINE.

This preparation, to which the distinctive name of hydroleine (hydrated oil) has been given, is not a simple emulsion of cod-liver oil, but a permanent and perfect saponaceous emulsion of oil, in combination with pancreatin soluble in water, the saponification producing a cream-like preparation, possessing all the necessary qualities of chyle, including extreme delicacy and solubility, whereby a ready and perfect assimilation is afforded.

FORMULA OF HYDROLEINE.

Each dose of two teaspoonfuls, equal to 120 drops, contains:

Pure oil.....	80 m (drops)
Distilled water.....	35 "
Soluble pancreatin.....	5 grains.
Soda.....	1/2 "
Boric acid.....	1/2 "
Hyochoolic acid.....	1-20 "

Dose.—Two teaspoonfuls alone, or mixed with twice the quantity of soft water, wine or whiskey, to be taken thrice daily with meals.

The use of the so-called emulsions of cod-liver oil during the extremely sensitive condition of the digestive organs always accompanying consumption does not usually afford beneficial results. Those of the profession in this country who have under their care cases of consumption, diabetes, chlorosis, Bright's disease, hysteria, and, in short, any disease where a loss of appetite is followed by a rapid breaking down of the tissues of the body in its effort to support the combustion supplying animal heat, are urged to give this preparation a trial. It is supplied by the agent for Canada, Hazen Morse, No 57 Front Street East, Toronto, who will forward literature relating to the subject upon application.

That many of the diseases from which mankind suffer during infant and adult life are caused by malnutrition, there can be no doubt; and the extent to which non-assimilation of the life-giving properties of food interferes with recovery from severe illness, baffling the best directed efforts of the physician, points the necessity for an agent or combination of agents sufficiently potent to replace the deficient principle and aid nature in renewing the degenerated tissues.

Realizing this need, the science of chemistry produced pepsine. Richard Tuson, F. C. S. Professor of Chemistry, London, England, in the *Lancet* Aug. 13, 1870, speaks of this remedy as follows: "Since the introduction of Corvisart and Boudault's poudre nutritive into medicine, in the year 1854, Pepsine, obtained from the stomach of the pig, calf or sheep, in a state of greater or less impurity has been extensively prescribed in Dyspepsia and certain other affections. According to the testimony of some authorities of high standing, long experience in the use of this agent fully justifies Corvisart's predictions relative to its therapeutic value, which were based on physiological reasoning.

There are other authorities who express doubts as to the efficacy of Pepsine. This difference of opinion undoubtedly arises from the circumstance that pharmacutists supply medical men with various preparations, all bearing the same specific name of Pepsine, but differing very considerably in their digestive powers and other qualities. In fact, I find those who speak favorably of its employment in the treatment of disease have prescribed that prepared by the best makers, while those who express a doubtful opinion have been in the habit of prescribing those varieties or makes, which the experiments of myself and others have proved to be practically without any digestive activity, i. e. worthless. Under these circumstances it is absolutely necessary for the practitioner to be certain of the make of Pepsine he uses. Pure Pepsine, thoroughly triturated with finely powered sugar of milk (saccharated pepsine) will undoubtedly produce the best results.

Experience in diseases of the stomach, dyspepsia, etc. has demonstrated in many cases, the lack of other agents required to promote a healthy digestion beside Pepsine, namely Pancreatine and Diastase or veg. Ptyalin. Pancreatine the active principle of the sweet-bread or pancreas possesses the wonderful power of emulsifying the fats and oils of food, rendering them easily assimilated by the system not affected by pepsine in the slightest degree. Diastase or veg Ptyalin, as obtained from malted barley in the dry extract of malt, represents the saliva, and has the remarkable property of converting the insoluble starchy portions of food into the soluble glucose, thus rendering the indigestible and innutritious article starch into the nutritive and easily assimilated food glucose.

The value of these different ingredients and the difficulty of procuring them of the right quality led Hazen Morse, 57 Front Street East, Toronto, to experiment with various combinations during seven years' employment in the manufacture of Pepsine on a large scale and with the assistance of several prominent physicians he was finally enabled to present to the profession the following formula.

Saccharated Pepsine.....	10 Grains.
" Pancreatine.....	5 "
Acid Lactophosphate of Lime	5 "
Exsiccated Extract of Malt equal to one teaspoonful of Liquid Extract of Malt	10 "

Said formula has been registered at Ottawa under the distinctive name Maltopepsyn, thus giving the physician a guarantee of always procuring the same standard preparation and preventing their being imposed upon by imitations of inferior quality, and at the same time putting it at as low a figure (fifty cents for 1½ ozs.) as possible for such a formula to be compounded from the ingredients of the best possible manufacture.

Maltopepsyn has digestive power ten times greater than the best Pepsine in the market, as it digests Fibrin and Caseine, emulsifies the fat of food taken into the stomach, thus rendering it assimilable, converts starch into glucose, in fact it combines all the agents that act upon food, from mastication to its conversion into chyle, digesting all aliment use by mankind while Pepsine acts only on plastic food. Maltopepsyn also combines with the above the nutritive qualities of Extract of Malt, and the brain and nerve strengthening powers of the Acid Phosphates.

It has been found that a free acid, like Hydrochloric, does not combine well with a Saccharated Mixture, and renders it liable to decomposition, I therefore do not use it in my formula. It can be easily prescribed in solution, (say 20 drops of acid to 4 ounces of water) one half-ounce with each dose, in cases where its use is indicated.

For infants, however, Maltopepsyn will be found to yield the most satisfactory results, and the acid should be dispensed with. The necessity for the absence of acid which would tend to produce harmful results, will be recognized, when it is considered that even the slight acidity of most cow's milk, when used as food for infants, is sufficient to disagree with them.

With regard to the proper time for its administration, as before or after taking of food, opinions vary, but reason would suggest that about half an hour before eating will afford the ferment a sufficient time to combine with the existing condition of the stomach, and produce the most natural effect upon the food.

MALTOPEPSYN

(REGISTERED AT OTTAWA)

FORMULA

SACCHARATED PEPSINE (Porci).....	10 Grains
“ PANCREATINE.....	5 “
ACID LACTOPHOSPHATE OF LIME.....	5 “
EXSICCATED EXTRACT OF MALT (Equal to one tea- spoonful of liquid extract of Malt.).....	10 “

The new Canadian remedy for Dyspepsia, Indigestion,
Cholera Infantum, Constipation and all Disease
arising from Imperfect Nutrition.

It is also exceedingly valuable as a relief for Vomiting in Pregnancy.

TO THE MEDICAL PROFESSION.

Having been employed in the manufacture of Pepsine, Pancreatine, etc., in the United States for the past seven years, and knowing that nine-tenths of the numerous brands of Pepsine and Combinations thereof, in the market to-day, are almost worthless and inert, and knowing further, that the few really good articles are absurdly high priced—one dollar per ounce and upwards—I have decided to offer to the profession, Maltopepsyn, an article unequalled in quality and reasonable in price (fifty cents per two ounce bottle, containing nearly one and one-half ounces of powder).

I will guarantee Maltopepsyn to be compounded exactly as per formula and each ingredient to be of the best quality possible to be made, and therefore I claim the following advantages over the ordinary preparations now dispensed, viz:—

First—The Saccharated Pepsine (Porci) is of a quality superior to any in the market, it is perfectly soluble, tasteless, odorless, very active, and, being saccharated, will preserve its qualities for years, while made in any different manner it will not. N.B. Pepsine is very difficult to procure free from Mucous Creatine and the other impurities of the stomach, and is usually sold containing all these hurtful substances, which not only kill its digestive properties but give it a dark brownish color, disagreeable odor and acrid taste. Pure Pepsine should be light colored, nearly odorless and tasteless.

Second—The Pancreatine is fully equal to that made in London, England, the only Pancreatine in the market at all reliable, and that is so high priced (\$3.00 per oz.) as to almost prohibit its use.

Third—The Exsiccated, or dry extract, is a more effective, palatable and convenient preparation of the nutritive article, Malt, than the liquid extracts usually dispensed.

Fourth—The Acid Lactophosphate of lime is carefully purified and of the best quality. Its therapeutic value is too well known to need further comment.

Upon application from any of the Medical Faculty, I will be pleased to forward samples, which will substantiate the claims made for Maltopepsyn, and I hope for your assistance in this my endeavour to introduce a good preparation at a low price.

HAZEN MORSE, 57 Front Street East, TORONTO.

four heart murmurs, I think the reason that she is suffering more than usual at present is because her general health is run down to a considerable extent. Perhaps there is no condition in which the system is so tolerant (if otherwise in good condition) as organic disease of the heart; and I think that after this woman has enjoyed a season of rest, with the best nourishment and appropriate tonics, she will feel wonderfully better in every way. This is an important practical point, but I cannot enlarge upon it at present.

Our next patient, a man in advanced life, as you see, has another serious trouble besides that of the heart, namely, locomotor ataxia; but I do not propose to discuss the latter on this occasion. I believe, if I remember rightly, that he has all the four murmurs also. On applying the stethoscope to the second intercostal space, a little to the right of the sternum, I find, as before, two murmurs, one with the first, and one with the second, sound of the heart. He has, therefore, both aortic obstruction and regurgitation. Again, at the apex there are the same two murmurs as in the other patient; so that here is a second instance of all the four murmurs existing in combination. I will call your attention in passing to the fact that notwithstanding he has all these murmurs the patient suffers very little from the condition of the heart. What gives him all his trouble is the locomotor ataxia.—*Boston Med. Journal.*

ARTHRITIS OF THE TEMPORO-MAXILLARY ARTICULATION.

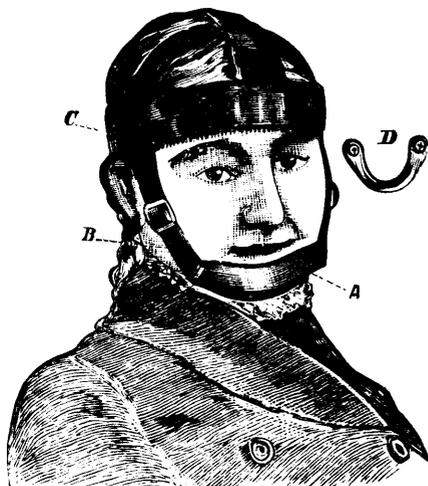
Dr. Goodwillie, of New York, *Archives of Medicine*, gives the following history and treatment of this affection:—

Arthritic inflammation may be of a local or constitutional character. The former may be excited by dislocations, blows, luxations, or any lesions in neighboring parts. In the latter by some blood poison, viz.: syphilis, rheumatism, gout, scrofula, etc., and as such must have disease medicines that are antidotes or specifics to the particular blood poison. It is my desire to call attention to my method of producing *extension* in acute inflammation of this joint from either of the above causes.

