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INDEX TO VOLUME XLI.

A

Abdominal operations, closure of wound in, N. A. Powell, M.D., 1; diseases, John Patrick, 434.

Angina pectoris, treatment, 42.

Anæsthetics, in nose and throat surgery, 59; hypodermic, in obstetrics, F. J. Old, 348; Beatty, 897.

Association, Canadian Medical, 61, 87; Canadian Medical Protective, 149, 167; Canadian Medical, 172; Canadian and Ontario Medical, John Hunter, 291; Canadian Hospital, 412; Ontario Medical, 414; Canadian Medical, 480; Ontario Medical, 555, 568; Ontario and Canadian Medical, 628; Ontario, 647; Ontario Medical, 712, 730; Canadian Hospital, 733; British Columbia, 806.

Associations—
 Ontario Medical, 864; Canadian Medical, President's Address, 865; Canadian Medical, 866; Forty-first Meeting of Canadian Medical, 878; Twenty-eighth Meeting, Ontario Medical, 890; Protective, 943.

Anæsthesia by hypodermic methods, 96; general, H. E. Clutterbuck, 503.

Atherton, A. B., degeneracy of human race, 97.

Atrophic rhinitis, etiology and treatment, 145; J. Price Brown, 257.

Antiphlogestine, 175.

Address, President's, Alexander McPhedran, 177; President Falconer's, 237; Olmsted's, 916.

Alexander operation, warning, E. A. Hall, 295.

Aikins, W. H. B., Bad-Nauheim treatment of heart, 358.

Apomorphine, therapeutic uses of, 376.

Academy of Medicine, inaugural meeting of, Toronto, 385.

Alcohol in medicine, 386; Causing insanity, 782.

Alverenga Prize of College of Physicians, Phila., 412.

Arteriosclerosis, John Ferguson, 423; J. J. MacKenzie, 817; aortic manifestations, 7; McCrae, 821, 837, 843, 848, 851, 857.

Appendicitis, diagnosis of, 459; in children, 460; prognosis of, 543; nature of patients, 617; diagnosis, 617, and female sexual organs, 697.

Allen, E., acute infective osteomyelitis, 497.

Alexander Hospital, Fergus, A. Groves, 524.

Antitoxin in post diphtheritic paralysis, 539.

Appendicectomy, hæmorrhages, F. W. Marlow, 582.

Asthma, 615.

Anæmia, post hæmorrhagic, 655; puberal, 813.

Act, to amend Pharmacy Act, 804.

Appendix to be removed, 933.

B

Bacteriology of respiratory tract, 40.

Blood pressure, in pregnancy and puerperium, 149; in typhoid, 538.

Babinski sign in general paresis, 242.

Brown, J. Price, atrophic rhinitis, 257.

Breast-fed infants, weight of two weeks after birth, 309.

Bromide in sleeplessness, 416.

Bromide, strontium, 450.

Beatty, Henry A., surgery, 303, 540, 693, 759, 930; anæsthetics, 897.

Births, marriages and deaths in Ontario, 546.

Breakfast foods, 547.

Bovril, 576.

Burnham, G. H., steel in eye and treatment, 737.

Breech presentation, 775.

Bier treatment, 786.

Bauer, J. A., arteriosclerosis, 837.

C

Current Medical Literature, 38, 141, 234, 302, 371, 454, 535, 615, 690, 754, 928.

Cancer, of cervix, 45; of breast, treatment, 453; in organs other than stomach, no hydrochloric acid, 693.

Cataract, operation for senile, 52.

Curriculum, medical, 65.

Child labor in Britain, 69, 624.

Clark, C. K., insane hospitals in Ontario, 120.

Comments by the way, 152.

Criminals in medical profession, 244; our crimes to, 628; cost of, 710.

College of Physicians and Surgeons, Quebec, 255; Medical of Canada, 381.

Catgut and silver wire in abdominal incisions, 302; for surgical purpose, 426; gall-stone formed over suture, 764.

Codeine, demonstrated, 334.

Convalescence, management of, 335.

Chorea minor, and tic, differentiation of, 371, and arsenic therapy, 464; maniacal, 615.

Cleanliness, importance of, 393.
 Catarrh, treatment of utero-vaginal, 416, 736.
 Clutterbuck, H. E., general anaesthesia, 503.
 Clark, W. J., tetanus and treatment, 510.
 Coughs, winter, 575.
 Cohoe, B. A., typhoid fever in pregnancy, 663.
 Codea, 736.
 Children, neglected, Act providing for, 785.
 Correspondence, 795.
 Coryza epidemic in new born, 935.

D

Diphtheria, latent, 59.
 Doctor, The, James Whitcomb Riley, 88; and automobile, 92; pensions for country, 654.
 Dietetics, advance in, 95.
 Drugs, 96.
 Dogs, resuscitation of asphyxiated, 454.
 Dementia præcox, 455.
 Diabetes and ductless glands, 690; causation and treatment, A. Lorand, 749, 781.
 Dysmenorrhœa, treatment, 697, 965.
 Dyspepsia, functional, 755.
 Drink diet in cardio-renal affections, 758.
 Death, sudden, 784.
 Diarrhœa infantile, 966.

E

Elbow, fractures near, F. N. G. Starr, 26.
 Evans, D. J., obstetrics, diseases of children, 48, 309, 377, 460, 619, 700, 767, 935.
 Editorial, 61, 147, 237, 313, 381, 465, 545, 621, 705, 779, 941.
 Electrolysis and treatment, Sir J. A. Grant, 285.
 Eclampsia of mother causes nephritis in child, 311.
 Elephantiasis, 495.
 Erysipelas and pneumonia, W. E. Stope, 574.
 Epyema, J. J. MacKenzie, 588; H. C. Parsons, 592; surgical aspects, W. A. Scott, 599.
 Endocarditis, malignant, 691.
 Eruptions, syphilitic in infants, 700.
 Epithelioma, 757.
 Ear, suppurations of middle, 776.
 Examinations, Queen's, Kingston, 808; London, 807.

F

Femur, fracture of neck, W. E. Gallie, 9.
 Fitzgerald, J. G., development of clinical psychiatry, 102.
 Flies and insects and disease, 241.
 Faucial tonsil, surgery of, 301.
 Factors of insanity, 316.
 Fees, scale of, 414; Prince Edward medical men, 534.
 Ferguson, John, arteriosclerosis, 423, 856; inherited syphilis, 739.
 Fibroids complicated by pregnancy, 459.
 Five year course, 468.
 Fæces, examination of, 536.
 Fibrosis, treatment, 554.
 Feeble-minded in Ontario, 709.
 Fibromata, vaginal hysterectomy, 766.
 Financial "simile," 813.

G

Gallie, W. E., fracture of neck of femur, 9.
 Goodhue, E. S., mosquitoes in Hawaii and their relation to malaria filariasis and yellow fever, 29.
 Gynæcology, S. M. Hay, 45, 306, 374, 458, 544, 617, 697, 764, 932.
 Goldsmith, Perry G., laryngology and rhinology, 57, 145, 378, 937.
 Girls, care of growing, 93.
 Glyco-thymoline, as mouth wash, 95, 176.
 Grant, Sir J. A., electrolysis and treatment, 285.
 Gonococcus, staining method for, 297.
 Groves, A., Alexander Hospital, 524.
 Graves' disease, thyroidectomised goat's milk in, 554.
 Grippe, coughs following, 575.
 Geikie, W. B., honored, 727.
 Gross, S. D., prize, 962.

H

Hay, S. M., gynæcology, 45, 306, 374, 458, 544, 617, 697, 764, 932.
 Hay fever, 57; saliva in, 938.
 Hospitals, and profession, 71; insane in Ontario, C. K. Clarke, 120; and diffusion of knowledge, 315; Toronto General, ex-house staff association, 333, 407; appointments, 413; problems, 465; appointments of General, 467; new staff at General, 493; and charities of Toronto, 626; and profession, 627; and tubercular patients, 779; public utilities, 780; grants for consumptives, 809.

Health, public medico-legal aspects of, G. Silverthorne, 127; of school children, 384; New Jersey Board of, 407; Chicago report, 406; Diminution Bureau of, 549; federal department of, 652.

Hæmorrhagic casts in croupous pneumonia, 232.

Humanize the hospitals, 243.

Hunter, John, Canadian and Ontario Associations, 291; medical leadership, 517; school inspection, 923.

Hall, Ernest A., Alexander operation, 295.

Hart, J. S., anterior poliomyelitis, 354.

Heart, treatment of chronic cases at Bad-Nauheim, W. H. B. Aikins, 358.

Hernia, cure of umbilical, 374.

Hooper, E. R., intussusception, 417.

Hysterectomy, ovaries in, 618.

Hysteria, eye symptoms in, D. C. Meyers, 657.

Hebotomy treating impacted breech presentation, 754.

Hydrothorax, cardiac, case, 757.

Hysteropexy causes suspensory ligament, 765.

Hæmorrhage, post partum, 768.

Headache, nervous, 81; sinus and, 939.

Hygiene, F. Montizambert, 901.

I

Isolation, compulsory, 67.

Insane, advance in treatment of, 314; early treatment of, 624; nervous and incipient, treatment of, 708; immigrants, 811.

Ideals in medicine, J. F. W. Ross, 337.

Intussusception, E. R. Hooper, 417.

Interments, premature, S. Riopel, 604.

Intestines, in an antiperistaltic direction, 698.

Illiopsoitis, appendicular, 767.

Immigrants, unfit, 944.

Index Medicus, 961.

J

Juvenile criminals, management of, 68.

Journal, Canadian Medical, 319.

Judgment, interesting, 629.

L

Laryngology, and rhinology, P. G. Goldsmith, 57, 145, 378, 937.

Lister, Lord, and freedom of London, 91; catgut for surgical use, 526.

Lesions of spinal and cranial nerves by toxins, 236.

Leukamia, acute, 691.

Lorand, Arnold, causation and treatment of diabetes, 749.

Ligament, shortening the round, for displacements, 766.

Leucorrhœa, etiology of, 932.

Labor, induction or, 935.

M

Mundell, D. E., fractures of skull, 16.

Mosquitoes, in Hawaii, E. S. Goodhue, 29; and leprosy, 388.

McDonagh, Andrew, pyorrhœa alveolaris, 34.

MacKenzie, A. J. Current Medical Literature, 38, 234, 371, 454, 535, 615, 690, 755, 928.

Milk, medical and chemical effects on, 49; ferments and relation to pasteurization, 704; method of production of, 773.

Miscellaneous, 87, 167, 255, 333, 407, 480, 568, 645, 727, 804, 878, 954.

McCullough, J. W. S., medical profession to public, 108.

Medical profession to public, J. W. S. McCullough, 108; leadership, John Hunter, 517; Congress, Sixteenth Annual, 645; profession, 705.

MacKay, Malcolm, Province of Quebec News, 138, 230, 299, 367, 451, 612.

Medicine, profession of, 147; crime and, 151; modern advances in, 382.

McPhedran, Alexander, president's address, 177; arteriosclerosis, 851.

McMurrich, J. P., some lamps of science, 209.

Mastoiditis, suppurative, G. Royce, 221.

Meningitis, tubercular, 234; prophylaxis in cerebro-spinal, 620.

Medical students, 239; Council, 943.

Medical practitioner, financial position of, 240.

Mental diseases, increase in, 246; defectives, 373.

Militia of Canada, medical officers of, 256; G. S. Ryerson, 918.

Myoma, necrosis of, after labor, 309.

Marlow, F. W., hæmorrhages after appendicectomy, 582.

MacKenzie, J. J., empyema, 588; arteriosclerosis, 817.

Metric system, 651.

Maryland medical and surgical faculty, 653.

Microscope, quality, 655.

Meyers, D. C., eye symptoms in hysteria, 657.

MacMurchy, Helen, medical inspection of schools, 669.
 Mastitis, Bier staining treatment in, 703.
 Medical Council and *Globe*, 941.
 Medical Council Meeting, 954.
 Medical Council Examinations, 964.
 McBurney's point, clinical significance, 759.
 Marriage annulment, domicile and divorce, 804.
 Muskoka Sanatoria, medical staff, 810.
 McCrae, T., aortic manifestations of arteriosclerosis, 821.
 Montizambert, F., hygiene, 901.

N

Nasal septum, 60; resection, 940.
 North-west licentiates, 90.
 Nurses' training schools, superintendents, 571, 812.
 Newspaper medical advertising, 621.

O

Orthopedics, abdomino-pelvic, 47.
 Obstetrics, diseases of children, D. J. Evans, 48, 309, 377, 460, 619, 700, 767, 935.
 Ophthalmology and otology, G. S. Ryerson, 52, 141, 776.
 Obituary, 85, 158, 254, 327, 396, 475, 565, 640, 722, 797, 876, 948.
 Ovaries, after extirpation of uterus, 137.
 Olmsted, Ingersoll, address in surgery, 202; Presidential, 916.
 Old, F. J., hypodermic anaesthesia in obstetrics, 348.
 Oxolint, 415.
 Osteomyelitis, acute, E. Allin, 497.
 Ovarian cyst, 766.
 Otitis, telephone, 805.
 Oxygen in medicine, 929.
 Olecranon, fractures of, 930.

P

Powell, N. A., abdominal operations, 1.
 Pyorrhœa alveolaris, Andrew McDonagh, 34.
 Paralysis, hysterical, 39; post siphtheritic, 539.
 Pelvic infections in women, 46.
 Phleboliths in femur of tube, 48.
 Proteids in cow's milk, 48.
 Personal and news items, 73, 152, 247, 321, 388, 470, 556, 631, 714, 787, 868, 945.