A. P. B., of Hanover, N. H., 60 years of age, was brought to me by the late Prof. A. B. Crosby, M.D. He had been a man of very robust constitution, but for the past two or three years had suffered with attacks of gout, and was now certainly an object of pity to look upon. The gout from which he had suffered came with terrific violence in both temporo-maxillary articulations, and when he came into my office his teeth were chattering, like one in a malarial chill, from excessive irritation and spasm of the muscles of the jaw. This caused great pressure on the inflamed articular sur-

faces, and gave him excruciating pain, so that he got no relief except from the effects of morphine, hypodermically administered. The arthritis was preceded by neuralgia of the inferior maxillary nerve. On examination of the mouth, I found that his teeth had no decay in them, but some were very much worn by mastication upon the crowns, and some pulps (nerves) were exposed, and in consequence he had pulpitis, causing neuralgia that was followed by acute arthritis.

In the treatment nothing could be done with him except under the effects of morphine and an anæsthetic. On entering my office, a hypodermic dose of morphine was administered, and when under the effects of the drug, he was given nitrous oxide as an anæsthetic. This relieved him from pain, while consciousness to some extent remained. The pulpitis, the exciting cause of the facial neuralgia, was removed by protecting the exposed dental pulps (nerves) from the air and attrition by means of gutta-percha and an interdental splint. The principle of the treatment of arthritis in these joints is the same as in others, differing only in the method of application. I do not know that any extension appliance has ever been used for the relief of arthritis of this joint.



The method that I employ is as follows: In this case the patient was under the anæsthetic effect of morphine and nitrous oxide. If there is any rigidity of the muscles, cautiously force open the mouth and take an impression of either the upper or lower teeth, and a rubber splint is made from the cast to cover over all the teeth in one jaw. Upon the posterior part of this splint is made a prominence or fulcrum (D), so that when the mouth is closed the most posterior teeth close upon it, while all the anterior teeth are left free. The next step is to take a plaster of Paris impression of the chin, and from this make a splint (A). On each end of

the splint is made a place for fastening elastic straps (B) that pass up on each side of the head to a close-fitting skull-cap. See fig. When the apparatus is in place and the elastic straps tightened so as to lift the chin, then pressure is brought to bear on the fulcrum at the posterior molar tooth, and so by this means extension is made at the joints, and the inflamed surfaces within the joints are relieved from pressure; then immediate relief is experienced.

As soon as this apparatus was put on this patient, his pain stopped instantly, and he took no more morphia. He continued for a time his anti-gout remedies, and after some manipulations of the lame muscles of the jaws under electricity, perfect motion was restored. Three cases similar to the above are given in detail, and the Dr. concludes as follows:—(1) That arthritis of this joint, like all other joints, the result of local or constitutional causes, requires proper and prompt treatment, as it may pass in a very short time from its most incipient stage to one of suppuration and destruction.

(2) That arthritis without proper treatment more often results in fibrous ankylosis, and that bony ankylosis is the exception.

(3) That the highly developed muscles of the jaw, from pathological changes, the result of inflammation, or even from misuse, have always more or less impaired motion, and in some cases require more treatment than the joint trouble.

(4) Cases do sometimes occur in which the poisonous effects of overdoses of mercury have had a disastrous result.

[With some slight modification this appliance will be found well adapted to the treatment of fracture of the lower jaw.] ED. LANCET.

TENO-SYNOVITIS: ITS CAUSES, NATURE, SYMPTOMS AND TREATMENT.

BY WM. B. HOPKINS, M.D., PHILADELPHIA.

Teno-synovitis may be defined as an affection usually occurring in the forearm, and characterized by a peculiar creaking of the tendons as they move in their sheaths, depending upon a particular kind of strain to which the muscles belonging to these tendons have been subjected.

Cause.—The predisposing cause of the affection is the occupation of the individual, and in studying, therefore, fifteen cases occurring in subjects of otherwise average health, the nature of their employment is worthy of special attention. In three of the fifteen the disease occurred in men employed in a dye-house, whose work consisted in wringing the goods, which had been soaked in the dye; in two the patients were weavers, who threw the shuttle from side to side with the index-finger

of the right hand; one case occurred in a baker, from kneading bread; one in a boiler-riveter, from hammering; one in a car-driver, from using the brake; one in an iron-moulder, from continued use of the shovel; one in a plaster-worker, from stirring plaster with a hoe; one in a washerwoman, from using a clothes-wringer; one in a labourer, who continued to work after receiving a severe contusion of the forearm from the fall of a heavy iron pipe; and one each in a rope-twister, a marble-rubber, and a painter.

In contrasting the above-named occupations with many others requiring far more muscular effort, and giving employment to many more workmen than these, the idea suggests itself that it is not the mere amount of strain to which the muscles and their tendons are put that predisposes to the disease, but rather the kind of effort, which is of a tedious, continuous, monotonous sort. On the other hand, trades which would appear likely to furnish subjects for the disease more frequently than those which have been already spoken of fail to do so. This in some instances can be explained. Gold-beating, for example, where an eight-pound hammer is used almost uninterruptedly for five hours, and is carried from above the shoulder down to the level of the waist would seem to contradict this view, as the disease is unknown to one of the largest gold-leaf manufacturers. A careful study of the movements of the operatives in performing this work, however, shows that the strain is not upon the muscles of the forearm, but rather on those of the shoulder and arm; as the hammer descends simply by gravity and returns by recoil from the elastic block, composed of alternate sheets of gold and animal membrane, to a point where the biceps and deltoid muscles complete the elevation.

The exciting cause of the attack is usually the resumption of work to which the individual is thoroughly accustomed, after a shorter or longer interval, when he is out of practice, and when the parts involved in executing special movements have become less actively nourished; though in the case of the washerwoman, the clothes-wringer was used for the first time, and the rope-twister was doing work which was new to him. In the laborer the attack was of traumatic origin.

Pathology.—The means of determining the exact lesion in this disease are necessarily to a certain extent conjectural, but as the pain and crepitation are coincident in their onset and subsidence, as there is no impairment of motion after recovery has occurred, and as the parts under treatment regain their normal condition in a very short time, it seems highly probable that there is no true inflammatory process at all, certainly none extending beyond the stage of congestion, and that the creaking which exists is due to insufficient lubrication, with consequent dryness, not, as has been sup-

posed, to exudation of lymph. Under rest and counter-irritation the congestion very soon disappears, the synovial surfaces pour out their proper fluid, and the tendons once more move smoothly and noiselessly in their sheaths.

Symptoms.—Soreness, amounting to positive pain upon motion or pressure along the course of the affected tendons, inability to use the part, and the presence of the peculiar creaking, which is communicated to the finger on palpation, are the symptoms which denote the existence of tenosynovitis.

Diagnosis.—From its common seat upon the dorsum of the forearm, this affection may be mistaken for fracture of the radius. The history of the case, however, showing that there has been no blow or fall, as a rule, the quality of the crepitus, which is much softer and finer than that of fracture, and like that of cellular emphysema after fracture of the ribs, or that produced by rubbing two pieces of cloth between the fingers, and the way in which the crepitation may be elicited, all leave little chance of error. The disease will not be mistaken for a strain of the muscle, if a careful physical examination is made.

Treatment.—From what has been already said, it will be seen that the disease is at once acute, painful, and disabling. It, however, yields, as a rule, readily to treatment; for the patient can seldom work more than a day after he is attacked, and finding that he exhausts the usual home embrocations, without relief, promptly seeks aid elsewhere. This enables the surgeon to institute treatment before an advanced stage is reached, and permanent mischief done by a deposition of plastic matter. Absolute rest of all the parts concerned is the most important element in the treatment; a palmar splint, therefore, from the elbow to the tips of the fingers, is applied, when the forearm is the part affected. Counter-irritation is next indicated, and may be employed in one of two ways. If the skin is red, a band one inch broad of tincture of iodine should be painted in an oval form around the area over which creaking is felt, while a lotion of lead-water and laudanum is applied within this band. In cases where there is but slight creaking, and no redness of the skin, tincture of iodine may be painted directly over the diseased part, without the employment of any lotion. The dressing is re-applied each day, until all pain, tenderness and creaking have disappeared, which generally occurs at the end of four or five days. After this a roller bandage alone is continued, until the parts have regained their tone.—

Louisville Med. News.

THE "CHEMICAL LUNG."

On Tuesday night over twenty professional men and others interested in questions of sanitary sci-

ence met together to witness one of Dr. Neale's demonstrations of his "Chemical Lung." The main features of the "lung," and the principal uses for which it is designed, have more than once been described in these columns. either by ourselves or by the inventor of the apparatus. In its inception, the "lung" was, we believe, chiefly intended for the purification of the air in the tunnels of the Underground Railway, though it has not been accepted for this purpose. When the details of the scheme were laid before the directors of the company, either the official mind failed to understand them, or official acuteness perceived that so long as the public are willing to pay for travelling in a filthy atmosphere the company need not be so generous (or foolish) as to undertake any additional trouble or expense in efforts to make the air even tolerably pure. Such may be, and doubtless is, a sensible and proper view for railway directors to take. They are not professional philanthropists, and as regards those who have the charge of the Underground Railway, it may be predicted that when it can be shown that it is to their advantage and interest to make travelling on their line unobjectionable as well as convenient, they will adopt necessary measures and incur the requisite cost, but not till then. Meanwhile, the world is not made up of railway directors, and the "lung" will find fair scope for its activities elsewhere—as, for example, in theatres, churches, chapels, lecture rooms, hospital wards, out-patient waiting-rooms, police-courts, ships' cabins, cellars, etc.

The "Chemical Lung" is really a punkah of peculiar construction, and supplied with a solution of caustic alkali, for which many of the impurities of air vitiated by overcrowding have a special affinity. Not only are sulphurous and carbonic acid gases speedily removed from the atmosphere, but test experiments have shown that organic matters are likewise withdrawn by the "Chemical Lung," or punkah. The experiments performed on Tuesday night were similar to those described by Dr. Neale in our columns on March 11th (p. 415). Their success was *strikingly and marvelously* complete. In a room 18ft. by 15ft., 8ft. 6in. high, at the basement of the house, with the windows and door closed, fifty jets of a gas-stove were kept in full flame for an hour before the meeting. The temperature of the room was thereby raised to 85° Fahr. A quarter of an ounce of sulphur was then burned in the room, rendering the air almost irrespirable, except through handkerchiefs, and exciting violent coughing. The punkah, charged with a solution of caustic soda, was then set in motion. In ten minutes the temperature had fallen 15°, and though over twenty persons were present, each having an allowance of only 100 cubic feet, the air was rendered not only *comparatively* but *positively*, fresh, and actually productive of deep and

full inspirations. It is obvious that by means of the "Chemical Lung" not only may foul air be purified, but air may be prevented from becoming vitiated in crowded rooms, and this with *extraordinary certainty*, and at a cost and inconvenience that are almost inappreciable.—*The Lancet*.

TREATMENT OF HÆMORRHOIDS BY INJECTIONS OF CARBOLIC ACID.

Dr. Charles B. Kelsey, Surgeon to St. Paul's Infirmary for diseases of the Rectum, New York, recently opened a discussion on the treatment of hæmorrhoids, at a meeting of the New York Clinical Society, by reading a paper on the treatment by injections of carbolic acid. The paper, which appears in the August number of the "New York Medical Journal and Obstetrical Review," opens with condensed histories of a number of cases, after which he remarks that, beginning this plan of treatment without very much confidence in it, and with the fear of causing great pain, and perhaps, dangerous sloughing, constantly before him, the method is constantly growing in favour with him, and the more he practices it the more confidence he gains in it. With solutions of proper strength the danger of causing sloughing of the tumors is very slight. There are no objections to this method which do not apply equally to others. He has once seen considerable ulceration result from it in the hands of another; but he has seen an equal amount follow the application of the ligature; and he does not consider this as a danger greatly to be feared when injections of proper strength are introduced in the proper way. It is applicable to all cases; is especially adapted to bad cases; and may be used where a cutting operation is inadmissible. It acts by setting up an amount of irritation within the tumor which results in an increase of connective tissue, a closure of the vascular loops, and a consequent hardening and decrease in the size of the hæmorrhoid. Except when sloughing occurs, the tumors are not, therefore, removed, but are rendered inert, so that they no longer either bleed or come down outside of the body. In cases in which the sphincter has become weakened by distension, the injections will also have a decided effect in contracting the anal orifice, as injections of ergot or strychnine do in cases of prolapsus. He has used this method of treatment now many times, and has never, except in one case, had reason to regret using it or to be dissatisfied with its results, so far as he has been able to follow them. Although slow to advocate any one treatment of this affection to the exclusion of all others, he now generally adopts this from the outset in each case, reserving Allingham's operation for any in which the injections may fail. As yet he has met with no such case.

Its advantages over all other methods, provided its results prove equally satisfactory, are manifest. The patient is not terrified at the outset by the prospect of surgical operation, is not confined to his bed, and is not subjected to any suffering. The cure goes on painlessly, and almost without his consciousness. The method requires some practice and some skill in manipulation, in getting a good view of the point to be injected, and in making the injection properly; but this is soon acquired; and he is more and more convinced that the fear of producing ulceration is an exaggerated one, and that when ulceration is produced it is a result either of a solution of too great strength, or of one improperly administered.

[The strength he uses is one of carbolic acid to six of glycerine and six of water; of this *five* minims are injected into each tumor at intervals of a week.]
ED. LANCET.

A METHOD OF PREVENTING THE NECESSITY FOR INDUCED ABORTION.

Dr. Depaul, in one of his recent lectures, recommends, in certain cases, iodide of potassium, regulated diet, and bleeding, to diminish the size of child, and to prevent the necessity of bringing on abortion. He cited the following case in support of his recommendation: Thirty years ago a merchant had married a very rickety wife, who became pregnant soon after marriage. A medical man was consulted, and scarcely knowing what to do under the circumstances, he asked that M. Paul Dubois might be called in, who was obliged to perforate the cranium. A second pregnancy occurred, and on this occasion M. Dubois sent the young woman to M. Depaul. She was then four or five months advanced in pregnancy. Her pelvis measured from $7\frac{1}{2}$ to $7\frac{3}{4}$ centimetres. He told her that it was necessary, in order that she might have a living child, gradually to diminish the quantity of food she took, and to subject herself to a rigorous diet. She was bled many times, and gradually lessened the proportion of food, according to his directions. He followed the progress of the pregnancy, and especially the increasing dimensions of the child. The eighth month arrived, and it appeared to M. Depaul that until then the child had grown very little. He let things take their course, thinking it necessary to bring on premature delivery. Finally, the woman came to the end of the ninth month, and Dr. Depaul was sent for. The head soon cleared the sacro-vertebral angle, and the delivery was easy. The child, a boy, lived; he was very small, but was quite strong enough to be brought up. The same person again became pregnant for the third time. She did not communicate the fact to M. Depaul,

and it was only when she was eight months and a half gone that he was sent for to attend her. It was too late to have recourse to the means used in the previous pregnancy, and Dr. Depaul was obliged to perform cephalotripsy. In a fourth pregnancy he received notice in good time. The regimen used in the second pregnancy was again successful. The child lived, and is still alive. A fifth time he was only called in at the moment of delivery, and only succeeded in removing the child by cephalotripsy. M. Depaul considers this case to be very conclusive, and has likewise collected a certain number of similar facts which induce him to affirm that this method may have a certain degree of success, and to recommend it in cases of vicious conformation of the pelvis, so as to avoid, as far as possible, forced abortion.—*British Med. Journal.*

THE HIPPOCRATIC OATH.—I swear by Appollo, the physician, and by Æsculapius, and Health, and Allheal, and all the gods and goddesses, that, according to my ability and judgment, I will keep this oath and this stipulation: To reckon him who taught me this art equally dear to me as my parents, to share my substance with him, and relieve his necessities, if required; to look upon his offspring in the same footing as my own brothers, and to teach them this art, if they shall wish to learn it, without fee or stipulation; and that by precept, lecture, and every other mode of instruction, I will impart a knowledge of the art to my own sons and those of my teachers, and to disciples bound by a stipulation and oath according to the law of medicine, but to none others. I will follow that system of regimen which, according to my ability and judgment, I consider for the benefit of my patients, and abstain from whatever is deleterious and mischievous. I will give no deadly medicine to any one if asked, nor suggest any such counsel; and in like manner I will not give a woman a pessary to produce abortion; with purity and holiness I will pass my life and practice my art; and I will not cut persons laboring under the stone, but will leave this to be done by men who are practitioners of this work. Into whatever houses I enter, I will go into them for the benefit of the sick, and will abstain from every voluntary act of mischief and corruption, and further, from the seduction of females or males, of freedmen and slaves. Whatever, in connection with my professional practice or not in connection with it, I see or hear in the life of men, which ought not to be spoken of abroad, I will not divulge, as reckoning that all such should be kept secret. While I continue to keep this oath unviolated, may it be granted to me to enjoy life and the practice of the art, respected by all men, in all times. But should I trespass and violate this oath, may the reverse be my lot.

SCIATICA.—In a clinical lecture on sciatica, Mr. Jonathan Hutchinson (*Medical Times and Gazette*), says, "In nineteen cases out of twenty in which the diagnosis of 'sciatica' is suggested, there is no affection of the sciatic nerve whatever. They are simply cases of arthritic disease of the hip in one or other of its various forms, acute gout, chronic gout, rheumatic gout, subacute rheumatism, or chronic senile rheumatism. Both by the public and the profession these cases are constantly called 'sciatica.' Our work-house infirmaries are full of chronic cases under that name, and I speak advisedly when I say I feel sure that they are almost all examples of *morbus coxæ senilis*. Of the cases of 'sciatica' which are not hip-joint rheumatism, some are probably affections of the fascia or periosteum near to the hip; a minority are possibly affections of the sciatic nerve itself. In these latter it is the sheath of the nerve which becomes painful. The pain may be darting or may radiate, but it does not pass down the nerve-tubules or in any way make the patient conscious of their course. The diagnosis of true sciatica is to be based upon the discovery of tenderness restricted to the trunk of the nerve, and involving a considerable part of its course. Examples of this are decidedly rare, and their recognition without risk of error is a matter of great difficulty.

BEST METHODS IN PRACTICE.—Dr. Jennings, in the *Peoria Med. Monthly*, says: "In the contest for business and money that most of us are engaged in, I have noticed that those who do the best work win; not necessarily the most profound and learned, but the men who are up with the times—the most industrious, and have an eye for improvement in ways and means. Practitioners of medicine are no exception to this rule. The routine doctor who takes but one medical journal, and confines himself to the identical formulas, medicines and instruments recommended by his college professors twenty years ago, is not the one to win patronage. I am called to treat a case of pneumonia, or rheumatism, or cholera-morbus—complaints that every doctor is presumed to know how to manage. It is not enough that the patient recovers; he would most likely do that without my aid; but I want the recovery to be quick and the means used safe and agreeable. In short, I want to use the best methods; and this may make all the difference in the long run between success and failure. A physician who provides himself with the best appliances of the art, and who studies to make his prescriptions safe, and pleasant to the eye and taste, though the mortality in his practice is no less than that of his routine neighbour, will secure the best patronage and take the most satisfaction in his business. The best methods are not confined to any particular branch or school of the profession, but may include much even of

empiricism. Nothing, it is true, gives the practitioner of medicine so much satisfaction as having established facts and fixed rules to bear on every case that comes under his care; this is what distinguishes the educated physician from the mere empiric; yet not every case can be successfully treated on "general principles;" and we shall often find ourselves obliged to fall back on experience (our own or that of others) without regard to the why or wherefore. And this, it appears to me, is the most important function of the medical journal, namely: to furnish that interchange of experience, and that medium for the discussion of ways and means which is necessary to develop the best methods in the practice of medicine.

It is amazing how soon one finds himself far in the rear if he drops the periodical literature of the profession even for a short time. Two years of experience in southern California without a medical journal, placed the writer of this so far behind the times that he was ashamed to meet his medical brethren, when at the end of that time he resumed practice; and it was several years before the lost ground was recovered.

Speaking in less general terms, it would be profitable to inquire, for instance, what is the best method of utilizing the practical portions of our periodical literature for future reference? To what extent shall we patronize "new remedies" and expensive pharmaceutical compounds? To what extent dispense our own medicines? What attitude assume toward Homœopathy? It is easier to ask questions than to answer them, but there are scores of such which occur to the medical man, besides the more important ones relating to the management of disease and remedies, the answer to which involves a consideration of methods.