Pain, 96; papine in, 965.
 Psychiatry, clinical, J. G. Fitzgerald, 102.
 Province of Quebec news, M. MacKay, 138, 230, 299, 367, 451, 612.
 Preventive medicine, 149.
 Poliomyelitis, anterior, J. S. Hart, 354; epidemic, 936.
 Paresis, after pelvic operations, 698.
 Pregnancy, ovarian, 370; and dental disease, 769.
 Peritoneum, sensibility of human, 376.
 Percentage feeding, theoretical uses, 377.
 Paraffin injections cause blindness, 380.
 Pirrie, Alexander Mactier, martyr of science, 410.
 Patrick, John, systematology of adominal diseases, 434.
 Parsons, H. C., empyema, 592.
 Physician, French, view of life, 614.
 Pneumonia, treatment of acute, S. West, 672, 713.
 Pleurisy, serofibrinous, in infants, 702.
 Peritonitis, general suppurative, 762.

Q

Quack heavily fined, 806.

R

Ryerson, G. Sterling, ophthalmology and otology, 52, 141; syphilitic affections, 522, 776; militia, 918.
 Registration, Dominion, 63, 963.
 Race, degeneracy of human, A. B. Atherton, 97.
 Rolleston, H. D., problems with suprarenals, 189.
 Royce, Gilbert, suppurative mastoiditis, 221.
 Res medica, res publica, 313.
 Ross, J. F. W., ideals in medicine, 337.
 Rhemnatoïd conditions, relief in, 415.
 Respiratory tract, A. G. Smith, 573.
 Riopel, S., premature interments, 604.
 Retroversion and treatment, 704.
 Rheumatism, due to grip, 735.
 Russell, C. K., cerebral arteriosclerosis, 848.

S

Skull, fractures of, D. E. Mundell, 16.
 Starr, F. N. G., fractures near elbow, 26.

Syphilis, mediata infection in, 38; serum diagnosis, 305; inherited, 468; in children, 700; congenital in children, 701; bone lesions in, 702; inherited, John Ferguson, 739.

Solar baths in tuberculous peritonitis, 44.

Salus populi suprema lex est, 70.

Science and alcohol, 89; lamps of, T. P. McMurrich, 209.

Society, United Services Medical, 90.

Silverthorne, G., public health.

Suprarenals, problems with, H. D. Rolleston, 189.

Surgery, address in, Ingersoll Olmsted, 202; abdominal, 303, 540; elective gynaecologic, 544, 693, 759.

Serum and laparotomy, 308, 967.

Sarcoma of nose, 379.

Sanmetto, indications for, 416, 967.

Syphilitic affections of eye and ear, G. S. Ryerson, 422.

Spiritualism, Sir Oliver Lodge and, 550.

Smithsonian Institute, 571.

Smith, A. B., respiratory tract, 573.

Stofe, W. E., erysipelas and pneumonia, 574.

Shuttleworth, C. B., Volkmann's contracture, 577.

Scott, W. A., empyema, surgical aspects.

Scorbutus, infantile, 619.

Smallpox folly, 630.

Schools, medical inspection of, H. MacMurchy, 669, 811, 923.

Spinal cord, injuries of, 693.

Splenectomy, 695.

Steel, in eye, and treatment, G. H. Burnham, 737.

Sanderson, Herman, Ocular arteriosclerosis, 848.

Saliva, examination of, 928.

Sinus disease, radiography, 937.

T

Typhoid fever, explosive epidemic, 43; and modern treatment, 336; addominal complications in, 458; carriers, 535; during pregnancy, E. A. Cohoe, 663; feeding of patients, 815.

Trachoma in negro race, G. S. Ryerson, 141.

Throat, in chronic infections, 145.

Tonsillitis, 146; difference between and rheumatism, 378.

Tea, physiological action as a beverage, 373.

Tapo-worm, anti, enzyme in, 456.

Tuberculosis, infantile, 461; diet in pulmonary, 539; and prevention, 545; Dr. H. T. Bulstrode on, 553;

International Congress on, 570, 622; prizes offered by Congress on, 648; after care, 759; in children, 767; communication, 769, 770.

Tetanus and treatment, W. J. Clark, 410.

Theories regarding monsters, 783.

Tubes and ovaries, surgery, 932.

Tubal pregnancies, 934.

U

Urea, and uric ratio, 41.

Uterine adnexa, surgery of, 46.

Urethra, tubercular hypertrophy and stenosis in, 47.

Utero-sacral ligament, contraction of, 298.

Uterus, anterior fixation, 306; ovarian influence, 376; perforation of non-pregnant, 699.

Urine, specific gravity of, 331.

Urachus causing intestinal obstruction, 366.

Ulcer, gastric, treatment, 457.

Ureter, surgery of, 540.

University degrees versus council, 863; medical graduates, 894.

V

Vomiting, recurrent, of children, 49.

Visiting list, physician's, 406.

Vaccination and smallpox, 466.

Vasectomy and prostatectomy, 542.

Volkmann's contracture, C. B. Shuttleworth, 577.

Veneral diseases, prevention, 706.

Vital Statistics Act, 795.

W

Wrongs that need righting, 64.

Wounds, method of closing, 375.

Wellcome's photographic record and diary, 572.

West, S., treatment of acute pneumonia, 672.

Book Reviews—

Diseases of Stomach, I. Boas, M.D., 86; Cod Liver Oil, J. W. Wells, 86; Diseases of Infancy and Childhood, 87; International Clinics, W. T. Longcope, 159; Manual of Diseases of Eye, C. R. Hay, 160; Hare's Practical Diagnosis, 160; Treatment of Children's Diseases, 161; Surgery, Principles and Practice, W. W. Keen, M.D., 161; Treatment and Prevention of Tuberculosis, Joseph Walsh, A.M., M.D.,

- 162; Fractures and Dislocations, Lewis A. Stimson, B.A., M.D., 162; Practical Fever Nursing, E. C. Register, M.D., 162; Manual of Diseases of Nose, Throat and Ear, E. B. Gleason, 163; Gynæcology and Abdominal Surgery, H. A. Kelly, M.D., 163; New Jersey Health Report, 163; American Edition of Nothnagle's Practice, 164; Five Hundred Suggestions, W. M. Brickner, 164; Major Symptoms of Hysteria, Pierre Janet, 165; Tracheo-Bronchoscopy, Esophagoscopy and Gastroscopy, C. Jackson, 165; Egbert's Hygiene and Sanitation, 166; Park's Modern Surgery, 166; Pierstl's Human Anatomy, 328; Human Embryology, J. Playfair McMurrich, A.M., Ph. D., 329; Dyspnoea and Cyanosis, Edmund von Musser, M.D., 329; Human Embryology, George R. Sattertee, M.A., M.D., 330; Diseases of Women, Harry Sturgeon Crossen, M.D., 330; Text Book of Physiology, Isaac Ott, M.D., A.M., 331; Handbook on Cutaneous Therapeutics, W. A. Hardway, A.M., M.D., 331; Syphilis in Army, Major H. C. French, 398; Text Book of Physiology, W. H. Howell, Ph. D., 399; Internal Secretions and Principles of Medicine, Charles E. Sajous, M.D., 399; Diseases of Skin, Henry W. Stelwagon, M.D., Ph. D., 400; Text Book of Practice of Medicine, James M. Anders, M.D., Ph. D., 400; Text Book of Practical Gynæcology, D. Tod Gilliam, M.D., 401; Manual of Practice of Medicine, A. A. Stevens, A.M., M.D., 401; Pancreas, Mayo Robson, D.Sc., 401; Diseases of Genito-Urinary Organs and Kidney, R. H. Greene, M.D., 402; Ophthalmia Neonatorum, Sydney Stephenson, M.B., C.M., 402; Progressive Medicine, H. A. Hare, M.D., and H. R. M. Landis, M.D., 403; Modelling of Human Bones, Velray Papin Blair, A.M., M.D., 403; Osler's Modern Medicine, 404; Diseases of Nervous System, Archibald Church, M.D., 405; Syphilis, A. Ravolgi, M.D., 406; Atlas and Text Book of Human Anatomy, 476; Diseases of Nose and Throat, D. Bradon Kyle, 477; Cosmetic Surgery, Charles C. Miller, 477; Modern Otology, John F. Barnhill, 477; Text Book of Minor Surgery, E. Milton Foote, A.M., M.D., 478; International Clinics, 478; Treatment of Fractures, Charles C. Scudder, M.D., 479; Young Ovum in Situ, G. Leopold, M.D., 479; Surgery, its Principles and Practice, 641; Diseases of Heart, 641; Progressive Medicine, 641; Pyonex, Theory and Practice, W. B. Rule, M.R.C.S., T.R.C.P., 462; Minor Surgery, E. Milton Foote, 643; Treatment of Diseases, Norbert Ortner, M.D., 644; Minor Medicine, W. E. Wynter, M.D., B.S., 645; Alcohol and other Drugs in Medicine, 724; Study of Medicine in British Isles, Norman Moore, M.D., 725; Poets on Nervous and Mental Diseases, 725; International Clinics, 726; Treatment of Disease, R. Webb Wilcox, M.A., M.D., 726; Cosmetic Surgery, C. C. Miller, M.D., 727; Bier's Hyperamic Treatment, 800; Laboratory Handbook of Bacteriology, 801; Human Monsters, 802; New Jersey Board of Health Report, 803; Osler's Modern Medicine, 949; Surgical Anatomy, 949; Practice for Nurses, 950; Diseases of Infants, 951; International Clinics, 951; State Board Questions, 951; Hydrocarbon Prosthesis, 952; Progressive Medicine, 952; Rotunda Practical Midwifery, 953.

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No. 1.

CLOSURE OF THE WOUND IN ABDOMINAL OPERATIONS.*

By N. A. POWELL, M.D.,

Professor of Legal Medicine and Associate Professor of Clinical Surgery, Medical Department of the University of Toronto; Assistant Surgeon, Toronto General Hospital, and Consulting Surgeon, Hospital for sick Children.

THE subject which I am to discuss is one which, while it may only indirectly and remotely add to the mortality of operations, does add notably and persistently to their morbidity. Its importance does not admit of any question. Few things in surgery cause more chagrin to the operator, or more prolonged suffering and expense to his patient than suppurating in a celiotomy wound with its train of results, delayed, imperfect or viscious union, visceral adhesions, obstruction or herniation.

In the effort to attain ideal healing, plans innumerable have been suggested. The variety of methods still seen in the work of individual surgeons is surprisingly large. In itself this is evidence that no one plan yet devised is faultless. It may not amount to a demonstration, but, let me repeat, it is evidence which we are bound to weigh and to consider. While it may be admitted without argument that by many of these methods excellent results have been, and are being, obtained, to fix our attention on such successes would not be the part of wisdom.

A given surgeon may have been befortuned by the smooth recovery of all his section cases for months. Over-contemplation of a series like this would lead to self-gratulation and to an increased risk of falling into that besetting sin of our craft—carelessness. Then comes a wave of sepsis, arising, we will say, from causes which elude discovery, and now with humility and self-abasement of spirit, he turns once again to a study of that infinite variety of ways in which the viewless enemies of the surgeon can bring defeat to him in the hour of his victory. Yesterday he would have placed the blame upon the catgut; to-day he admits with candor that there is a definite "break" somewhere in the technique; to-morrow he perhaps will find in the patient's low opsonic index a truer explanation. In any case, he will admit the truth of the aphorism that every surgical operation is an experiment in bacteriology.

To allow of a perfect closure, the abdominal wound should be correctly made. It may be assumed that all whom I have the honor of addressing will recognize the importance of *not* making the so-called median incision in the middle line. Formerly, we chose the *linea alba* or

* Read before the Ontario Medical Association, 30th May, 1907.

a *linea semi-lunaris*, because of the slight vascularity of these parts. Now, for precisely the same reasons, we avoid them, since tissues ill supplied with blood have little reparative energy.

We have come to recognize, also, that muscles may be split or displaced almost always, a real necessity for their transverse division arising very infrequently.

The results of splitting the rectus and separating its fibers laterally have seemed to me better than those following the displacement of the entire muscle to the inner or outer side.

When these precautions are taken, but three structures need to be accurately secured in apposition. These are the peritoneum, the fascial layers, and the skin. Muscles drop back into place, while the fatty layers can be held together by means less risky than suturing.

Dr. Gurdon Buck, an honored teacher, once said in my hearing that no single factor in the method known by his name for treating fractures of the middle portion of the shaft of the femur was original with himself. He had taken the weight and pulley from Hildanus, and the adhesive plaster strips for extension from Van Ingen, and the elevation of the foot of the bed from Crosby, and the long outside splint from Liston, and the eversion bar from Hamilton. But he so combined these various elements as to give us an apparel which for a third of a century has been recognized the world over as capable of best fulfilling all the indications present in the treatment of such injuries.

Can we not, in similar manner, by combining the good qualities of various methods, and eliminating their doubtful features, reach a perfect way?

All roads, we are told, lead to Rome. The skill of an operator may enable him to win success by methods far from ideal. Still, there must be a best road—an Appian Way—along which, when we find it, the feet of new generations of surgeons shall pass in comfort and in safety. What we seem to need is a plan by which all the advantages of the tier method are secured without its risks, by which dead spaces are obliterated, by which each divided tissue is separately held in apposition with just the right degree of tension, and by which all foreign material may be removed when the purpose of its introduction has been fulfilled.