NEW INSTRUMENT FOR LOCAL ANÆSTHESIA.—The London *Medical News* says: "In *Le Progrès Médical* for Saturday last there is contained an account of an ingenious and novel instrument invented by Dr. de Lesser, of Leipzig, the principle of which consists in the application of metal plates, cooled by rapid evaporation of ether, to the surface about to be operated on. The apparatus consists of a nickel case, the base of which is slightly concave, and can be applied to any rounded surface of the body, as the fingers, arms, tumors, buboes, etc. Another side is convex, for adaptation to depressions on the body surface, and it always ensures that a sufficient area shall be influenced by the cold. Two tubes open into this box; through one air can be driven by a hand syringe, through the other ether is introduced. By the passage of the air the rapidity of evaporation can be controlled, and a high degree of cold produced, which, reacting through the conducting sides of the box on the skin to which it is applied, brings about very considerable local anæsthesia. Its inventor

has obtained excellent results with the machine in extirpation of foreign bodies, disarticulations, amputations, etc., of the fingers, and in operations on the nails. He, however, first applies Esmarch's bandage to the part, whether limb or digit, to be operated on. The plan has also been successfully adopted in freezing substances for cutting into microscopic sections."

ARSENIC A PROPHYLACTIC AGAINST INFECTIOUS DISEASES.—Dr. Walter G. Walford, in a letter to the London *Lancet* of May 20th, proposes the administration of arsenic to persons exposed to scarlet fever and diphtheria, believing that if the drug be given in full doses during the incubative stage of these affections, it will forestall their development or modify them to such an extent that they may be treated as trivial ailments. Believing in the germ-theory of the cause of diphtheria and scarlatina, and having noted a statement to the effect that a person who is under the influence of arsenic can not be successfully vaccinated, he began to administer the drug to children not previously afflicted with the disease, in whose families there was an outbreak of scarlatina. During a period of several years he had submitted about one hundred children so exposed to this prophylactic treatment, and among this number two only had developed scarlet fever, and in these the disease presented itself in a very mild form. His experience with the drug as a preventive of diphtheria is limited to his two sons, whom he removed from a school where from local conditions diphtheria had attacked six of the boys, two cases being fatal. Under the administration of arsenic the younger son did not develop any symptom of the disease; but the elder, who was complaining of soreness in the throat at the time he was placed under treatment, showed after six days two small but unmistakable patches of diphtheritic false membrane on his fauces, "although his temperature never rose above 100° F., and his health and spirits scarcely flagged." In a few days he was well. The preparation employed by Dr. W. is the liquor arsenicalis (P. B.). He gives it at first three times a day in as large a dose as can be safely used, due regard being had to the age of the child. Each dose of arsenic may be combined with from fifteen minims to a half drachm of sulphurous acid and a small quantity of the syrup of poppy. This makes a pleasant mixture, of which the children are fond. He thinks that arsenic might be made available as a preventive against many other affections, among which he mentions hydrophobia as an extreme test of its prophylactic qualities.—*Louisville Med. News*.

PHYSICAL DIAGNOSIS.—I have often felt, when seeing hospital patients worried by hammering and long listening to their breathing, in order that the

physician might map out nicely the diseased territory the boundaries of which he could not alter, as if it were too much like the indulgence of an idle and worse than idle curiosity. A confessor may ask too many questions; it may be feared that he has sometimes suggested to innocent young creatures what they would never have thought of otherwise. I even doubt whether it is always worth while to auscult and percuss a suspected patient. Nature is not unkind in concealing the fact of organic disease for a certain time. What is the great secret of the success of every form of quackery? *Hope kept alive.* What is the too frequent fatal gift of science? *A prognosis of despair.* "Do not probe the wound too curiously," said Samuel Sharp, the famous surgeon of the last century. I believe a wise man sometimes carefully worries out the precise organic condition of a patient's chest when a *very* wise man would let it alone and treat the constitutional symptoms. The well-being of a patient may be endangered by the pedantic fooleries of a specialist.—*Boston Med. and Surg. Journal.*

THE ADMINISTRATION OF CHLOROFORM.—The *Gazette des Hôpitaux*, at the end of the *résumé* of the prolonged discussion on this subject which has just terminated at the Académie de Médecine, furnishes the following account of the rules of procedure observed by a *collaborateur* who has been much employed, with constant success, in the administration of chloroform during the last ten years:

1. The compress is to be preferred to all other means. A handkerchief is to be had everywhere, and alarms the patient less than anything else.

2. Fold the handkerchief into the form of the mouth of a horn, and keep it closely pressed against the point of the nose; but only pour the chloroform on the part of it which is not directly in contact with the skin.

3. Its application should be intermitted, but this need not be done in the precisely regulated manner recommended by Professor Gosselin.

4. Give very little chloroform at the commencement, in order to accustom the patient to it and prepare him for the feeling of suffocation. Then, when the first inspirations are over, pour on the chloroform very often, otherwise much time will be lost and complete anæsthesia obtained only with difficulty.

5. Before making the application take care that no article of dress constricts the patient, removing even the string of a cap.

6. Expose the epigastrium, and from the very commencement keep the eye upon it, and *constant* watch the respiration, without caring about the pulse.

Always have a forceps within reach.

8. As soon as the respiration becomes noisy and stertorous, remove the compress and allow the patient to breathe fresh air for a time.

9. When respiration is arrested, seize the tongue with the forceps and draw it out, and immediately commence artificial respiration. If the respiration is not reëstablished after a few seconds, place the head low, forcibly flagellate the cheeks, keep the tongue out, and continue the artificial respiration for five, ten, fifteen, or even twenty minutes, if necessary.

10. When the respiration is noisy, pass into the back of the throat a sponge mounted on a forceps, in order to remove the mucosities existing there, as they frequently do in patients suffering from colds.

11. There is but one contra-indication to the employment of chloroform—namely, advanced phthisis. Affections of the heart are not contra-indications.

12. Hysterical subjects should be distrusted.

13. Alcoholic subjects are very long and difficult in being brought under the influence of chloroform, but they may take it without danger.—*Med. Times and Gazette.*

TWO NEW ANTISEPTICS.—M. G. Le Bon has just presented to the Academy of Sciences two new and very effective antiseptics, the glyceroborate of calcium and the glyceroborate of sodium. Both of these compounds have the advantages of being very soluble, destitute of odor, and free from all toxic action. When exposed to the air they both deliquesce with great rapidity, absorbing from the air an equivalent weight of moisture. Both alcohol and water dissolve twice their own weight of these salts. They are powerful antiseptic agents even in very dilute solution; the most effective in a therapeutic point of view appears to be the calcic salt. It is absolutely innocuous, and it can be applied in strong solution to so delicate an organ as the eye without bad results. In a hygienic sense both can be employed with advantage as disinfectants and as preservers of meat and other alimentary products. M. le Bon has transmitted meat simply coated with a varnish of the glyceroborate to La Plata, and it has arrived in a perfectly fresh and sound condition. He thinks both salts will prove very useful as antiseptics in Lister's mode of dressing wounds.—*Lancet.*

THE ROYAL COLLEGE OF PHYSICIANS ON MEDICAL ADVERTISING.—The Fellows of the Royal College of Physicians of London met in solemn conclave last week, to consider a resolution condemning advertisements of medical books in the lay press, and the giving of medical testimonials to the proprietors of mineral waters, medicinal preparations, etc. An animated discussion ensued, and ultimately the following resolution was passed: "That the system of extensively advertising medical works, and the custom of giving laudatory certificates of medicinal and other pre-

parations and medical and surgical appliances, whether for publication or not, is misleading to the public, derogatory to the dignity of the profession, and contrary to the traditions and resolutions of the Royal College of Physicians."

It was pointed out that extensive advertising in the medical press was deceptive, as tending to associate special names with particular diseases. An interesting feature of the debate was the confession by a distinguished physician, that he received five guineas for a certificate praising a "favorite natural aperient." We now know the value of the much-advertised recommendations of this water.—*Med. News.*

LIGATURE OF THE INNOMINATE ARTERY.—MR. THOMPSON'S patient died on Thursday, July 20, the forty-second day after ligature of the innominate artery. There was no recurrence of bleeding after the thirty-ninth day. The sinus was found to terminate in an ulcer, which involved the anterior wall of the junction of the innominate, carotid, and subclavian arteries. The innominate and carotid were filled with clot; the subclavian contained a clot occluding it to the extent of half an inch. The position of the ulcer was on the distal side of the ligature, the constricted portion of the innominate not being involved. The hæmorrhage had apparently taken place from the innominate, as there was a recent blood-stain on the cardiac side of the clot. None of the vessels were pervious to water forced in with a syringe. The aorta was atheromatous. Consolidation was proceeding satisfactorily in the tumor. Excluding the successful case of Dr. Smith, of New Orleans, this is the second longest survival on record, Graefe's case having reached the sixty-seventh day, and Cooper's the thirty-fourth.—*British Med. Journal*, July 29, 1882.

ACUTE PNEUMONIA WITH FIBRINOUS EXUDATION IN THE LARGE BRONCHI.—Dr. Cezary, of Algiers, calls attention to cases, happily rare, of acute pneumonia in which the fibrinous exudation extends to the large bronchi and plugs them up. In these cases there is absolute dulness, but the bronchial breathing and bronchophony and vocal fremitus entirely disappear. The characteristic expectoration is suppressed, dyspnea is extreme, and death occurs with orthopnea. The signs are those of pleurisy with great effusion. The differential diagnosis between this form of pneumonia and pleurisy is impossible. Dr. Cezary has twice punctured, thinking that effusion was present.—*Gaz. Hebdom; London Pract.*

SHORT SIGHT A FASHION.—A recent order issued to the Russian army forbids any officer to wear either a *pince-nez* or eye-glass while in uniform. Spectacles also are only to be used upon

the issue of a medical certificate notifying that the wearer absolutely needs them. It seems that the fashion for eye-glasses and *pince-nez*, which has lately sprung up in the Russian army, has made four-fifths of the officers to have bad sight.—*Med. Times and Gazette.*

EXAMINATION OF SPERMATIC STAINS.—Vogel (*Wiener Med. Blatt.*, 1882) recommends the following method: The stain is softened with water, and in the moist condition is taken off with a knife, avoiding as much as possible the removal of any of the tissue on which it lies. A few small hairs are unimportant, however, as they are readily dissolved from the scrapings on the object-glass or slide with a drop of concentrated sulphuric acid. After two minutes one or two drops of tincture of iodine are added, the whole stirred carefully with a glass rod, and covered with a large cover-glass, which, if the dark-brown mass be too opaque, may be pressed down a little, unless it be intended to transfer smaller portions to other slides. The spermatozoa are stained distinctly brown, and are visible under the microscope in their whole contour, but it is not possible to keep the staining in longer than twenty-four hours unless the sulphuric acid be washed out, when the preparation is soon spoiled. Alcohol at once decolorizes the spermatozoa, showing the staining to be only superficial.—*Boston Medical and Surgical Journal*, August 10th, 1882.

NITRITE OF AMYL has been used hypodermically by Dr. J. J. F. Barnes, as described by him in the *British Medical Journal*. In thirty or more cases a ten per cent. solution in rectified spirit was used. No unpleasant results were observed. The action of the drug was immediate, and the phenomena were similar to those obtained by the ordinary method of administration. Ten minims of the solution, equivalent to one minim of the amyl, was the dose usually given by Dr. Barnes. He states that the solution in spirit, kept in an ordinary stoppered bottle, does not readily lose its efficiency.—*King's Co. Proceedings.*

HYDRATE OF CHLORAL AND TINCT. IODINE.—According to the authority of Pavesi, the therapeutic powers of tincture of iodine are increased by the addition of chloral hydrate, which dissolves in it without decomposition, and is readily miscible with water without precipitation. This combination possesses remarkable hemostatic virtues, from its marked coagulating powers over albumen.—*Pacific Medical Journal.*

Billroth having declined to leave Vienna, Prof. Volkmann, of Halle, has been chosen as Langenbeck's successor at the University of Berlin.

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. Advertisements inserted on the most liberal terms. All Letters and Communications to be addressed to the "Editor Canada LANCET," Toronto.

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TORONTO, SEPT., 1882.

The LANCET has the largest circulation of any Medical Journal in Canada.

TO OUR READERS.

The ever-increasing success of the LANCET is to us a matter for congratulation, and we enter upon the 15th volume with a determination to continue the high standard we have already maintained, and if possible to make the journal still more worthy of the support and encouragement of the profession in Canada. Owing to the very large and increasing circulation of the LANCET, it is much sought after by advertisers who find it to their advantage to patronize journals of large circulation; we have therefore been compelled to increase the number of our advertising pages. We wish our readers, however, distinctly to understand that this does not in any way diminish the amount of reading matter. We give precisely the same amount of reading matter every month, whether the advertisements are few or many. We make this statement because of an impression which prevails in some quarters, that the number of advertising pages being increased the reading matter is necessarily diminished. A casual reference to the pages of the LANCET for the past ten years will show that this is not the case.

SODIUM SALICYLATE IN ACUTE RHEUMATISM.

After a prolonged trial of salicylate of soda in the treatment of acute rheumatism, the profession has come to regard it as one of the most valuable remedies yet introduced into the materia medica. As to its *modus operandi*, observers are by no means agreed, although many believe that its

action is as nearly specific as is the action of quinine in intermittent fever. In an article in the *Practitioner* for June, '82, Dr. Clouston says that its effect on the duration of the disease is most marked, for in 63 per cent. of the cases the acute stage did not last over three days; the pain was relieved in a few hours, and the remainder of the sickness was free from severe symptoms. He publishes a table showing the results obtained by other observers, nearly all of whom agree as to the value of this remedy, and also that the tendency to complication is diminished in proportion to the shortening of the acute stage, and that relapses are less frequent. Dr. Clouston believes that success in the treatment depends, to a considerable extent, upon the quantity administered at each dose, for if it be too small the acute stage will not be cut short, or the pain relieved, and if too large, headache or other uncomfortable symptoms will be produced. The dose recommended as the best in the majority of cases, is 10 grains every hour until the symptoms are relieved. If, from any cause, he finds it necessary to suspend the sodium salicylate, he administers salicine in doses of 15 or 20 grains three times a day, partly with a view to its tonic effect on the system, and partly from its well-known efficacy in the treatment of the disease under consideration salicine being converted into salicylic acid in the system. Dr. Clouston gives an epitome of 27 cases treated by him, from which the following conclusions may be drawn: viz., that the best results are obtained by early treatment, and that after the acute symptoms have disappeared, the medicine should be discontinued gradually, and if any signs of a relapse appear, it should be immediately resumed. We have used salicylate of soda for several years, both in hospital and private practice, and can fully endorse Dr. Clouston's conclusions. The prescription we generally use is as follows:—

R. Acid salicyl.....ʒiij.
Sodæ carb.....ʒiss.
Syr. limonis.....ʒj.
Aquæ cinnam...ad. ʒviii.—M.

Sig.—A table-spoonful every two hours.

Some physicians give as high as 20 grains every two hours, but there is danger of sudden collapse from large doses of this remedy. Dr. Brinton (*Medical and Surgical Reporter*) administers it in 20 grain doses every two hours until the pulse is reduced, and states that in 20 grain doses there is

no danger of collapse so long as the pulse does not fall below 84 to the minute. Even if heart lesions be present, by watching the pulse carefully all danger from collapse may be avoided. He combines it with liquor ammoniæ acetatis, and thinks it acts better than when given alone.

SEWERAGE AND DISPOSAL OF SEWAGE.

Our morning contemporary, the *Toronto Globe*, has been doing good service in drawing public attention to the necessity for a system of sewerage for Toronto and its suburbs, and in acquainting the people with the topography of the different localities, and indicating the best course for some of the future trunk sewers. There are a few points which the *Globe's* articles bring to mind, and to which we deem it desirable to draw attention.

The great want of the present system, indeed, the absolute necessity, is some means by which the sewage of the city shall be diverted from the bay. It is a sad fact that such a vast amount of filth has already been poured into what should be, but is not, a delightful basin of pure water. There are three ways in which this may be accomplished, all of which were fully discussed in the *Journal of Sanitary Science*, several years ago. One of these modes is similar to that proposed in the *Globe*; the other two aim at returning to the soil that which is taken from it in the growth of vegetation or food. There are two strong reasons why one of these ought to be adopted; one is, that such a course would prevent such serious impoverishment of the soil as has taken place in some of the New England States, the possibility of which in Ontario ought not to be overlooked by either the urban or rural population; and the other that the earth, especially in connection with the processes of vegetation, is a wonderful disinfectant, and will effectually prevent any future evil effects upon health, of the decomposition of the excremental matter in the sewage. The dry earth system, with daily removal by cartage, is safe, gives perfect freedom from sewer gases, and is successfully carried out in some large cities; but as Toronto is virtually committed to the water-carriage system, that system need not now be discussed. With the water-carriage system at present adopted, there are two methods by which the sewage might be utilized in the soil and disinfected or destroyed,

viz., by the manufacture of a portable manure, or by the application of the fresh undecomposed sewage to the soil, by irrigation or downward filtration, and it is a question, which should be seriously considered instead of being put aside as impracticable, whether it would not be better to have the sewage of the city used in one of these ways, even at considerable cost to the city, than to continue to pour it into the water front of the lake, with the constant risk of air and water contamination.

Both east and west of Toronto there are many hundreds of acres of light unproductive soil which might profitably utilize the sewage of the city. In England enormous quantities of vegetables and grass for the grazing of cattle are grown upon soil which had been previously almost barren; and near Paris a gravelly waste has been converted into luxuriant beds of garden produce, by the application of fresh sewage to the soil. There, it is thought best to have the sewage safely disposed of in this way, even if it means an annual outlay of considerable money by the cities interested. It would be more economical to have the Toronto sewage manufactured into a portable manure or pumped upon a sewage farm, than to build a trunk sewer to carry it from the Don to deep water near Scarboro' Heights.

In any case, an intercepting trunk sewer along Front Street to the Don may be regarded as indispensable, and the sooner it is built, with proper provisions, the better. There are two special points in connection with it to which we would desire to draw attention: First, the effect upon the atmosphere of the eastern section of the city of pouring all the sewage into the water at one point by the trunk sewer, instead of, as at present, at many points hundreds of yards apart, and the greater risk at the same time of contamination of the water supply. Pouring a large quantity of sewage into the still water of the lake is a very different thing, it must be remembered, from pouring it into a flowing river.

The second most important point to be considered in connection with the trunk sewer is, that in all intersecting sewers like the one proposed, there is great liability to increased accumulation and return of the sewer gas. This great disadvantage must be overcome before the requirements of public health can be regarded as satisfied. The

flow of the proposed intercepting sewer for a considerable part of its course, will be in a measure the reverse of that in the present main sewers which will pour into it, that is, toward an acute angle with the flow in the supply sewers; as from a point some distance west of Yonge street the trunk will have to take a course bearing much northward of east. The difficulty here indicated can be partially remedied by altering the direction of the lower end of the present main sewers and turning the flow in them toward the south-east for as great a distance as possible before they connect with the main trunk. Closed pipes will accumulate, retain, and, in certain conditions, return vapors and gases generated in them unless these are constantly removed by some special system of ventilation, and the great desideratum in sewerage reform is some efficient method by which these vapors and gases, generated and given off in the decomposition of the sewage in its usual slow or retarded passage through the common sewers, shall be either destroyed, or, if that be impossible, carried a safe distance away. Open gratings in the streets of a populous district are as the *London Lancet* says "not simply nuisances, but traps for the unwary." There is no question as to the poisonous nature of sewage-gas, and from open street gratings it may not be perpetually given off, but come out in gusts, as determined by the varying distribution of heat in the sewers and the relative temperature of the external atmosphere, and be inhaled by the travelers on the streets, or in a calm atmosphere it may even enter in poisonous quantities an open window of a neighboring dwelling. It is consequently unsafe and not in accordance with the requirements of health to ventilate the sewers directly into the streets, as is now done in Toronto and most cities. With an intercepting trunk sewer the danger would be greatly increased; and this not only in connection with the street-gratings but also in connection with the traps of the house-drains and soil-pipes.

The only safe and rational plan, as it appears to us, is to ventilate the sewers by pipes of different heights rising above the level of the houses, so that the gases may be conveyed to and mingled with the higher strata of the atmosphere, beyond the reach of respiration; and to have fitted to every house a properly constructed "disconnecting chamber," for cutting off any flow of gas tend-

ing toward the house. In conclusion, it may be stated that provision for the frequent and free flushing of the sewers, to prevent decomposing accumulations, will greatly lessen the amount of gases in the sewers, and consequently the danger therefrom.