If, in an attempt to meet these various indications, I suggest a combination method, I may be met at once with the theoretical objection that it is undesirably complicated.

Trained in the school of Erichsen to seek always for simplicity with efficiency in surgical work, I hope to be able to demonstrate that the method I use and describe is not at all difficult of application, and that in results it pays liberally for the time which its employment demands.

Before taking it up, let me pass briefly in review some of the objections to methods in common use.

The *en masse*, or through and through suture.

This, the oldest and most used method, often fails to secure the all-important fascial coaptation, it does not admit of accurate overlapping of this layer, the tension which is just right for certain tissues within its grasp is much too great for others, and it favors infection by the omnipresent skin cocci, even when material without capillarity is employed. From the standpoints both of theory and of experience, it must be condemned, since the union obtained by its means is neither strong nor permanent. On account of its inherent defects, we may well restrict its use to cases in which the utmost speed is essential, or to those in which drainage prevents the complete closing of the wound.

The "en cage," or tier suture of absorbable material, gives us results ideal—or disastrous. It is not dependable. Only when all conditions are bacteriologically perfect, are uniform results secured. As we have to do surgery *here* and *now*, distrust in this plan is more than justifiable.

The catgut, or split tendon, may be sterile, but it does not remain so. In one great German clinic 18 per cent. of all cases when it was used became infected. More than one-third out of a long series of cases reported upon by Dr. Graves, of Grand Rapids, showed suppurative action at some stage. Many house surgeons attached to leading operators in our larger hospitals have reported to me forty to fifty per cent. of infections. If catgut too large, or too much catgut of any size, be used, the result is alike bad. When, to guard against this, we use only fine catgut, and that sparingly, the intermittent strain of vomiting, coughing, or laughing, or the constant strain resulting from distention will cause the strands to give way, and fascial non-union, or something worse, will result. It does not bind together the various layers, and so dead spaces are left, and nature, abhorring a vacuum, fills them with hæmatomata, which, when unabsorbed, form culture media for infected catgut.

The buried non-absorbable suture seems to me to have disadvantages far outweighing the good to be expected from it. My experience with it has been limited to silver wire used after the Johns Hopkins method. Dr. Robb stated recently that he had only needed to remove buried wire in four cases out of four hundred. That other surgeons have had equally favorable results may well be doubted.

Silk worm gut I have never tried and buried, nor shall I do so while reason holds sway. With its bristling knots it seems too much like the barbed wire fencing to be trusted in human tissue. How anyone with the surgical acumen of Edebohl came to suggest it, I cannot comprehend, and that it is now practically abandoned need occasion no surprise.

The longitudinal removable "en etage" suture of silk worm gut or wire.

In principle, this method is the extension to successively deeper and deeper layers of tissue of the subcuticular suture, which Marcy, Halstead and Kendall Franks introduced some twenty years ago. Within the last ten or twelve years it has been described and claimed as original by a large number of surgeons. Their sincerity in making these claims need not be called in question. The world waited seventeen centuries for chloroform, and then three men in as many countries discovered it almost simultaneously, but with Guthrie, across the lake at Sackett's Harbor, slightly in the lead. Three other men, Battle, Kammerer and Jalaguier, almost at the same time proposed our best incision for appendix removal, but with the Englishman this time heading the list. It is quite understandable that the same idea occurred independently to each claimant, but if their contentions are to be allowed, we must hold Cassaignac guilty of anticipatory plagiarism since he described this method in all its essential details as long ago as 1852.

Houston in 1895, Haughey in 1896, Baldwin and Cullen in 1897, Reed in 1898, Kane in 1899, Graham in 1902, Child in 1907, and many others have presented its advantages forcibly, and we are under obligation to them. Dr. Baldwin, at whose excellent table we so often assemble (for surgical work), began to close wounds in this way in 1897, and has been able to report one thousand cases without a known hernia. To Dr. George A. Peters, whose recent and untimely death we all deplore, is undoubtedly due the credit of demonstrating to the profession here the exceeding value of the longitudinal removable suture. His clear surgical insight enabled him to grasp the mechanical principles underlying it, and his skill and success in its use led a large proportion of those who are doing aggressive surgery in Toronto to adopt it as a routine procedure. I am not aware that he ever wrote upon the subject, but with his views I am familiar, as we discussed from time to time various suggested modifications of the method.

Personally, I have in my practical surgery classes, instructed many hundreds of students and physicians in its use, and I have yet to meet with an operator who, after mastering its details, has not come to hold it as first among all the means which surgical ingenuity has provided for meeting a goodly proportion of the indications in wound closure.

The reasons for this are not far to seek. It can be rapidly applied, it does not and cannot strangulate or unduly bind tissue as transverse sutures will in spite of every care taken to prevent undue tension, it has no capillarity, and it will not snap and allow of the reopening of lines of union as terraced sutures of catgut have too often done under sudden strain.

It seems advisable now to summarize the procedures which most command my confidence, and incidentally to give the reasons for the faith that is in me regarding them. In this latter particular I must walk circumspectly lest I should have to say as the late Chief Justice Armour once did: "I am never ashamed of my judgments, but often am of the reasons I give for them."

First, the peritoneal cavity is to be shut off. To do this with rapid accuracy, the peritoneum at each end of the wound is seized with a pair of Mr. Coombs' excellent hook forceps; the wall is lifted free from the underlying viscera, and while an assistant brings the edges of the membrane into apposition with two pairs of mouse tooth forceps, a cobbler's stitch is passed by means of two needles armed with either fine silk or catgut. An alternative plan is to use a single needle, a doubled thread, and an over and over stitch. The cobbler's stitch gives the strongest union with the least material, and to apply it takes but a minute or two

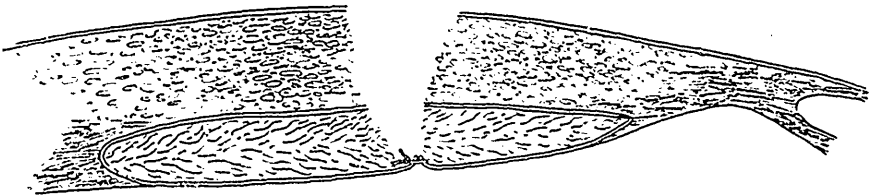


Fig. 1.—Suture of peritoneum and posterior layer of rectus sheath, where this exists.

longer time. A simple experiment, the suturing of towel edges together by these methods and then trying to pull them apart, will prove which is the stronger of the two. But either will suffice. I have demonstrated strong adhesion within forty-eight hours in a moribund patient, and am disposed to think that in one doing well, it becomes reliable in much less than twenty-four hours.

After the peritoneum is closed off, and before the other structures are brought together, it is often advisable to trim away the layers of fat lobules which have been most handled. After this, the whole wound is flooded with hot normal saline solution. Dr. E. R. Peaslee, in my student days, taught us the exceeding value of what he called artificial blood serum used in this way, and to him the credit of its introduction should be accorded.

I am convinced that these two procedures notably lessen the risk of infection.

The next step is to free, to clear from all fatty tissues, and to overlap the fascia as Noble has so well taught us to do. Edge to edge approximation will not suffice. It is good, but not good enough. We overlap our garments before buttoning them, and should apply the same

principle here. Interrupted catgut sutures, an inch or more apart, are now passed so as to surround the muscle, catch up the ridge of united peritoneum, and come out through the fascial layers well back from their cut edges. Each strand is clamped at the ends and not tied till later.

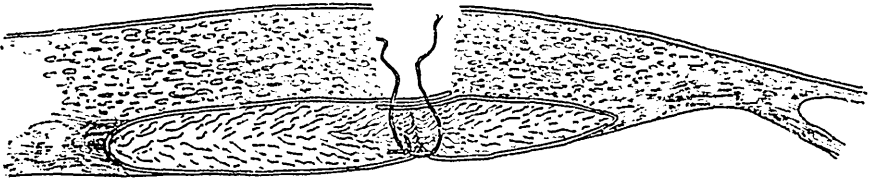


Fig. 2.—Transverse section, massing tissues together, overlapping fascia, and preventing formation of dead spaces.

The purpose served by this series is to lift the peritoneum and binding all together, to prevent the formation of dead spaces in the sheath of the rectus or, below the fold of Douglas, between that muscle and the transversalis fascia. When the rectus has been but slightly disturbed I sometimes content myself with a series of these interrupted sutures passed only through the fascia.

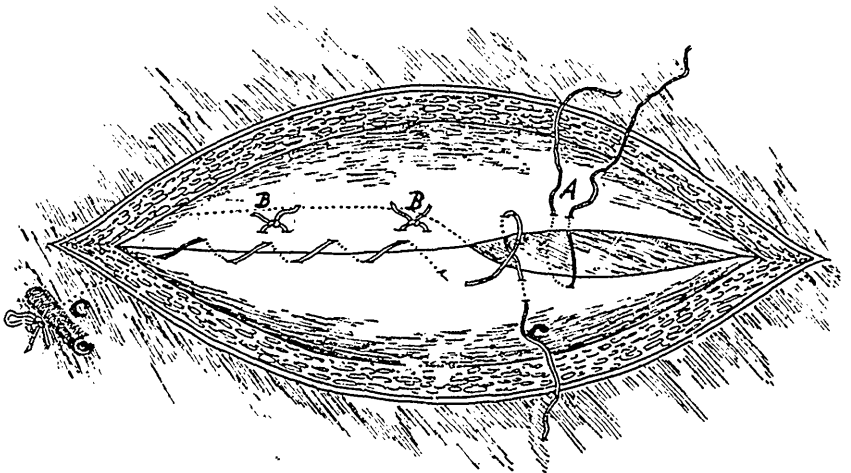


Fig. 3.—A. Transverse suture; B. B. Transverse sutures tied; C. C. Longitudinal suture to be completed after transverse suture is tied, and secured at each end by rubber tubing rolled in gauze.

A longitudinal suture of strong salmon gut, or silver or aluminum, — bronze or tinned iron wire is next passed through the overlapped fascia, and its ends brought out an inch beyond each end of the wound. The new Doyen abdominal needle is convenient for passing this suture, while for the same purpose I have devised and use a handled Hagadorn needle with the eye near the point. The suture is to be pulled and fro to straighten it out and insure easy removal, when union is complete.

Accepting the aphorism that "who knows most his loss of time most grieves," I may call attention to the kite-shaped eye for surgical needles. The suturing material does not slip from this eye, being wedged fast, and so there is, from this cause, no waste of time and prolongation of anæsthesia. Like the kite-shaped race track, it is an aid in lowering speed records. So far as I can learn, it is to Dr. Howell, of Wheeling, W. Va., that we are indebted for its suggestion.

The catgut sutures are now tied without tension (which might lead to muscular atrophy) and then the ends of the gut or wire sutures are secured.

For the purpose of buttons, aluminum plates, shot, slip knots and gauze pads or rolls have been used by many operators. Dr. Peters preferred to pass the sutures in pairs and tie them over rolls of gauze. A plan, for which I must accept the responsibility, is to roll gauze around thick-walled rubber tubing, to cut off sections of this about three-quarters of an inch long, to pass the gut through these sections transversely by means of the needle, and then to secure the ends with slip knots, so as to maintain the exactly right degree of tension.

We have now to deal with the more or less thickened fatty layer. I have gradually reached the conclusion that this should be left entirely unsutured. It will not take care of catgut for us, or easily tolerate foreign material of any sort. Simply held in apposition by the overlapping of the fascia below it, and the ridging up of the skin above it, it will unite better than if sutured in any way yet suggested.

The skin wound is well ridged up in its long axes, and the base of the ridge is transfixated with a long straight needle carrying fine Pagensteher thread, or strong horse hair. As the point of the needle emerges for each stitch, it is wound twice with the suture material and then drawn through. This, the suggestion of Dr. Andrews, of Chicago, prevents all back-slip and the resultant scar will be alike satisfactory to the patient and to the surgeon who takes an artist's pride in his work.

With regard to the dressing of the wound, Dr. Boldt's suggestion that a wide sheet of good adhesive plaster be placed under the patient, torn laterally into strips and applied as a Scultetus bandage over the gauze pads is, as my personal experience has shown, a most valuable one. But tympanitic distention must be sedulously watched for while it is being worn, or disasters will occur. Further than this, let me say, that the practice of getting patients up and around within two or three days after the operation, under the belief that such an adhesive plaster bandage will protect them from harm, appears to be utterly irrational and fraught with many dangers.

In conclusion may I be permitted to quote the words applied by Sir Joshua Reynolds to another branch of artistic work: "The artist who has his mind filled with ideas and his hand made expert by practice, works with ease and readiness."

167 College Street, Toronto.

DISCUSSION.

Dr. S. M. Hay said: An imperfect method perfectly performed may give better results than an ideal method poorly done. In other words, the success of closure depends more upon the man than the method.

In *making* the incision we should separate and not cut across muscle fibres. If muscle and nerves are divided we may have as a result atrophy of muscle which causes a hernia that cannot be repaired. In closing wounds near or above the umbilicus we should include the posterior sheath of the muscle in the suture which closes the peritoneum. In closing by combined methods, through and through and layer methods, the former should include all structures down to the peritoneum. The latter structure should always be closed separately. If the through and through silk-worm gut pass through all structures, including the peritoneum, and lie untied till the layers are closed separately, and then tied, we run great risk of catching in the abdominal loop of the silk-worm gut when tying them, some omentum or even a piece of intestine.

The old through and through method frequently fails by being improperly performed. Some go down in the median line, through the linea alba, the sheath of one rectus muscle will be well opened while the other muscle is completely hidden by its enclosing sheath. This latter is not opened before closure, so muscle comes in contact with sheath and thus failure follows.

The great secret of success in closing an abdominal incision is that homogeneous structures must meet. We cannot expect skin to unite to fat, fat to fascia, fascia to peritoneum, but like structures must come together.

Dr. F. N. G. Starr said he thought that Dr. Powell's paper was on the "closure of the wound in abdominal section," and not on the method of making the section.

The incision that requires drainage is the very one for the longitudinal buried silk-worm gut, leaving a space at one end for the drainage. Then as to security from stitch-hole abscess, no method of suture will overcome defects in the preparation of the patient or of the surgeon's hands. If one does get suppuration with "exasperating frequency" he should not blame the method or the material used.

It is most important in closing the wound to obliterate all dead space, and such may be done and was done in the method of longitudinal suture

with salmon gut and sub-cuticular horse hair as introduced in Toronto by my esteemed colleague, the late Dr. Geo. A. Peters. Dr. Powell's method leaves a dead space in the fatty layer and is therefore defective.

Another matter in the technique that I must criticize is the soaking of the wound, before closure, with normal saline. I think this a most pernicious practice, and if abandoned will to some extent overcome the "exasperating frequency" of suppuration.

The specimen that I show is a section of the abdominal wall from a case of cancer of the stomach in which the late Dr. Peters opened the abdomen, hoping to make an anastomosis, but in which there was no normal stomach wall. The patient died two weeks later—a week after Dr. Peters' death. I had the wound preserved as a monument to the admirable work done by our beloved colleague.

Dr. T. S. Webster said: Buried longitudinal sutures are better than removable ones of silk worm or silver. The muscles should be approximated, and, if so, the fascia may be ignored. In the operation for ventral hernia all that is necessary is to take the recti muscles out of their sheaths and approximate them, or overlap them in the median line with sutures that do not constrict the line of union. Catgut is dead animal tissue, and is good food for germs when they are allowed to be present. The catgut is often blamed for the defective technique of the operation.

Dr. Powell, in reply, said that layer suturing had come to stay, as a marked advance in the closure of abdominal wounds. He drew attention to the importance of tension sutures and advocated the use of the matress suture, buried on one side and fastened externally on the other, and including muscles where they existed, as well as fascia. He had established to his own satisfaction that the fastening upon the skin had no influence in increasing the tendency to suppuration, as many had feared, and that the removable sutures had always proved to be the most desirable, being least liable to be followed by undesirable results.

FRACTURE OF THE NECK OF THE FEMUR—A NEW TREATMENT.*

W. E. GALLIE, M. D., Toronto.

IT is the object of this paper to present in as brief form as possible the treatment of fracture of the neck of the femur by what is known as the abduction method. Some ten years ago attention was drawn to the subject by a remarkable number of cases crippled in vigorous life as the result of faulty or non-union following this injury. An investigation followed, and it was found after examination of some 500 cases treated in

* Read at the Ontario Medical Association, May 29th.

Bellevue Hospital in New York, that pain, deformity and instability of the joint were present in many of the cases, years after the accident. A considerable proportion of these cases was shown to have been of the impacted variety, which under ordinary treatment offers the better prognosis. The symptoms were pain and limp, and examination showed moderate shortening, adduction deformity of the thigh combined with marked external rotation, and an almost complete absence of motion in the direction of abduction and internal rotation. Examination of pathological specimens and of x-ray photographs has shown the condition to be practically one of coxa vara, that is, depression of the head and anterior bowing of the neck. This is illustrated by a rough diagram:—

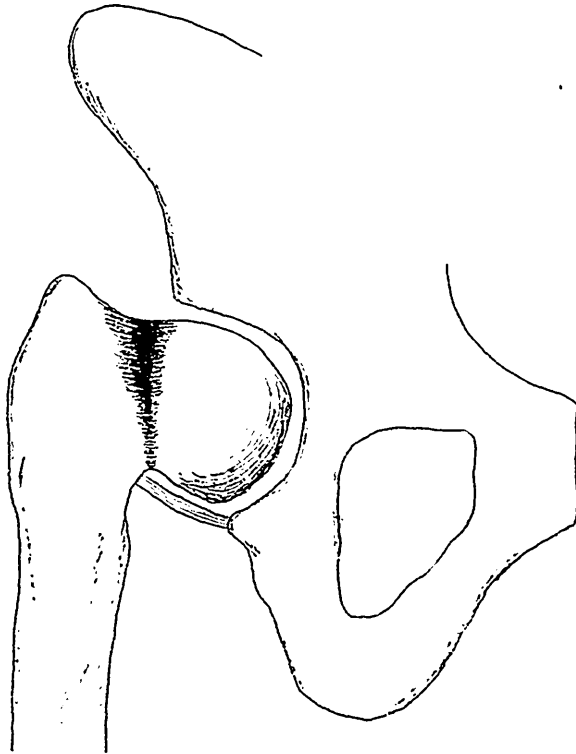


Fig. A.—This figure shows the wrong position of neck as the result of impaction of femur or of union when the thigh has not been abducted.

The explanation of the limited abduction is readily seen in the change in the angle of the neck with the shaft. When attempt is made to abduct the limb, the trochanter, which is now close to the rim of the acetabulum, immediately locks against it and further movement is prevented. This limitation of abduction is usually progressive and leads in many instances

to persistent flexion and adduction, a deformity which causes much discomfort and pain.

In treating the condition the usual method of dealing with coxa vera was employed, namely, transverse osteotomy of the femur above the lesser trochanter, following which the femur was abducted until the correct angle of the neck with the shaft had been restored. The body and limb were then fixed in this attitude in a plaster of Paris spica. The results were most satisfactory, many of the cases showing a complete functional cure.

The success of this treatment as employed by Whitman of New York suggested to him the possibility of treating recent fractures in a similar manner, with a view to preventing the change in the conformation of the joint. He argues that if the impaction be reduced immediately after the accident, and the limb and body fixed in such an attitude as to restore the normal relation of the neck with the shaft, that the cause of the unfortunate results which have come to his notice will be removed and the joint returned to a normal condition.

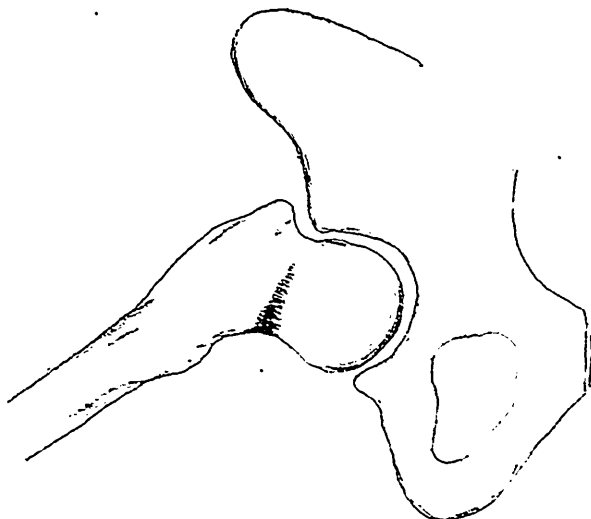


Fig. B.—This figure shows the effect of abduction of the thigh in restoring the proper angle between the neck and the shaft.

It will be observed by a reference to the diagram that if the limb be gently abducted the trochanter quickly locks against the side of the pelvis. If now the abduction be forcibly continued, the tip of the trochanter remaining locked against the pelvis, the angle of the neck with the shaft can readily be restored.

The principle is also extended to the treatment of unimpacted fractures. If care be first taken to eliminate all shortening by traction, the normal angle can be readily restored by abducting the limb until the tro-

chanters rest securely against the side of the pelvis. By this procedure also the probability of accurate apposition of the fragments is greatly increased owing to the tension on the inferior part of the capsule which directs the outer fragment downward into the acetabulum. Frequently in this latter class of cases where the fracture is close to the head the reduction of the deformity is evidenced by a distinct snap as the outer fragment of the neck passes under the acetabular rim.

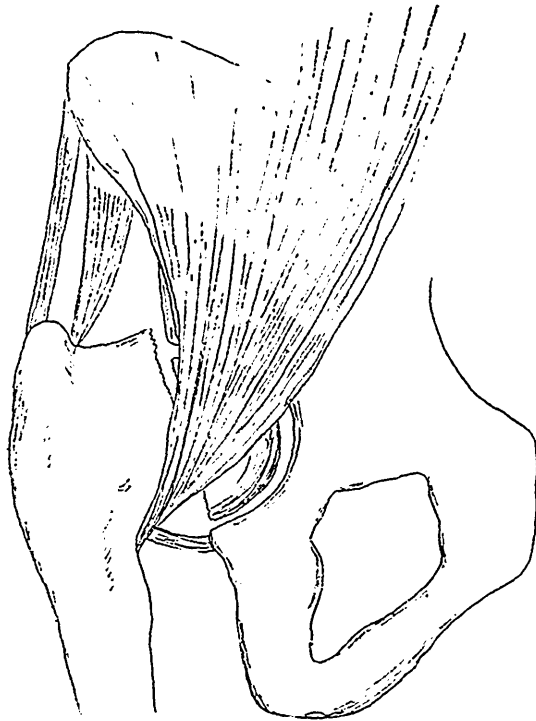


Fig. C.—This shows effect of the adducted position of the thigh.

To corroborate the clinical evidence of the efficiency of the method, observations were made on eight cadavers in the Anatomical Laboratory of Columbia University. The neck of the femur was divided transversely at various distances from the head, and the plan outlined above employed. The following deductions were made:

1. That in order that the most perfect apposition of the fragments may be obtained, the posterior displacement of the lower fragment, resulting from gravity as the patient lies on his back, must be remembered and provision made by efficient antero posterior support to overcome it.
2. That fifty degrees abduction is the best angle at which to produce and retain good apposition of the fragments.

3. That this method of procedure tends by the contact of the great trochanter with the soft tissues over the rim of the acetabulum and by tension on the inferior part of the capsule, to produce the most perfect apposition and alignment of the fragments and to retain them most securely in the proper attitude.

4. That in complete fractures more perfect apposition may be obtained by a slight amount of gentle rotatory manipulation to allow the roughened fragments to adjust themselves.

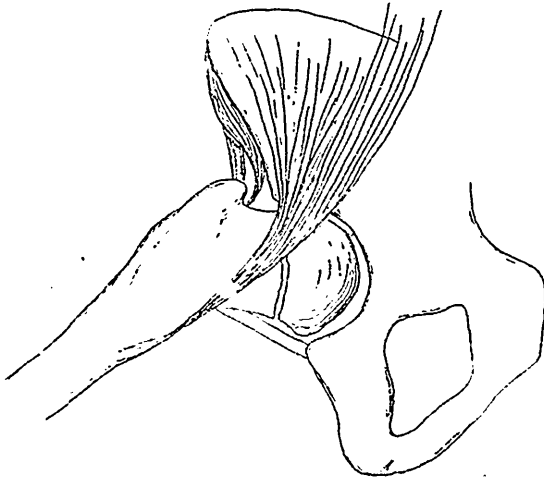


Fig. D.—This shows the effect of abduction of the thigh, and the restoration of the proper angle and good apposition.

The method of procedure is as follows:—

The patient is anæsthetized and elevated upon a pelvic rest, the essential part of which is the steel sacral support, which raises the pelvis about six inches from the table and does not interfere with the bandages as they are applied. The shoulders rest on a box or a pile of books and the feet and legs are supported by assistants. Seamless shirting is now applied, extending from the toes to the axillæ. The operator then takes his stand beside the injured hip, with the object of adjusting the fragments. One assistant steadies the patient on the pelvic rest and a second abducts the uninjured leg to the limit to demonstrate the normal range of mobility. A third assistant then grasps the injured leg and if the fracture is impacted, gently but forcibly abducts the limb under moderate traction, breaking down the impaction and only stopping when an angle of fifty degrees from the normal has been reached. The surgeon in the meantime maintains a downward pressure on the trochanter with the palm of his hand to assist the inferior part of the capsular ligament in preventing upward displacement. He also gently lifts the trochanter forward

and rotates the limb slightly inward to overcome the posterior displacement due to gravity when the impaction is reduced and to correct the external rotation. The fragments are disturbed as little as possible, no attempt being made to elicit crepitus,—for example, in order that the good apposition provided by the impaction may be retained.

If the fracture be of the complete variety the third assistant first overcomes all shortening by strong traction, counter traction being provided by a towel passed through the perineum, and he then abducts the limb in the same way. The operator makes every effort to adjust the fragments by lifting forward the trochanters and by rotating the limb gently to make the rough surfaces fit together.

When the surgeon is satisfied with the result of the manipulations, the bony prominences are properly padded with silene cloth or flannelette bandages, and a plaster spica is applied extending from the toes to the mammary line. Care must be taken to mould the plaster well into the angle formed by the side of the pelvis and the abducted thigh in order that upward displacement may be rendered impossible. Provision is made against posterior displacement of the outer fragment by moulding well in behind the trochanter. The spica may be reinforced at the points of greatest strain by strips of steel or basswood incorporated in the plaster. When the plaster has set the edges are carefully cut and rounded off so as to allow free movement in the uninjured leg and to prevent excoriation from the rough margins. The shirting is then drawn over the edges of the plaster and a covering of the same material sewn over its outer surface. Thus a smooth, even surface is apposed to the body and pressure sores are altogether unlikely if the plaster has been carefully applied. An excellent plan for keeping the skin healthy is to thread the inside of the shirting with two rough cotton bandages, after the suggestion of Lorenz of Vienna. These bandages can be drawn over the skin daily in a see-saw fashion and the skin given the necessary stimulation to keep it in good condition.