THE TORONTO CITY HALL.

The unhealthy condition of the Toronto City Hall has been a matter of public notoriety for some time past, but as yet no steps, so far as we are aware, have been taken to put it in a healthy condition. This neglect is owing in great part to the conflicting opinions respecting the possibility of making the hall habitable from a sanitary point of view, and to the suggestion that new buildings would be required. A report of the condition of the City Hall was made in February last by Dr. Oldright but it is of a piece with all his public utterances, so utterly unpractical as to be almost completely valueless. In the report he has given a very full description of the filthy, and defective sanitary condition of the building, but not one practical hint as to how it may be remedied. He jumps at once to the conclusion that a new City Hall is absolutely indispensable. This opinion, as the *Globe* very properly remarks, "is utterly unwarranted. The statement that the condition of the Hall is beyond remedying is on the face of it, the absurdest of nonsense. To assert it, is to say that sanitary science is a humbug, and boards of health mere shams." We regret very much that at the very outset of our career in sanitary reform, such a report as the one above alluded to, should have become public, as it casts a serious reflection upon the resources of sanitary science to say that the defects in the drainage, ventilation, etc., of the City Hall cannot be remedied, except by the construction of new buildings. It will be in the recollection of some of our readers that at one time in the history of the Toronto General Hospital, that building was in a somewhat similar condition to the City Hall at the present time, and there were so-called sanitarians and unpractical men who said it never could be improved, and that new Hospital buildings, would have to be erected in some other part of the city; but fortunately for the Hospital, some practical men on the board of trustees, assisted by the medical superintendent and

a competent architect, took the matter in hand and very soon the buildings were put in a perfectly sanitary condition, and to-day there is no public institution in this city or country more perfectly drained and ventilated, or in a cleaner or healthier condition.

The suggestion of a leading alderman "that the matter should be gone into by some *competent* person to see if the buildings could not be put into a healthy condition" is a good one. Two prominent citizens, men of great experience, estimate that the cost of overhauling, draining and ventilating the City Hall including the substituting of steam-heating apparatus, need not exceed \$2,500. For a few hundred dollars a layer of fresh earth and a concrete floor could be put under the entire building, and thus for less than \$3,000 the building could be made perfect in a sanitary sense.

From the remarks in the *Globe* anent Dr. Oldright's report, Mr. Gordon Brown must also have come into "rivalry with that gentlemen" in some way, or perhaps the latter "has beaten him in a contest for the senate of Toronto University, several years ago."

AMMONIA IN BREAD-MAKING.—The *Scientific American* in a recent article, calls attention to the popularity and usefulness of carbonate of ammonia as a leavening agent. It says:—The carbonate of ammonia is an exceedingly volatile substance. Place a small portion of it upon a knife and hold over a flame, and it will almost immediately be entirely developed into gas and pass off into the air. The gas thus formed is a simple composition of nitrogen and hydrogen. No residue is left from the ammonia. This gives it its superiority as a leavening power over soda and cream of tartar when used alone, and has induced its use as a supplement to these articles. A small quantity of ammonia in the dough is effective in producing bread that will be lighter, sweeter, and more wholesome than that risen by any other leavening agent. When it is acted upon by the heat of baking the leavening gas that raises the dough is liberated. In this act it uses itself up, as it were; the ammonia is entirely diffused, leaving no trace or residuum whatever. The light, fluffy, flaky appearance, so desirable in biscuits, etc., and so sought after by professional cooks, is said to be imparted to them only by the use of

this agent. The bakers and baking-powder manufacturers producing the finest goods, have been quick to avail themselves of this useful discovery, and the handsomest and best bread and cake are now largely risen by the aid of ammonia, combined of course with other leavening material.

THE ROYAL COMMISSION ON THE MEDICAL ACTS.—The report of the Royal Commission on the Medical Acts has just been published in the London journals. The most important clause is the following: "There shall be one General Medical Council; that in each of the three divisions of the United Kingdom, there shall be a Divisional Board, representing all the medical authorities of the division; that the right of admitting to the *Medical Register* and a general control over the proceedings of the Divisional Boards shall rest in the Medical Council; and that subject to such control, each Divisional Board shall, in its own division conduct the examinations for licence." This arrangement, as will be seen, is somewhat similar to that which prevails in Ontario, except that there will be three examining boards instead of one. The Commission also proposes that persons with Colonial diplomas may register in England without further examination as *Colonial practitioners*.

CANADA MEDICAL ASSOCIATION.—The following titles of promised papers have been received up to August 23rd. New Operation for Closure of Hare Lip and Fissured Palate immediately after Birth.—Dr. Goodwillie, New York. Stone in the Bladder.—Dr. Walker, Detroit. Some Points in Forceps' Application.—Dr. A. A. Brown, Montreal. The Electro-Magnet in Ophthalmic Practice.—Dr. Dr. Buller, Montreal. Exhibition of a Series of Specimens Illustrating the Modes of Termination of Aneurism.—Dr. Sutherland, Montreal. Axis Traction.—Dr. J. C. Cameron, Montreal. Cervical Ribs, and Notes on the Treatment of Mammary Abscess.—Dr. Shepherd, Montreal. Exhibition of (1) Model of a Gynecological Couch; (2) of a new form of Speculum; (3) of an Ether Inhaler.—Dr. Alloway, Montreal. Rare Form of Uterine Tumour.—Dr. Gardner, Montreal. On Certain Obstructions in the Air Passages.—Dr. Hingston, Montreal. Echinococcus Disease in America.—Dr. Osler, Montreal. Demonstration of the Bacillus of Tuberculosis.—

Drs. Osler and W. D. Oakley. A Peculiar Form of Fever.—Dr. Harrison, Selkirk. Polypoid Fibroma, of the Bladder.—Dr. Fulton, Toronto. Parasitic Affections of the Ear, and three Cases of Eczema.—Dr. J. Ferguson, Toronto.

CARBOLIC ACID INJECTIONS IN PUERPERAL SEPTICÆMIA.—In the August number of the *N. Y. Medical Journal*, Dr. Polk, of the Medical Department of the University of the City of New York, reports a case of puerperal septicæmia in which hypodermic injections of a two and a half per cent. solution of carbolic acid were followed with excellent results. The solution was warmed to 100 F. and injected every four hours. The temperature was almost immediately reduced when it was used, and went up again when its use was discontinued for a very short time. The urine was examined as a precautionary measure, to determine the amount of sulphates present, and this was repeated from time to time, as it is maintained that absence of the sulphates is the first sign of carbolic acid poisoning. The urine was tested as follows:—A drop or two of nitric acid was first added to dissolve the phosphates, if present; then a solution of barium chloride, the reaction causing a white precipitate of barium sulphate. This plan of treatment is worthy of a more extended trial.

MICROCOCCHI IN THE BLOOD IN MALIGNANT MEASLES.—Dr. Keating, of Philadelphia, has been making some investigations with regard to the presence of micrococci in malignant measles, and their absence in the milder cases. His article will be found in the *Medical Times*, August 12th, 1882. He states that the moment malignancy appeared, an examination of the blood showed micrococci in abundance in the field. He says that they not only obstruct the capillary circulation, but enter and destroy the blood corpuscles. Upon the strength of Dr. Formad's experience that *alcohol* most readily checked the development of micrococci in culture solutions, he withdrew the carbonate of ammonia and digitalis treatment and put his little patients upon whiskey in small and frequent doses, combined with tonic doses of citrate of iron and quinine, and the results were highly satisfactory. He alludes in this connection to the well-known efficacy of alcohol and calomel in puerperal septicæmia. He also refers to the value of alcohol and corrosive sublimate, and the

vegetable acids, as lemon juice and claret in malignant diphtheria.

MEDICAL SECTS IN THE U. S. ARMY AND NAVY.—The Committee on Medical Legislation of the American Institute of Homœopathy recently corresponded with the head of the Medical departments of the United States Army and Navy, in order to ascertain if any discrimination was made between the diplomas of Homœopathic Medical Colleges and those of the "regular school" in the admission of candidates to examination for the medical corps. Mr. Chandler, Secretary of the Navy, replied that no discrimination was made in favour of or against any school. "The only requirements of the department are that a candidate in addition to his moral and physical qualifications shall possess the necessary professional and literary knowledge to enable him to pass the established examination."

ONTARIO PUBLIC HEALTH DOCUMENTS.—We have received a communication from "Mild Critic," too late for this issue, suggesting that "in view of the outraged English in the construction of the documents being issued by the Provincial Board of Health, and of the incorrect and imperfect character of the instructions," a "resolution be passed at the coming meeting of the Medical Association asking the Registrar-General to have them withdrawn as far as possible, and revised and corrected before any further distribution of them be made. The writer thinks that the profession outside of Canada, where many of the documents will doubtless go, should not be allowed to think that the profession here are in ignorance of the character or approve of such literature—the like of which "was never issued from any Governmental department."

NOVA-SCOTIA MEDICAL SOCIETY.—The 13th annual meeting of the above-named society was held at Kentville, N. S., on the 28th and 29th of June, 1882. Dr. H. McPherson, of North Sydney, Vice President in the chair. The following officers were selected for the ensuing year:—President, Dr. W. B. Slayter, of Halifax; 1st Vice, Dr. H. McPherson, of North Sydney; 2nd do., Dr. H. Shaw, of Kentville; Sec.-Treasurer, Dr. J. Somers, of Halifax. The next meeting will be held in Truro, on the third Wednesday in June, 1883.

A GOOD OPPORTUNITY.—The proprietor of the Belmont Retreat, a Private Insane and Inebriate Asylum, in Quebec, being advanced in years, and feeling that resting time has come, would take a partner who might eventually become his successor, or, if an opportunity offered, would sell out. This is an excellent chance for a young medical man with capital, who would be willing to cultivate a taste for the management of such an institution. The above institution, which was established in 1864, stands in the middle of 30 acres of excellent land, in garden, meadow, and lawn, and has accommodation for about 50 patients. It has a Government license and an annual Parliamentary grant. For further particulars apply to G. Wakeham, Quebec.