The use of the plaster spica is imperative in carrying out this plan of treatment, inasmuch as it is the only method by which the necessary fixation can be provided. As a rule the plaster is comfortable if it is well applied. It permits the necessary movements of the patient and even transportation from one couch to another without fear of displacing the fragments. It is true that its proper application requires some care and skill, but not more than is demanded in any other surgical emergency.

After the elapse of several days, by which time the plaster is perfectly hard, it is an excellent precaution if the patient is in the hospital to have an x-ray photograph taken through the plaster. In this way the exact attitude of the fragments can be ascertained and in those cases in

which the apposition is not satisfactory further procedures may be employed.

The best time for the application of the treatment is, of course, immediately after the injury, unless the bruising and laceration of the tissues are so great as to require local treatment preliminary to the application of a fixed dressing. In the latter case sandbags and traction might be employed until the swelling goes down. It is always better, however, to get the spica applied if possible before much swelling has taken place, as one may thus gain from ten days to two weeks in the length of time required for treatment. The danger of constriction is extremely small, owing to the even pressure exerted on the tissues from the toes to the mammary line and as a result the local effusion is rapidly diffused.

The after treatment is of considerable importance. If the long spica has been employed it may at the end of four or five weeks be shortened to allow free motion at the knee and at the end of eight weeks the whole spica may be removed. At this time if it is found that union is firm, massage and passive and voluntary motion may be employed. The limb should not be used to support weight for at least four months. The ideal treatment at this time is to provide a hip brace which will permit functional use and yet support a part or all of the body weight while the patient walks. Where this is not attainable the best routine plan is to use a light short plaster spica, holding the limb in moderate abduction. At first the patient uses crutches and then gradually resumes weight bearing.

The plan of treatment outlined is recommended for all fractures of the neck of the femur occurring in the young and in adults up to middle age. Beyond fifty-five years the plan is in many cases impracticable owing to the difficulty in making it tolerable to the old and to the frequent necessity of getting the patient up to prevent the onset of hypostatic pneumonia. Often, however, even the age of sixty-five is not too great to allow of the adoption of the abduction plan as is instanced by the success following its employment in several cases amongst the old, in which I have been personally interested.

Among those patients under middle life the method has proved most satisfactory. Whitman has published some ten cases in which the functional and anatomical cure as shown by the x-ray was nearly perfect. One case I reported at the Toronto Medical Society in February of this year. This patient walks without a limp, has a complete range of movement, and the x-ray shows practically a complete restoration of the contour of the joint.

The method is being taken up by various hospitals. All the cases at the Hospital for Ruptured and Crippled in New York are treated in this

way. At Bellevue Hospital the suitable cases on the Second Surgical Division are treated after this fashion by Dr. John B. Walker, and I have been informed by him that the results are satisfactory. The cases have not yet been reported.

As Whitman puts it, a new treatment must necessarily appeal to reason rather than to experience, and to forestall a possible criticism it may be said that it is not claimed that perfect apposition of the fragments is always possible any more than it is possible in the treatment of fractures elsewhere. Neither is it claimed that union can always be obtained or that the treatment can be applied in all cases or continued in all cases after it is applied. It is claimed, however, that improved functional results are far more likely to be obtained after this plan than after any other form of treatment at present in use. The treatment is undoubtedly theoretically sound, experience has shown it to be eminently practicable and whatever may be the outcome, the surgeon will have had the satisfaction of having attempted to fulfil under the most adverse circumstances the requirements that are acknowledged to be essential to success in the ordinary simple fractures.

FRACTURES OF THE SKULL.*

By D. E. MUNDELL, M.D.,
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FRACTURES of the skull differ from fractures elsewhere, not only in such minor particulars as absence of crepitation, of præternatural mobility, of marked deformity, and of the need for retention splints, but chiefly because of the possibility of injury to the cranial contents.

In fractures of the extremities the soft parts may be more or less injured without permanent mischief resulting, but in the case of the skull an injury severe enough to cause a fracture will in the majority of cases induce coincident lesions of the delicate cerebral tissue or of the blood vessels. Fractures of the skull would be of more common occurrence were it not for certain anatomical provisions that tend to minimize the effects of blows received on the head. Among these protective factors are: the freedom of movement of the head on the spinal column; the peculiar rounded shape of the skull, and the laxity of the subaponeurotic tissue, both of which convert a direct into a glancing blow; the separation of the skull as a whole into a number of individual bones; the arrangement of the sutural membrane, and lastly, the presence of buttresses that diffuse the vibrations set up by a blow on the head.

* Ontario Medical Association, May 29th, '07.

Fractures of the skull are divided into those of the vault and those of the base.

1. *Fractures of the Vault.* When the force of the blow is not sufficient to overcome the elasticity of the bone, no fracture results, although rarely instances have been recorded in which the inner table was injured without any demonstrable disturbance of the outer table. The application of a greater degree of traumatism causes a depressed fracture in which there is generally more extensive injury to the inner than to the outer table. Teevan's explanation is that "when pressure is applied to a body and it breaks, the fracture commences at the line of extension rather than at the line of compression." The familiar example of breaking a stick across the knee illustrates this theory. The injury to the inner table is of importance partly because of the danger of laceration of contiguous blood vessels with resultant effusion of blood and compression of the brain and partly from irritation of the underlying meninges and cortex by the sharp spiculæ of this brittle table, causing such remote effects as chronic headache, epilepsy, etc. The blood vessel most exposed to injury in a fracture of the vault is the middle meningeal artery, partly because of its extensive distribution on the side of the head and its superficial position, and partly through its resting in a tunnel in the upper part of the greater wing of the sphenoid and the anterior inferior angle of the parietal. Cases are on record in which this vessel has been torn without any associated fracture of the skull, and in these instances it is probable that the accident has been due to the greater amount of elasticity possessed by the skull than by the blood vessel. The degree of elasticity of the skull has been demonstrated by Bruns, who compressed it in a vice and showed that the diameter could be reduced one centimetre without inducing fracture. The vessel, on the other hand, is more or less tense, being kept so partly by a splitting of the dura mater, which surrounds the artery after it leaves the bony tunnel, partly because its numerous branches are similarly enclosed by the dura mater and partly by fibrous bands which hold the vessel in its dural sheath and which I have found to be quite numerous on making longitudinal sections of the vessel in its wall of dura mater. It would seem reasonable, therefore, to conclude that the elastic bone being driven inwards tears the inelastic artery and then springing out leaves no evidence of any injury to the bone itself.

II. *Fracture of the Base.* Its perforation by numerous foramina, the thinness of its cerebellar wall, and the presence of the delicate ethmoidal and sphenoidal sinuses render the base the weakest part of the skull. Rawling (Hunterian Lecture, 1904) found that the sphenoidal sinus was involved in seventy per cent. of his cases of fractured base, some two hundred in all. A reasonable explanation for the frequency of involve-

ment of the sinus in fracture of the base lies in the fact that the bony buttresses which pass up from base to vault, ribbing and strengthening the skull, are also transmitters of the forces that result from a blow on the head. These bony ridges terminate in front at the crista galli, in the antero-lateral region near the anterior clinoid process, and in the lateral region at the apex of the petrous bone, and in the posterior region at the dorsum ephippii and posterior clinoid process. They therefore all terminate in the neighborhood of the sphenoidal sinus, and the vibrations transmitted along them expend themselves in injuring the sinus.

Aran's theory of "irradiation" is not unreservedly accepted by Rawling. This theory states that "fractures of the base result as extensions from fractures of the vault, the force following the shortest anatomical route of the base," but Rawling's experience showed that the line of fracture was markedly influenced by the resistance offered to it in its basic course, picking out, usually, all the weaker spots and avoiding all the stronger, and that it was only in the most severe cases that a fracture surmounted all obstacles and proceeded to the base directly in a line. The examination of a large number of cases convinced him that the fracture did not spread from the vertex to the base as often as it did from the base to the vault. He found in over sixty per cent. of the cases that the injury was received at or near the level of the base of the skull and then extended secondarily upwards to the vertex.

By a careful comparison of the direction of the applied force and the point of application, he was enabled to arrive at the following conclusions, viz. :—

1. That force applied to the median frontal region resulted in a fracture passing backwards to the cribriform plate, thence between the optic foramina to the body of the sphenoid, and thence along the masto-occipital suture to the vault.

2. Force applied to the region of the external angular process resulted in a fracture passing across the anterior fossa to the sphenoid and thence to the opposite ear.

3. Force applied to the region of the external ear resulted in a fracture passing along the roof of the external auditory meatus, thence across the tympanum and along the petro-sphenoidal suture to the sphenoid, thence across to the opposite ear. The line of this fracture usually passes in front of the ganglion of the facial nerve, exposing, but not injuring, the nerve.

4. Force applied to lateral occipital region resulted in a fracture across the thin cerebellar wall to the foramen magnum and thence forwards to the anterior fossa or outwards across the petrous bone external to the internal auditory meatus.

IMMEDIATE EFFECTS OF FRACTURE OF THE BASE.

- I. External hæmorrhage.
- II. Escape of cerebro-spinal fluid.
- III. Injury to nerves.

I. *External hæmorrhage.* (1) From nose. When nasal hæmorrhage is present as a symptom of fracture of the base the blood is derived from the ethmoidal vessels when it is the anterior fossa that is involved, and from the cavernous sinus when the middle fossa is fractured. The bleeding arising from either of these sources would necessarily be much more profuse and persistent than that from laceration of the mucous membrane from local injury.

(2) From the ear. Like that from the nose, hæmorrhage from the ear, when persistent, indicates fracture of the base. On referring to the line of fracture arising from force applied to the region of the external ear, it will be readily seen that the sources of hæmorrhage in this case may be either the cavernous sinus, the superior petrosal sinus, the internal carotid artery, or the middle meningeal artery.

(3) Orbital hæmorrhage. Subconjunctival hæmorrhage beginning at the outer canthus, and hæmorrhage into the eyelids beginning near the inner canthus, are generally present in fractures of the orbital plate of the frontal bone. Exophthalmos appearing almost immediately after a fracture of the base indicates an injury to the cavernous sinus and is caused by the sudden outpouring of a considerable quantity of blood, thrusting forward the eyeball.

(4) Pharyngeal hæmorrhage results from fracture of the basilar process of the occipital or from injury to the sphenoidal sinus:

II. *Escape of cerebro-spinal fluid.* Crandon and Wilson in their analysis of 530 cases of fractured skull from the Boston City Hospital reports (*Annals of Surgery*, 1906), noted the escape of this fluid in only twenty-seven cases. Rawling said that the escape of cerebro-spinal fluid was not, in his experience, of common occurrence, and that apart from chemical analysis, which was uncertain because of admixture of the fluid with albumen derived from the blood and because of the impossibility at times of recognizing the reducing substance supposed to be characteristic. Apart, then, from chemical analysis, he said that the fluid was almost certainly cerebro-spinal in nature (1) if the discharge begins within twenty-four hours of the accident, (2) if the discharge be colorless and profuse, and (3) if the discharge continues for some days.

III. *Injury to the nerves.* Olfactory. This nerve may be involved in fracture of the anterior fossa, although evidence of injury to it is oftentimes hard to obtain because of the accompanying inflammation of

the nasal mucous membrane and because of the presence in the nose of effused blood.

Optic. Injury to this nerve as indicated by complete blindness of one eye is very rare, since most fractures near the optic foramina pass between these orifices or outside of them. I have had recently under my care a patient who is totally blind, both optic nerves being markedly atrophied, the result of a fracture of the base. In this case I should judge that comminution of the sphenoid had severed the optic chiasma which rests on the optic groove.

The prognosis as to recovery of function in the case of the third, the fourth, the ophthalmic division of the fifth and the sixth nerves depends on whether the interference be due to the pressure exerted by a blood clot or to laceration of the nerve by the sharp edges of the fracture. Where pressure by a clot is responsible for the paralysis there is good prospect for recovery, but when due to injury by spiculæ of bone the paralysis will likely be permanent.

Seventh nerve. This is involved more often than any other cranial nerve. Kohler's statistics give 22 cases of injury to this nerve out of 48; Bidwell's 15 out of 106; Boston City Hospital analysis 46 out of 530. The chief reason for the frequent injury to this nerve is the relation it bears to the petrous bone. It lies embedded in the substance of the bone rather than passing through a foramen as do the other cranial nerves. When discussing the lines of fracture with reference to the application of force to certain regions of the head, it was noted that on the receipt of injury to the region of the ear the fracture generally passed along the petrous bone towards its anterior aspect and in front of the knee-like bend of the facial nerve, and that although the ganglionic enlargement was exposed by the line of fracture the nerve itself was not usually injured. In a fracture of this kind no lasting paralysis of the face results, although a temporary condition of paralysis may be present due to compression of the nerve in its canal by extravasated blood. When, however, the fracture is the result of force applied to the occipital region, the line frequently directly crosses the petrous bone just external to the internal auditory meatus, and therefore is very liable to lacerate the nerve, resulting in a permanent paralysis of the side of the face. Again, in the case of the temporary paralysis from extravasated blood referred to above, there will in all probability be some degree of deafness also present. This deafness would be due to the injury of the tympanum and its ossicles, but in the case of the permanent facial paralysis the same fracture will lacerate the auditory nerve. Since the latter lies in the same canal as the facial, and the result will be that permanent deafness will be present as well as permanent paralysis of the face.

Injury to the ninth, tenth, eleventh and twelfth nerves is extremely rare because of their better protection and of their passage through larger foramina.

When a traumatism is severe enough to produce a fracture of the skull, it will cause more or less injury to the blood vessels and semi-fluid cerebral mass contained therein, and such injury will manifest itself by symptom groups to which the terms concussion, contusion and compression are applied. If the "jarring" of the cerebral tissue set up by such traumatism be very slight then temporary stimulation of the functional activity of the cellular elements results. This stimulation is popularly expressed by the term "seeing stars," occurring after a blow on the head. The application of a greater degree of traumatism causes, instead of stimulation, more or less depression or inhibition of cellular activity, indicated by unconsciousness and although recovery or reaction follows within a period varying from a few minutes to a few hours, yet in rare instances such inhibition has been permanent with of course fatal results. In the great majority of cases this inhibition can hardly be said to be purely functional, there being sufficient evidence to support the belief that in nearly every case there is more or less material injury to the cerebral tissue, *i.e.*, contusion or laceration of the brain.

Compression. The cranial cavity will accommodate from 3 to 6 per cent. of its volume without causing any evidences of cerebral pressure to present themselves. This is dependant on the fact of the continuity of the channel of communication between the ventricles on the one hand and the subarachnoidean spaces of the brain and cord on the other, since by means of this channel the fluids within the ventricles may be expressed into the membranes of the spinal column. Any increase, however, beyond this percentage manifests itself by symptoms indicative of compression of the brain. Intracranial hæmorrhage is the most common cause of this increase of pressure within the skull and this hæmorrhage may be either epidural (from the meningeal vessels) or subdural (from the blood vessels of the pia or from the venous sinuses). Reaction from the unconsciousness associated with concussion or contusion of the brain generally begins after the unconsciousness has lasted a variable time, but during this period of unconsciousness, which may be termed "primary," and during the reaction, bleeding is going on from the ruptured vessels. Should the quantity of blood poured out be of moderate volume only, it will not be sufficient to cause serious pressure symptoms until the period of reaction has become more or less established. Therefore it follows that there is an appreciable interval of time between the primary unconsciousness from concussion and the secondary unconsciousness from compression. This intermission of unconsciousness, the so-called "lucid" interval, is patho-

gnomonic of intracranial hæmorrhage, and is therefore of great value in connection with our decision with reference to operative interference. As the intracranial pressure increases the unconsciousness deepens, and the patient becomes dull, stupid and drowsy, and his temperature rises; the optic discs are choked, although the condition of the pupils may not be disturbed. Muscular twitching or spasticity of the opposite side may develop during the early stages, but later on as the pressure on the cortical centres increases this twitching is replaced by a gradual spreading area of paralysis, and if unrelieved coma and death soon follow. Considerable importance is attached by some observers to the condition of the pupils in the belief that contraction or dilatation of one or both will assist in locating the situation of the clot, but a careful examination of recorded cases does not show that conclusions of any special diagnostic value can be based on the state of the pupils. Phelps (*Annals of Surgery*, 1906) found that in thirty cases of epidural hæmorrhage a single pupil was dilated eleven times and that one or both was contracted five times—it is worthy of note, however, that out of the eleven cases of dilated pupil the hæmorrhage was on the same side in nine of them. Rawling, on the other hand, found in his cases that a dilated pupil was rarely present except in the later stages, while Crandon and Wilson in their report of 530 fractures of the skull noted that the pupils were equal in 281, that they were unequal in 155, were dilated in 74, and contracted in 20. Some consider that dilatation of the pupil when on the same side as the clot is due to extension of the effused blood inwards along the base of the skull towards the cavernous sinus at which point it exerts pressure on the third nerve, but extension in this direction would necessitate the dissection of the dura mater from the base, to which in this situation it is very adherent, hence it is more likely, as Dean has pointed out, that the dilatation is due to compression of the cortical motor areas.

In his "Injuries of the Brain" Phelps urges a better recognition of the value of the information afforded by the temperature in cases of cerebral injury. He says: "The temperature in its course and variations will afford in the greater number of cases the most distinctive indication of the nature of the lesion. If after the lapse of hours consciousness still remains in abeyance, a stationary temperature but one or two degrees above normal will indicate a hæmorrhage of some profusion without serious cerebral injury, but a higher elevation which constantly increases with possible recessions will point to a visceral lesion." The opinion is emphasized by the Boston City Hospital analysis, which shows that many of the cases had abnormal temperature and of those that had a high initial temperature nearly all died.

The above considerations, in so far as they apply to the effects of hæmorrhage, are not confined to the epidural variety. They apply equally to subdural hæmorrhage. As to the relative frequency of the two varieties, out of 207 cases recorded by Phelps 34 were epi- and 37 were subdural, but in those cases of cerebral traumatism in which fracture could be excluded subdural hæmorrhage was the more common, the proportion being about six to one. With reference to the clinical differences, the same author writes: "The comparison of the symptoms of these two forms of hæmorrhage will indicate statistical rather than pathognomonic differences."

MORTALITY.

In fracture of the vault the mortality has been roughly estimated as from 20 to 25 per cent., while that of fracture of the base varies, thus Battle gives 32 per cent. out of 168 cases; Rawling 44 per cent. out of 215 cases, and the Boston Hospital analysis 43 per cent. out of 530 cases.

TREATMENT.

The general treatment of a fractured vault is to treat the shock and collapse in the usual manner and to watch out for reaction. When this is established the head is elevated and an ice cap applied with heat to the body and free purgation. The object of the treatment being to lessen intracranial vascular pressure.

If the case be one of a punctured fracture, the trephine should unquestionably be used, and at as early a date as possible after reaction has been established.

If it be a fissured fracture and no subsequent symptoms develop, operative interference will be unnecessary. If a depressed of moderate character and without any special symptoms of brain disturbance, the usual course is to treat it expectantly. When, however, it is remembered that even moderate depression of the outer table means very often more or less comminution of the inner table, one is justified to subjecting these cases also to operation. The mortality of the operation is so low and the possible serious consequences so evident if unrelieved that it would seem advisable to lay down a general rule to the effect that depression, no matter of what degree, calls for operative interference. Rawling states that "if many of these cases, *i.e.*, those in which injury to the inner table is considered doubtful, be followed up after discharge from hospital, a large percentage develop some of the remote effects of head injuries by chronic headache, cerebral irritability, Jacksonian epilepsy, etc."

The mortality from the operation of trephining has decreased from 50 per cent. before the days of asepsis to 2 or 3 per cent. at present, and although one naturally hesitates to interfere in a case of very slight depression without immediate head symptoms, there can be no question but that it would be ultimately in the best interests of the greater number of patients if operation were adopted as a matter of routine in all cases of depression, in the adult at least, with or without associated head symptoms.

A depressed fracture of marked degree or a comminuted one require of necessity operative interference for the purpose of elevating depressed or of removing detached portions of bone. When loose pieces of the bone are removed and more or less sharp margins left aseptic, gold foil or Cargile mebrane may be interposed between the edges of the bone and the dura mater and between the latter, when opened, and the brain, to limit possible adhesions between these structures and thus lessen the possibility of development of the remote effects referred to above. With the same object in view the rather ingenious suggestion has been recently made in injury to the parietal region of everting the temporal muscle with its deep tendinous insertion and interposing its margin between the dura and the bone.

Operative interference for intracranial hæmorrhage. Murray, in a paper read before the New York Surgical Society, April, 1906, on early operation in traumatic intracranial hæmorrhage, stated that the object of his paper was to suggest a more frequent resort to exploration of the skull in the hope of saving cases which otherwise would end fatally. He stated also that "while recovery is possible under expectant treatment, many more die from want of operation." In his opinion the suspicion of existing cerebral contusion is not a sufficiently valid reason for desisting from operation. In fact he considers this condition warrants operation since the removal of a clot, whether it be epi- or subdural, will necessarily improve the cerebral circulation and exert, therefore, a beneficial influence on the accompanying lesion.

In some injuries of the head there is no reasonable doubt that intracranial hæmorrhage is present, but after reaction is established the symptoms gradually improve. In such cases operation may not be necessary, but when the characteristic picture of intracranial hæmorrhage is clear and distinct; when after the "lucid" interval, gradually deepening unconsciousness is present, operative interference is clearly and urgently indicated, and as guides to the site of operation localized twitchings or paralysees, bruising of the scalp, or even the history of the injury may be utilized. Bowen reported (Guy's Hospital) 72 cases, out of which num-

ber 52 were operated on, with 28 recoveries, and out of the 20 unoperated cases in 10 the cause of death was found to be due solely to compression from hæmorrhage. Wiesmann collected 257 cases. One hundred and ten were operated on with a mortality of 27 per cent., while in the 147 not operated on the mortality was 88 per cent.

Fractures of the base differ from those of the vault in the following very important particulars, viz. : that in basal fractures there is danger of injury to delicate structures such as nerves, blood sinuses and basal cerebral centres, and in addition there is the possibility of infection since the majority of fractures of the base are compound. This latter point is of great importance, clinically, indicating as it does the need for thorough asepsis of those cavities communicating with the fracture, viz., the nose, ear and pharynx, by means of antiseptic sprays, douches or powders. In fractures of the posterior fossa trephining might be undertaken, and if so the trephine should be applied low down on the occipital bone.

FRACTURES OF THE SKULL IN CHILDREN.

The elasticity of the bones of the skull in the child, the absence of diploe, and the presence of considerable fibrous tissue between the individual bones, limits the occurrence of fracture in childhood, and while subdural hæmorrhage can occur more readily in the child than in the adult because of the delicacy of the vascular walls of the former, yet epidural hæmorrhage does not produce so pronounced effects because of the adhesion of the dura mater to the skull in childhood. I make it a rule to advise the mother to awaken the child at intervals should it go to sleep shortly after an injury to the head, fearing that the apparent sleep may be in reality compression from hæmorrhage. Lastly, as to operation for some of the later effects of fracture of the skull, especially epilepsy, Dr. Allen Starr, at the American Medical Association, 1906, stated that not more than two per cent. of cases of epilepsy are open to operation, and that it was useless to trephine in this condition, even though caused by a fall or blow, unless the attacks presented the localized epilepsy recognized as Jacksonian, and further that in only about twenty per cent. of cases operated on has a permanent cure followed, some scar tissue or resulting adhesions favoring recurrence.

My experience in operation for epilepsy has been limited to three cases, and with indifferent results. One was benefited for a short time only, the seizures returning in a few weeks; one was lost trace of, and in the third case no beneficial effects whatever followed the operation.

FRACTURES NEAR THE ELBOW.*

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FRACTURES near the elbow will include :—

1. Separation of the epiphysis of the lower end of the humerus.
2. Fracture of the external condyle.
3. Fracture of the internal condyle.
4. Fracture of the lower end of the humerus.
5. Fracture of the olecranon.

The first important step in the treatment of such cases is to make an accurate diagnosis. A case cannot be treated intelligently until then. The making of a diagnosis does not end with locating the particular part broken, but includes the line of fracture and the amount of damage to soft parts as well. One is too often satisfied with the knowledge that there is an injury to the elbow—and because of an injury to the elbow the arm is put up in a flexed position—I have had cases referred to me weeks after the injury and have found all sorts of conditions, even to posterior dislocation of the elbow joint without fracture and without any attempt at reduction having been made. This is due to one of several causes, either a careful examination has not been made—the doctor having accepted the opinion of the patient—or it means an inability on the part of the practitioner to make a diagnosis.

Having satisfied oneself of the injury one then must try to fit the bones accurately together. I was much impressed some years ago when called to a case of injury to the hand where the flesh was torn off the back of the hand and there was a fracture of the metatarsal bones of the thumb and of the index finger; after cleaning the part thoroughly I carefully fitted the ends of the bones together as one would fit the ends of a broken stick, each little projection fitting to each corresponding crevice; when this was accomplished I then grasped each fragment and forcibly pushed them together, using no splint to keep them fixed. Union was perfect. Of course in a simple fracture one cannot see exactly what he is doing, but much may be learned by the sense of touch, and by care one may accomplish wonderful results that he need not be ashamed of even when the x-rays are applied at some subsequent date.

Having secured accurate apposition, it is then that the surgeon's ingenuity is brought into play, for he must quickly devise some plan of keeping the fragments in place. To my mind it does not matter very much what he uses; it may be an Aikins' splint, a plaster of Paris splint, or some other form of splint, but no matter what is used the wise man will, when it is possible, have his fracture examined with the x-rays to

* Read at the Ontario Medical Association, May 29th.

make certain that everything is as it should be after he has put it up as he intends to keep it until union occurs. If the x-rays show a faulty position don't hesitate to correct it. Patients are reasonable beings as a rule, and what they want is as nearly a perfect arm as it is possible to get, no matter how much our dignity may be trampled upon in getting that result, and a few changes in the early part of the treatment is far and away ahead of a malpractice suit at the other end.

Failing after several trials to get a perfect apposition of the fragments, one should not hesitate to cut down under the most careful aseptic and antiseptic precautions and fix the fragments with silver wire, catgut, or a screw.