PRENATAL HOUR-GLASS CONTRACTION.—Dr. Tyson, of Philadelphia, reports in the *Medical Times*, two cases of what is called "prenatal chaton," or hour-glass contraction, a rare occurrence in the early stages of parturition. He was led to publish these cases from observing a case in a New York Medical Journal, which, through mismanagement, (version and craniotomy) had terminated fatally. In his first case he used the forceps and overcame the resistance, and in the second, ergot and anaesthesia were all that was required.

LIGATURE OF THE VERTEBRAL ARTERIES FOR EPILEPSY.—Dr. Alexander, of Liverpool, reports (*Medical Times and Gazette*), the successful treatment of a number of cases of hopeless epilepsy by tying the vertebral arteries. He at first tied one artery, and this succeeded in three cases, but in other cases both vessels had to be ligated before a cure was effected. He has tied both vessels at the same operation with no bad results. For full description see quarterly retrospect in another column, by Dr. Stewart, of Brucefield, Ont.

ABDOMINAL DRAINAGE.—The following new method of drainage after ovariectomy adopted by Dr. Kehren, (*Centralblatt für Gynecologie*, 1882), is worthy of more than a passing notice. He inserted into the cavity of the abdomen three rubber tubes into which he introduced disinfected wicks of the thickness of the little finger. The external bandage was soon wet through by the secretion, and had to be changed three times during the first two days, after which it ceased altogether.

THE PROPOSED AMERICAN MEDICAL JOURNAL.—The *Medical Herald*, (Ky.) says: that Dr. I. Minis Hayes of Philadelphia is the only man in the country possessing all the requisites to successful editorship of the proposed Medical Journal of the American Medical Association, and nominates Dr. Hayes for editor-in-chief, and Dr. R. J. Dungalison assistant editor.

DUFFERIN RIFLES.—We are pleased to observe that Dr. W. T. Harris of Brantford, Surgeon to the above Battalion, has succeeded in winning the "Dufferin Medal." His score was 40 out of a possible 50, ten rounds at 500 yards. This is a highly valued prize, and Dr. Harris is to be congratulated upon his success.

BRITISH DIPLOMAS.—Drs. R. J. B. Howard, M. D., of Montreal, and M. A. Nicholson, M.D., of Ottawa, have successfully passed the examination for the diploma of the Royal College of Surgeons, Eng., and were admitted members in July last.

H. W. Thornton, M.D. (McGill), and H. H. Chown, M.D. (Queen's), have been admitted licentiates of the Royal College of Physicians of London.

DISTINGUISHED VISITORS.—The following gentlemen are shortly expected to visit this country: Mr. Herbert Spencer, Dr. W. B. Carpenter, (author of "Human Physiology"), Dr. Morell McKenzie, Dr. Houghton, of Dublin, and Hon. Dr. Lyon Playfair. Dr. Carpenter is now in Montreal.

OBITUARIES.—The following deaths are announced in our exchanges:—Prof. Nikolaus Friederick, of Heidelberg, in the 57th year of his age; Prof. F. M. Balfour, the distinguished Embryologist; Dr. Wm. H. Mussey, of Cincinnati; and Dr. Andrew Buchanan, late Prof. of Physiology in Glasgow University, at the advanced age of 84.

SANITARY CONVENTION IN ST. THOMAS, ONT.—A sanitary convention will be held in St. Thomas, under the auspices of the Provincial Board of Health, on the 19th and 20th of September, inst. (See advertisement).

Dr. Roddick has become associated with Dr. Ross in the editorial management of the *Canada Medical and Surgical Journal*, Dr. Molson having resigned owing to other engagements.

HAMILTON CITY HOSPITAL.—The new City Hospital at Hamilton is nearly ready for the reception of patients. This fine building is an ornament to the city, and a much needed improvement.

REMOVALS, &c.—Dr. Blair has removed to Three Rivers, Que. Dr. J. G. Kittson, (formerly surgeon to the North-West Mounted Police), has commenced practice in St. Paul, Minn.

MEDICAL MATRICULATES TORONTO UNIVERSITY.—The following gentlemen passed at the June examination:—D. R. Johnston, 1st scholarship; C. F. Noecker, 2nd scholarship; C. S. Haultain, C. J. Patterson, J. B. Reid, and McJ. Farrish.

APPOINTMENTS.—Dr. J. W. Whiteford has been appointed Attending Physician to the Winnipeg General Hospital.

Dr. D. W. Cheever has been appointed Prof. of Surgery in Harvard Medical College, *vice* Dr. H. J. Bigelow resigned.

Dr. John Chiene has been appointed Professor of Surgery in the Edinburgh University as successor to the late Prof. Spence.

T. Grainger Stewart, M.D., of Edinburgh, has been appointed one of Her Majesty's Physicians, *vice* Sir Robert Christison Bart, deceased.

Prof. Nothnagel, of Jena, has been appointed Professor of Special Pathology and Therapy in the University of Vienna.

Prof. Bergmann of Würzburg has been appointed to the Chair of Surgery in the University of Berlin, vacated by the resignation of Prof. Langenbeck.

CORONER.—Dr. N. Washington, of Orangeville, has been appointed Coroner for the County of Dufferin.

The *St. John News* states that diphtheria is very prevalent at Grand Manan, N. B.

Books and Pamphlets.

THE PHILOSOPHY OF INSANITY, CRIME AND RESPONSIBILITY, by Henry Howard, M.R.C.S., Eng. Montreal: Dawson Bros.

Dr. Howard has been connected with asylums for the treatment of insane for nearly a quarter of a century, and therefore anything from his pen is deserving of a careful perusal. This we have endeavored to do, although we must confess that we

have had some difficulty in following the writer in his explanations of the supposed pathology of insanity. Dr. Howard's views are strongly materialistic. He regards imbecility as the result of teratological defect, and insanity the result of pathological defect in the brain. The work is divided into two parts; the first part, consisting of 52 pages, is devoted to a "definition of insanity and imbecility," and the second part to the "medical jurisprudence of crime and insanity, criminal responsibility." The author fully explains his views on the vexed question of legal criminality. He has been much interested in the subject of the medical jurisprudence of crime and insanity for many years, having taken part in several criminal trials in which the plea of insanity was entered by the counsel for the defence. The late Hayvern case is still fresh in the memory of our readers. He was tried for the murder of a fellow-prisoner in the penitentiary named Salter. Dr. Howard, for the defence, testified that the prisoner was insane, and that he had committed the deed through "uncontrollable impulse." Notwithstanding this evidence, Hayvern was convicted and executed. A good deal of controversy arising out of the case took place at the time, and several excellent authorities, in the main supported Dr. Howard's contention.

He gives in his work the criticisms on the case which appeared in the different journals, and also an article on the "Brains of Criminals," by Dr. Osler, published in the *Canada Medical and Surgical Journal* for February, 1882. Although Dr. Howard recognizes stages of insanity, he does not approve of any such division of insanity as partial insanity, or moral, functional or idiopathic. Speaking of the cause of death in insanity, we are unable to accept the author's theory that it "is caused by the arresting of molecular motion, and that the cause is due to coagulation of nerve fluid, either from chemical change or mechanical lesion;" or that "turbidity of the electric fluid" causes insanity. Some very interesting observations have been made by the author regarding low temperature in the insane. He gives a history of twenty-three insomniac and analgesic cases examined by him, in nearly all of which the temperature was from 1° to 2½° below normal.

By way of an appendix the author has given a number of extracts on criminal cases from Mr. Serjeant Ballantine's "Experiences of a Barrister's

life," which will be found interesting. In conclusion the author expresses his indebtedness to a number of friends for useful information and valuable assistance given him from time to time, and assures the judicial, legal and medical gentlemen who differed from him in his views of the mental state of Bulmer and Hayvern, that if in the heat of discussion he made use of one word that caused any of them annoyance, he did so unintentionally, and asks to be permitted to withdraw that word.

A POCKET-BOOK OF PHYSICAL DIAGNOSIS FOR THE STUDENT AND PHYSICIAN. By Edward T. Bruen, M.D., Demonstrator of Clinical Medicine University of Pennsylvania. Philadelphia: Presley Blakiston. Toronto: Willing & Williamson.

This is a quarto volumn of 250 pages, devoted to the interesting subject of physical diagnosis. The author has been engaged in teaching diagnosis to private classes of post-graduates and others, and this hand-book merely contains the substance of the instruction given. Among general principles which he lays down in his introductory chapter is one which we have reason to believe is too often overlooked, viz: "that each result of the practice of physical diagnosis is based on the comparative examination of the two sides of the chest in each individual case." Considerable care and attention have been bestowed on the preparation of the work; the author's teaching is clear and concise, and evinces a complete mastery of the subject. The work is illustrated with a few wood-engravings.

CHEMICAL ANALYSIS OF THE URINE. By E. F. Smith, Ph.D., of Muhlenburg College, and John Marshall, M.D., Demonstrator of Chemistry, University of Pennsylvania. Philadelphia: Presley Blakiston. Toronto: Ure & Co.

There are a number of works on Urinary Analysis now on the market, and it would almost appear unnecessary to add another. The authors maintain, however, that none of the works so far issued, deal sufficiently with the chemical side of the subject, and they have endeavoured to supply the deficiency. The basis of this work is "Cassellmann's Analysis," to which they have added numerous methods of analysis and suggestions which will enable the investigator to solve many problems met with in the analysis of urine. The work also contains a section upon the microscopic examination of urinary sediments, interesting alike to the student and practitioner.

ON HEMORRHOIDAL DISORDER. By John Gay, F.R.C.S., Senior Surgeon Great Northern Hospital. London: Churchill & Co. 1882.

The above memoir is a revised reprint of articles on this subject which were recently published in the London *Lancet*. The author discusses at some considerable length hepatic disorder in relation to hemorrhoids. In the matter of treatment, after giving the different procedures, such as styptics, cauterization, excision, crushing, evulsion, etc., the author states his preference for the ligature over all others.

CATALOGUE OF THE GERMAN GENERAL EXHIBITION IN THE DEPARTMENTS OF PUBLIC HYGIENE AND LIFE SAVING. Berlin: Th. Fischer.

This catalogue of 284 pages contains a complete list of everything which Germany has produced in these departments. The exhibition is to be opened in Berlin in the spring of 1883.

Fourteenth Annual Report of the Inebriates' Home, Fort Hamilton, N. Y., also a statistical report of six hundred cases of alcoholic inebriety, treated at the Inebriates' Home, from November 1st, 1879, to January 1st, 1881, by Lewis D. Mason, M.D., consulting physician.

THE VOICE IN DIAGNOSIS AND PROGNOSIS. By T. Wesley Mills, M.D., L.R.C.P. Lond. Assistant to the Professor of Physiology, McGill College, Montreal. Reprinted from the Canada Medical and Surgical Journal.

BRAITHWAITE'S RETROSPECT OF PRACTICAL MEDICINE AND SURGERY. Part LXXXV.—July. New York: W. A. Townsend, Publisher,

TENTH ANNUAL REPORT ON VITAL STATISTICS, FOR THE STATE OF MICHIGAN. Lansing: W. S. George & Co., Printers.

Births, Marriages and Deaths.

On the 7th ult., at Uniontown, Kas., the wife of Dr. A. L. Fulton, of a son.

On the 10th ult., Alexander Greenlees, M.B., of Toronto, in the 40th year of his age.

On the 28th of July, R. H. Wight, M.D., of St. Johns, Que., aged 69 years.

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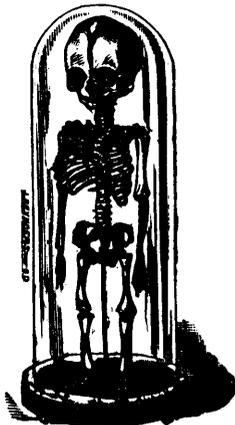
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THE SPRING SESSION consists chiefly of recitations from Text-Books. This Session begins about the middle of March and continues until the middle of June. During this Session, daily recitations in all the departments are held by a corps of Examiners appointed by the Faculty. Short courses of lectures are given on special subjects, and regular clinics are held in the Hospital and in the College building.

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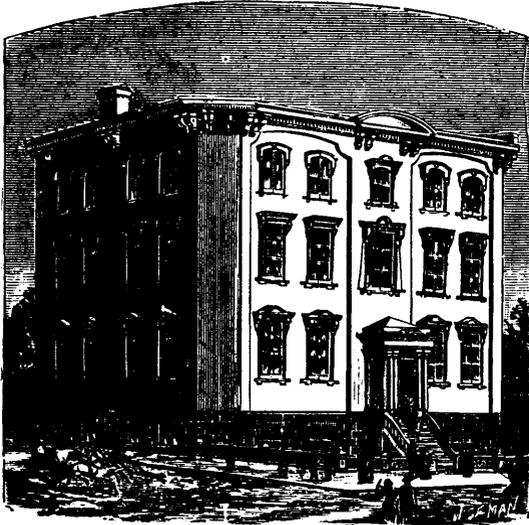
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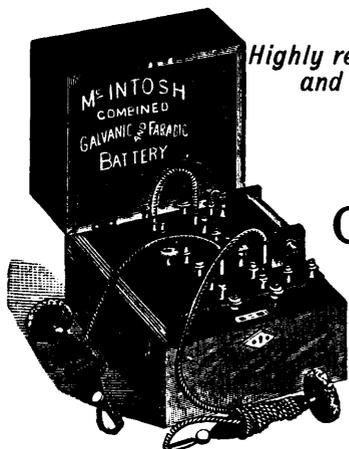
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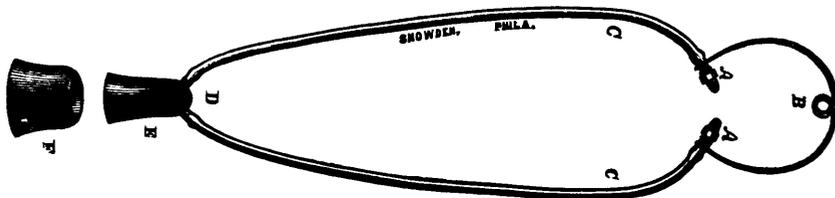
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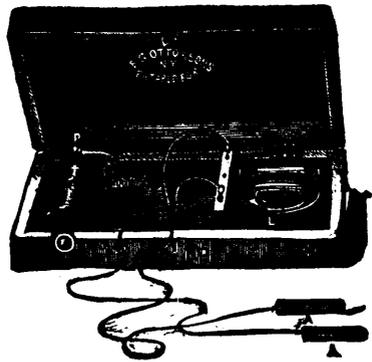
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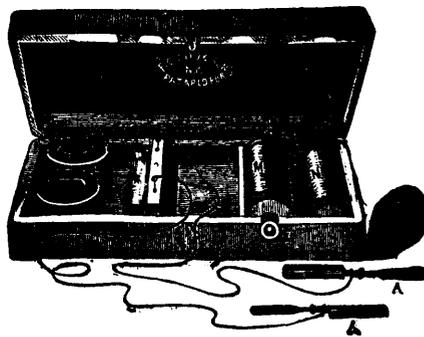
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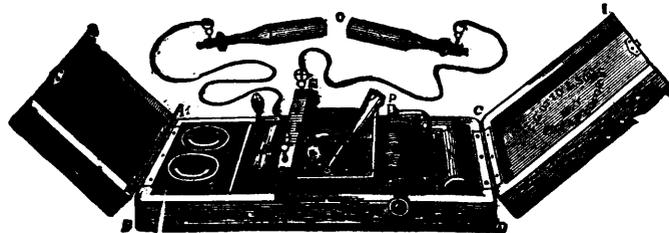
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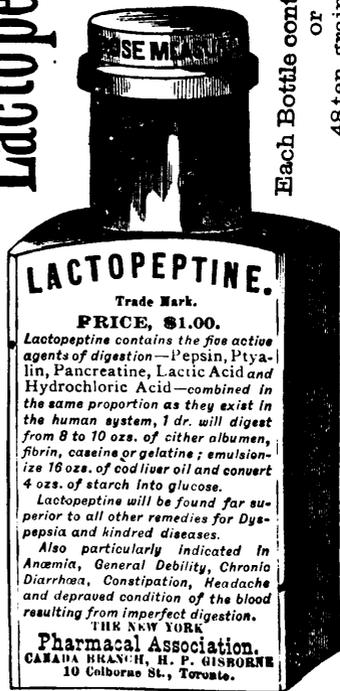
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Certificate of Composition and Properties of Lactopeptine by Professor ATTFIELD, Ph.D., F.R.S., F.I.C., F.C.S., Professor of Practical Chemistry to the Pharmaceutical Society of Great Britain.

LONDON, May 3, 1892.

Lactopeptine having been prescribed for some of my friends during the past five years—apparently with very satisfactory results—its formula, which is stated on the bottles, and its general character, have become well known to me. But recently the manufacturer of this article has asked me to witness its preparation on the large scale, to take samples of its ingredients from large bulks, and examine them and also mix them myself, and to prepare Lactopeptine from ingredients made under my own direction, doing all this with the object of certifying that Lactopeptine is what its maker professes it to be, and that its ingredients are in quality the best that can be obtained. This I have done, and I now report that the almost inodorous and tasteless pulverulent substance termed Lactopeptine is a mixture of the three chief agents which enable ourselves and all animals to digest food. That is to say, Lactopeptine is a skilfully prepared combination of meat-converting, fat-converting, and starch-converting materials, acidified with those small proportions of acids that are always present in the healthy stomach; all being disseminated in an appropriate vehicle, namely, powdered sugar of milk. The acids used at the factory—lactic and hydrochloric—are the best to be met with and are perfectly combined to form a permanent preparation: the milk sugar is absolutely pure; the powder known as "diastase" or starch-digesting (bread-, potato-, and pastry-digesting) material, as well as the pancreatin, or fat-digesting ingredient, are as good as any I can prepare; while the pepsin is much superior to that ordinarily used in medicine. Indeed, as regards this chief ingredient, pepsin, I have only met with one European or American specimen equal to that used by the manufacturer of Lactopeptine. A perfectly parallel series of experiments showed that any given weight of acidified pepsin, alone, at first acts somewhat more rapidly than Lactopeptine containing the same weight of the same pepsin. Sooner or later, however, the action of the Lactopeptine overtakes and outstrips that of pepsin alone, due, no doubt, to the meat-digesting as well as the fat-digesting power of the pancreatin contained in the Lactopeptine. My conclusion is that Lactopeptine is a most valuable digesting agent, and superior to pepsin alone.

JOHN ATTFIELD.

LACTOPEPTINE contains all the agents of digestion that act upon food, from mastication to its conversion into chyle, thus combining all the principles required to promote a Healthy Digestion.

One of its chief features (and the one which has gained it a preference over all digestive preparations) is, that it precisely represents in composition the natural digestive juices of the stomach, pancreas and salivary glands, and will therefore readily dissolve all foods necessary to the recuperation of the human organism.

FORMULA OF LACTOPEPTINE :

Sugar of Milk.....	40 ounces.	Veg. Ptyalin or Diastase.....	4 drachms.
Pepsin.....	8 ounces.	Lactic Acid.....	5 fl. drachms.
Pancreatine.....	6 ounces.	Hydrochloric Acid.....	5 fl. drachms.

LACTOPEPTINE is sold entirely by Physicians' Prescriptions, and its almost universal adoption by physicians is the strongest guarantee we can give that its therapeutic value has been most thoroughly established.

The undersigned having tested LACTOPEPTINE recommend it to the profession.

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<i>Prof. of Obstetrics, University of Vermont.</i> | ALFRED L. LOOMIS, M.D., <i>Prof. of Pathology and Practice of Med., University of the city of New York.</i> |
| D. W. YANDELL, M.D., <i>Prof. of the Science and Art of Surg. and Clinical Surg., University of Louisville, Ky.</i> | SAMUEL R. PERCY, M.D., <i>Prof. Materia Medica, New York Medical College.</i> |
| L. P. YANDELL, M.D., <i>Prof. of Clin. Med., Diseases of Children, and Dermatology, University of Louisville, Ky.</i> | F. LE ROY SATTERLEE, M.D., Ph.D., <i>Professor Chem., Mat. Med. and Therap. in N. Y. Col. of Dent.; Prof. Chem. and Hyg. in Am. Vet. Col., etc.</i> |
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| PROF. H. C. BARTLETT, Ph.D., F.C.S., London, England. | |

PROF. JOHN ATTFIELD, Ph.D., F.R.S., F.C.S., London, Eng.

For further particulars concerning Lactopeptine, the attention of the Profession is respectfully directed to our 32-page Pamphlet, which will be sent on application.

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SILVER MEDAL at the Paris Exposition, 1878.
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Signed by { P. W. BEDFORD, } Chemist.
 { ISADOR WALZ, }

Signed by { NERSON SOUTHER, } Chemist.
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