In separation of the lower epiphysis or fracture of the olecranon the position that commends itself to me is the natural extended position of the arm, and I think it essential that there shall be no hyper-extension. If a separation of the epiphysis is put up at an angle, the angle is likely to be at the line of separation and *not* at the elbow joint.

In fractures of the condyles the position of acute flexion—the arm and forearm being well covered—with lots of cotton batting secured by means of a figure-of-eight bandage, is probably the most satisfactory, while in fractures of the lower end of the shaft the position adopted will depend largely upon the fracture, its direction and its extent. As a general rule, however, the Aikins' hoop iron splint is very satisfactory, the elbow being kept at a right angle by this means.

In compound fractures one must use the greatest care in removing all dirt, then fit the bones together and provide for drainage, but on no account should the arm be amputated till conservative measures have been given a trial, as was so often taught in the pre-antiseptic days. Sometimes one is surprised to find that some of the most unpromising cases will recover completely.

As to after-treatment, gentle massage may be carried on from the beginning if the part is accessible. If the apparatus, of necessity, completely surrounds the injured part, the use of massage may be deferred for ten days or two weeks, when the appliances may be removed daily and then passive motion may be practised at the same time. There is no danger of disturbing the fragments if one is careful and will hold the fragments between the fingers and thumb of one hand while he massages and exerts passive motion with the other.

DISCUSSION.

Dr. F. N. G. Starr congratulated Dr. Mundell and Dr. Gallie on their papers. In reply to the discussion on fractures near the elbow, he said that kangaroo tendon was so unreliable as to its sepsis that he had abandoned it. With reference to Dr. Powell's remarks about the straight

position in fractures near the elbow, he thought one should not try to get the arm in a straight position, for the arm is not naturally straight. There is a carrying angle and our object should be to preserve and not to destroy that angle. Dr. Shuttleworth spoke of wiring in separation of the epiphysis. That is the one condition in which wiring should be avoided, if possible, because of the risk of interfering with the growth of the bone. The very thing not to be advised is the flexed position in separation of the epiphysis, because of the danger of the flexion occurring at the line of separation rather than at the elbow joint. Referring to fractures of the neck of the femur, he said it was hard to overcome our old teaching that we must not break down an impaction; but he was free to confess that his conversion to the method, in selected cases, was complete.

Dr. B. E. McKenzie, in referring to the paper presented by Dr. Gallie, and to the radiographs by Dr. Cumming, said that there is no doubt that the methods advocated mark a distinct advance upon the older methods. The first principle to be observed is that the fragments be brought into apposition and maintained there. The best means to be employed are chiefly extension and abduction. Strong traction is always a powerful means to aid in obtaining correct apposition. As a fixation agent there is none equal to plaster of Paris.

Dr. Clarence L. Starr: The application of wire suture should be reserved for those cases where apposition of ends of bones is not possible in any other way. If suture is necessary, kangaroo tendon should be used rather than wire, as it will accomplish the same result. Catgut does not last sufficiently long before absorption to be satisfactory. Regarding massage, there is a possibility of dissolving the ossifying material by too vigorous a resort to this treatment.

Dr. Powell: The section is to be congratulated on the result of the committee's efforts to bring about a discussion on the subject of fractures. Dr. Starr's paper is a clear exposition of sound and modern views regarding elbow joint fractures. With his statement that the selection of the method or material of fixation is of far less importance than the skill with which it is used I am in full accord.

Dr. Gallie's paper presents a new and most promising plan for overcoming the condition which we have all known to cause permanent and distressing disability.

Dr. C. D. Thomas: In discussing the subject of the treatment of a broken limb, we too often speak of the treatment of the fracture and omit the consideration of the injury to the soft parts. In the *British Medical Journal* of October 27th, 1906, Dr. Bowser points out the above fact and the value of early massage and movement, and suggests that much better

functional results will be obtained when treatment on such lines becomes much more general. When in Edinburgh I had the opportunity of observing cases treated on such principles in the out-patient clinic of the Royal Infirmary, and certainly the results obtained seemed to justify the method of treatment. Massage is applied at the time of reduction, and massage and movement are used daily, but with sufficient gentleness to cause *no pain*. By such a plan of treatment the patient suffers little pain and that unfortunate condition of stiff joint and matting of the parts so commonly seen is avoided and the bony union is found to take place as rapidly as under the prolonged immobility obtained by the application of splints for three or four weeks, and the injury of the soft parts is repaired rapidly.

Dr. H. A. Beatty: In the papers read, the subjects have been so fully considered that I fear in the time allotted to me I can but notice a few of the remarks made.

In Dr. Mundell's paper on fractures of the skull, I think he is quite correct in advising that in fractures of the vault where there is but slight depression operative measures are indicated. I also think it is advisable in all cases of unconsciousness from head injury, in which there is suspicious hæmatoma, to cut down and ascertain at once if there is or is not damage to the outer table.

In fractures at the elbow, the degree of flexion in which the arm is fixed will depend naturally on the position in which it is found that the fragments are placed in the best position as shown by the x-ray.

I have personally no experience in the treatment of fractures of the neck of the femur in the method advocated by Whitman. The results reported are excellent.

Dr. Shuttleworth thought that separated lower epiphysis of the humerus should preferably not be treated by acute flexion on account of after flexion deformity and disability. Better treat by open operation and wiring or fixation. He advocated full extension rather than flexion as giving better results.

MOSQUITOES IN HAWAII AND THEIR RELATION TO MALARIA, FILARIASIS, AND YELLOW FEVER.

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Member Hawaiian Territorial Medical Society; Member American Society of Tropical Medicine
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AS is well known, the various forms of malaria are caused by the presence in the blood of certain animal parasites called hæmosporidia.

There are several species conditioned to the type of fever, and the life history of one is, largely speaking, the life history of them all. A most fascinating story it makes, too.

The "vicious circle" is graphically portrayed in "Laboratory Studies in Tropical Medicine," by Daniels, but we must be satisfied here with this reference, as the mosquito which transmits malaria is not to be found in Hawaii.

The retro-active elements might be difficult to get together so far away, though we have had, for a time at least, individuals suffering from a form of malaria; Puerto Ricans who came here directly from their homes.

In his chapter on malaria, Dr. Jackson¹ says that what most physicians living in the tropics will corroborate:—

"I believe these infections persist for years. I have personally seen several cases . . . in which parasites have undoubtedly existed in the blood for five years in spite of treatment, giving rise from time to time of outbreaks of fever, abortive paroxysms, or afebrile manifestations; the blood at such times invariably showing the malignant parasites."

If, then, as we know it does, our immunity from the scourge of malaria depends upon the mere absence of a particular variety of mosquito, how precarious is our safety!

Hawaii furnishes conditions favorable to the life and propagation of the anopheles, and this type of mosquito is not here just because it has not happened to be introduced.

The *Culex* came in one boat, and it was about half a century, when travel was increasing rapidly, before the *stegomyia* arrived; why may not anopheles put in an appearance any day?

We have a well conducted quarantine against insects, vegetable and animal parasites of all kinds, and if there is one thing we ought to do it is to support this watchful office with all our might. Surely, the Hawaiian Bureau of Entomology and Division of Animal Industry becomes a very important factor in the preservation of our public health.

FILARIASIS.

To Sir Patrick Manson is due the credit for our more definite knowledge of the nematode worm, and the effects of its presence in the blood of man and dogs.

There are four species of the filaria distributed specifically over a large tropical and subtropical area, our Southern States, the West Indies, Central America, China, India, Africa and the Philippines. In Samoa, our next door neighbor, are seen the worst effects of the very prevalent infection, elephantiasis.

Filaria immitis, a modified form found in dogs, is generally fatal, mechanically clogging the lymphatic system.

"The parental form of *F. nocturna* lives in the lymphatic trunks of the body and limbs . . . the males and females being generally in close association, perhaps twined about each other, forming a tiny bundle like so many loosely ravelled strings or hairs. They are long—three or four inches—and about as thick as a horse hair. . . .

"The free embryos never do any harm, but the parental forms, by obstructing and otherwise damaging the lymphatic trunks, often do a great deal of damage, giving rise to that large group of tropical diseases known as the elephantoid diseases, and almost certainly to that scourge of many parts of the tropics, endemic elephantiasis. Thirty per cent., and even fifty per cent., may be affected with filariasis. In many of the Pacific islands, the Samoa group for example, I believe this proportion is exceeded."²

Knowing that the filaria could not of itself escape from the body or be "spontaneously extruded," yet that it must in some way pass out, Dr. Manson inferred that there must be some interested outsider to do the underhanded work, "a blood eater or blood sucker of nocturnal habits."

All this was accomplished by pure thinking, reasoning, based upon careful observation. Dr. Manson sat with folded hands, lost in deep thought, mentally analyzing the matter.

Then the conclusion, as usual, was tested in the laboratory by experiments, and it was found that the *Culex fatigans* was chiefly concerned in the transmission of the nematode.

We have, then, in Hawaii the necessary mosquito, and at our borders, the blood of filarial patients.

As Samoans and other residents of the South Pacific Islands often come here, some of them to remain, it is surprising that we have no greater evidence of the disease.

Yet, so far as I know, none of the several varieties of filaria have been discovered in the blood either of men or dogs in Hawaii, and certainly there are no indigenous cases of elephantiasis.

Nor have I come across even the harmless, embryonic forms which are said to be prevalent in the blood of Samoans.

The only gross enlargements I have seen here were in cases of so-called mixed leprosy, which I considered granulomatus, consisting generally of epitheloid and lymphoid tissues.

Possibly in some instances, there was obstruction, resembling elephantoid enlargements, due, I think, to another cause than filariasis.

To the same cause, alteration and hyperplasia of certain lymph tracts affected by the presence of the *bacillus lepræ*, is probably due Swollen

Head Fever, reported by Dr. Goodhue of the Molokai Leper Settlement,³ a lymphangitis sometimes altered by sepsis and attended by an erysipelatous condition.

"Swelling begins on the head or face or both on the same side as the enlarged glands, and gradually extends to the other side, when the whole face may be so enlarged and disfigured as to be unrecognizable. In about fifteen per cent. of the cases the axillary and inguinal glands become involved, extending along the lymphatic channels to the extremities. Occasionally it is circumscribed and may encircle the arm or leg."

This strange fever resembles in many characteristic ways what is called in districts infected by the filaria, elephantoid fever, and in nearly all cases away from here, there is a history of previous filarial infection.

I have asked Dr. Goodhue to examine for *F. nocturna* and *F. perstans*. The discovery of this nematode either in parental or embryonic forms in the blood of leprosy patients would explain the swollen head fever, and those peculiar enlargements met with in leprosy. It would explain, as well, why leprosy and elephantiasis were not differentiated by the ancients.

In one case of mixed leprosy in a non-corpulent woman the right thigh measured 26 inches, the leg below the knee 22 inches, and the foot, above instep, 19 inches.

There was more or less stasis and anæsthesia, but no tendency to gangrene.

YELLOW FEVER.

As already stated, the *stegomyia fasciata*, or yellow fever mosquito, is in Hawaii in numbers.

According to the Public Health and Marine Hospital Service reports for the period ending December, 1905, yellow fever occurred in Mexico, Guatemala, Honduras, Nicaragua, Costa Rica, Panama, Colombia, Ecuador and Peru, all states bordering on the Pacific Ocean, during that period. Dr. Leland E. Cofer, Chief Quarantine Officer, stationed at Honolulu, says in a recent report:—⁴

"Marchand and Simons protest against the assumption that it is possible for the *stegomyia* to become infected elsewhere than from man, or that the yellow fever virus can affect man without the intervention of the mosquito, would show that the posts named above are either constantly infected with yellow fever or are constantly infectible when exposed to this disease.

"The ports of Asia and the islands in the Pacific Ocean are either infectible or else may soon be rendered so by the inevitable introduction of the *stegomyia fasciata* from ports where this variety of mosquito abounds.

"This mosquito has been identified in the Philippines by Brinckerhoff, in the Hawaiian Islands by Van Dine, . . . and its presence in China, Japan, Australia and the Samoan Islands is generally acknowledged."

Each year sees an increase in intercourse between these countries. Mexican enterprise at Tehuantepec has brought us nearer to the yellow fever area, and the Panama Canal, when it is completed, will add still more to the danger.

The first appearance of yellow fever in Europe was at Lisbon in 1723. Oporto was affected in 1850, 1851, and again in 1856. During the epidemic at Barcelona, Spain, in 1821, 25,000 persons died in five months, and at Lisbon, Portugal, in 1857, of 13,000 persons infected, fifty per cent. died.

The neighboring cities were infected as well as the Azores at the same time.

The disease was brought from America to Cadiz in 1733, and has occurred in various Spanish cities from that date to 1878, when thirty persons died.

In France an epidemic with twenty-three deaths was the initiation of the disease in that country.

It has appeared five different times in the British Isles, but the history closes with the death of two sailors in 1894.

In the bulletin⁵ from which I have secured this information, is a discussion of the modes of transmission of the disease at these various epidemics, and Dr. Eager says:—

"There still remains the possibility that a European mosquito of a different species may perform the office of carrying the yellow fever contagion, or that stowaway mosquitoes from the Western Hemisphere accompanying pest ships might be landed in Europe, reproduce their kind for a few generations, and incidentally continue the spread of yellow fever."

What MM. Thiroux and D'Anfreville⁶ have to say about the *stegomyia fasciata* in Sénégal, applies admirably to Hawaii:—

"Après nous avoir permis de vérifier les données que nous fournit la théorie culicidienne au sujet de l'étiologie de la fièvre jaune, l'étude des *stegomyia* et celle de leur distribution géographique devrait nous faire connaître encore les parties du Sénégal où, dans l'avenir, les épidémies auraient chance de s'entendre celles par conséquent où il conviendrait d'appliquer rigoureusement les diverses mesures de protection et de prophylaxie."

¹ Tropical Medicine, 1907, Thos. W. Jackson.

² Tropical Medicine, 1905, Manson.

³ Medical Record, Dec. 29, 1906, E. S. Goodhue: report Board of Health, Dec. 31, 1904, L. E. Pinkham.

⁴ Quarantine and Commerce, in the Pacific Area, 1907, L. E. Cofer, Bulletin, April 13, 1907.

⁵ Yellow Fever Institute Bulletin No. 9, P. H. & M. H. S.

⁶ Revue de Médecine et d'Hygiène Tropicales Tome III., No. 4.

PYORRHŒA ALVEOLARIS.*

By ANDREW J. McDONAGH, D.D.S., Toronto.

MR. CHAIRMAN, Ladies and Gentlemen,—I appreciate very much the honor you have done me in asking me to address you this afternoon.

The subject on which you have requested me to speak to you, "Pyorrhœa Alveolaris," can be taken up from a number of different points of view.

The point of view which would interest this audience is so entirely different from that which I have been in the habit of taking that I fear I have been unwise in undertaking to discuss the subject on such short notice. However, I will do the best I can to interest you and I crave your indulgence if my remarks fall short of what you expect.

There are a great many pathological conditions of the mouth which are designated by the term "Pyorrhœa Alveolaris," and which really have no right to the title. In fact, the term is not well chosen.

Years ago, when the subject was written upon by Dr. Riggs, the disease was called "Riggs' disease," but as Dr. Riggs was not the discoverer, nor the first to write about it, a more suitable name was looked for, and "Pyorrhœa Alveolaris" was chosen by the majority. The term means, pus running from the alveolus, or the body of the bone surrounding the teeth, whereas, as a matter of fact, we often have no pus at all and often, when we have a flow of pus, it is caused by an alveolar abscess, necrosis, or caries of the bone.

From the amount of study I have given the subject, I have no hesitation in saying that "Pyorrhœa Alveolaris" is the result of a disease rather than a disease. In fact, it may be the result of any one of a number of pathological conditions. I believe we have pyorrhœa as the result of systemic disorders and we have systemic disorders as the result of pyorrhœa, and we also have each trouble helping the other along, in that way forming an endless chain, endless till the patient's constitution is worn out.

For a moment let us look into the anatomy of the parts affected.

In the normal, we have the tooth placed as seen on this chart. At the gingival margin the gum is not attached. There is no attachment till we reach the junction of the pericementum and cementum of the tooth structure, and as long as all the tissues are in a healthy condition, there is no place here for pus formation, micro-organisms can do no harm, but, given an opportunity through favorable circumstances, micro-organisms, which are always abundant in the mouth, lose no time in propagating their species, especially the cocci, staphylococcus, pyogenes aureus.

* Read at the Toronto Western Hospital Clinic.

This germ, and the pneumococci, we find in the greatest numbers in pus exuding from pyorrhœa pockets, although as a matter of fact there are about thirty other varieties to be found there, according to Millar.

Dr. Lennox Curtis, an oral surgeon of New York, claims that in the majority of the cases he has examined he has found the germ of secondary syphilis, intimating of course that pyorrhœa has its origin traceable to syphilis, a theory with which I cannot for a moment agree.

I have been treating "pyorrhœa" for the past fifteen years or so, the last five of which I have had cases sent me by all the best dentists in the city and many of the physicians, and I think I can safely say that less than fifteen per cent. of my cases have been due to syphilis. How do I know? Just this way: in every case I have been able to discover another cause.

One great cause is hyperæmia of the pericementum and gingival due to mal-occlusion or some local irritant, sometimes due to too great stress being used in mastication. Habitual grinding of the teeth is also one of the great causes. This latter is found in patients who have excellent teeth, hard and well formed.

You can readily understand that when the periosteum or pericementum is irritated and in a hyperæmic condition that it will be easily attacked by pyogenic bacteria. A small pus sac is formed and the ptomaines through their mechanical and toxic action cause further irritation, and in their confined position, as you can see by the chart, they have greater power than in a more open space. The alveolar bone is broken down, the surface becomes to a certain depth necrosed and absorbed, till quite a large pocket is formed, large enough in many cases to hold nearly half a teaspoonful of pus, in which case, of course, it takes in the roots of more than one tooth and quite a tract of bone.

During this process, through the gelatinous placques, which form on the roots of the teeth, a lime scale, derived from the serum of the blood—hence called serumal deposit—and from the lime salts of the broken down bone is formed, and that lime scale is sometimes mistaken for tartar, though not so much so at the present time as formerly.

I have gone into the description of this one species of pyorrhœa as minutely as I thought would interest you.

There are a number of other kinds of pyorrhœa, which would require a paper in themselves to describe. I will just mention one or two. There is a very common kind which we call phagedenic pericementitis, which may not have any pus flowing, just dying pericementum, also the athlete's pyorrhœa, caused by forcing blood too vigorously into the alveolus; pyorrhœa due to lack of nutrition, too weak circulation, also due to a bad liver, hence constipation, also to nervous diseases, etc. There is

also a kind of pyorrhœa which shows itself by a thin acid fluid discharging from the gingival margin, making the teeth very susceptible to changes of heat and cold, sweet, salt, etc., of which I will not be able to say anything.

A remark I made further back in this paper, I must elaborate on, however, for a moment. I said, pyorrhœa from local causes was the cause of systemic trouble. How can that be?

Supposing you have twenty teeth (and often I have seen thirty in a mouth discharging pus) and that every time you swallow the tongue and the muscles of the cheeks press the pus out of the pockets, every bite of food you take is infected by the septic matter, every breath of air you inhale through the mouth is surcharged with ptomaines and pyogenic bacteria. Is not that sufficient to cause empyæma, or general septicæmia, or flatulent indigestion, or to seriously interfere with the work of the kidneys, or to cause tonsillitis, septic neuritis, or a hundred and one things?

Dr. William Hunter, in referring to the relation between dental disease and indigestion, says: "In the minds of most, the relation is what one may term a 'mechanical' one. Carious teeth mean imperfect mastication, consequently increased and unnecessary work for the stomach, this leading in course of time to the various ills connected with impaired digestion. Such a mechanical relation is by no means the only or the most important relation of dental disease to general health. In the minds of others the connection between bad teeth and bad health is supposed to be of another kind, viz., that bad teeth denote bad nutrition and bad health. They are the result of ill health rather than the cause of it. A third possible relationship, far more important than either of the two above mentioned, and one of which no mention is to be found in recent treatises on stomach diseases, is, as I have had occasion recently to show, dental disease as a cause of indigestion in consequence of being a continual source of septic poisoning and septic gastric infection. That relationship I have thus described:—

(1) There is a limit to the capacity even of the stomach to resist indefinitely for periods of years, the continuous presence of pyogenic (pus-forming) and other organisms derived from cario necrotic conditions of the teeth.

(2) Its powers of destroying such organisms, although great, are never complete even in health, and are due solely to the presence of free HCl.

(3) These powers become progressively weakened when through any cause an increased and continuous supply of pus organisms is associated with a diminished and continually lessening acidity of the gastric juice.

(4) These two conditions are precisely those produced by chronic cario-necrosis of the teeth.

(5) In time the catarrh of the stomach, so common a sequel of imperfect dentition—possibly of simply irritant nature to begin with, the result of fermentation becomes septic in its character—becomes really a septic gastric catarrh.

(6) Eventually, it may even lead to the deeper-seated changes which always result from chronic catarrh, viz., atrophy of secreting structures, with increase of fibrous tissue (chronic gastritis with atrophy of the glands).

Can pyorrhœa be cured, and how? If taken in time, most assuredly it can be cured, and if the disease has progressed to any extent, local treatment, consisting of proper curettage and medication (being always careful, of course, as regards asepsis) is absolutely necessary.

Nevertheless, in the majority of cases, as pyorrhœa is so often the indication or the cause of systemic trouble, it is wise for the physician and the dental surgeon to work together for the best interests of the patients.

CLASSIFICATION OF CHRONIC JOINT DISEASES.

A. Non-infectious chronic joint diseases.

1. Traumatic arthritis chronica.
2. Irritative arthritis chronica (Hydrarthros chronicus).
3. Constitutional ordyscratic arthritis chronica: (a) Gout; (b) hæmophilia.
4. Arthritis deformans: (a) Spontaneous; (b) reactive: (c) neuropathic.
5. Functional arthritis chronica (joint-neuralgia, intermittent hydrops).

B. Infectious chronic joint-diseases.

1. Primary infectious chronic joint-diseases: (a) Polyarthriti chronica progressiva primitiva or destruens.
2. Secondary infectious chronic joint diseases: (a) Secondary chronic joint rheumatism following an acute joint rheumatism; (b) chronic joint-diseases after acute infectious-diseases: gonorrhœa, scarlatina, measles, etc.; (c) tuberculosis; (d) syphilis.

CURRENT MEDICAL LITERATURE

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MEDICINE.Under the charge of A. J. MACKENZIE, B.A., M.B., Toronto.
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MEDIATE INFECTION IN SYPHILIS.

In *North-West Medicine*, April, Conn, Seattle, gives some interesting cases in his own experience of mediate infection in syphilis. A physician had a small splinter removed from the finger, the next day he examined a syphilitic woman. He had a typical attack with primary sore at the place where the splinter had been removed.

A healthy man, who presented signs of the disease, but from whom no direct history could be elicited, remembered that his bookkeeper had suffered from the "pox." They had used the same glass, towel, etc. He had had a small sore on the lip which had been touched with caustic by a druggist at the time, some six months before.

A woman who had mucous patches on her lip brought her little niece with a chancre on the lip. She had kissed the child. Typical manifestations developed.

A married woman of unquestionable character came with a sore on the lip and a typical rash. She had drunk from a glass previously used by a syphilitic.

THE INFLUENCE OF FLESH EATING ON ENDURANCE.

Irving Fisher, Professor of Political Economy at Yale University, says: "As yet the science of physiology seems to have given very little attention to the study of endurance. The nature of endurance, its relation to strength and fatigue, and, above all, the factors on which endurance depends, denote fields almost unexplored. Even the concept of endurance seems never to have been formulated. That strength and endurance are not identical is only partially recognized. The strength of a muscle is measured by the utmost force that it can exert once; its endurance, by the number of times it can repeat a given exertion within its strength. The repetition of such exertion, if not stopped by the refusal of the will, is finally stopped by the reduction of the strength of the muscle until it is unable to perform further. Thus endurance may be expressed in terms of *loss of strength*. It is related to *fatigue*, and it is only through the studies on fatigue and fatigue poisons made by Mosso and others that light has been thrown on the nature of endurance.

The object of the experiments described was to determine the relations of certain dietetic factors to endurance, particularly the factors of

proteid and flesh foods. Several lines of study were entered upon with this object in view.

The present experiment consisted of endurance tests made on 49 persons representing two contrasted types of dietetic habits. These fall into three groups—first, athletes accustomed to a high proteid and full flesh dietary; second, athletes accustomed to a low proteid and non-flesh dietary; third, sedentary persons accustomed to a low proteid and non-flesh dietary. The subjects consisted of Yale students and instructors, a Connecticut physician, and some of the physicians, nurses and employees of the Battle Creek Sanitarium. The personnel of the last named institution was selected as representing abstainers from flesh foods. All of the subjects except one had abstained from flesh foods for periods from 4 to 20 years, and five of them had never eaten such foods. The exception had abstained for two years only.”—*Yale Medical Journal*, March, 1907.

HYSTERICAL PARALYSIS.

In the *Journal of the American Medical Association*, May 11th, Pershing discusses the treatment of this condition and emphasizes the importance of the re-education of the kinesthetic centres as the most likely way to achieve satisfactory results from the standpoint of the mental as well as of the physical condition. The most constant accompaniment of hysterical paralysis is the anæsthesia of the paralyzed parts, and the absence of those sensations normally produced by motion; the patient can neither feel nor think the sensations of motion of the paralyzed limb. This itself is paralysis, as the motion must be preceded by the idea of the motion. These sensations and ideas of motion are a function of the sensory convolutions back of the Rolandic area; in normal volition these convolutions are at first excited and then by association impulses they arouse the corresponding motor centres. In hysterical paralysis the kinesthetic centre is overwhelmed by a preponderance of inhibitory impulses, incidental to the perverted mental state. The first object is to awaken the dormant kinesthetic centre, accompanied by the effort to raise the emotional tone of the patient. Little need be said as to the latter, for the former electricity, massage and passive motion are to be used, with the greatest attention to the production of the sensation of motion. The anæsthesia is rarely complete, and the patient's attention should be fixed upon the fact of sensation and its increase. Where paralysis is nearly total the limb should be so placed that its weight will favor the attempted movement. Something concrete should always be required as kicking an object or placing the foot upon something. Ignore failure and enthusiastically praise success.

BACTERIOLOGY OF THE RESPIRATORY TRACT.

In the *Journal of the American Medical Association*, May 11th, there is a discussion of this topic by Davis of Chicago, with especial regard to the occurrence of the "influenza bacillus." In nearly all the cases sputum was obtained; where this was impossible swabs were used, smears were made and inoculations into a mixture of agar with a little pigeon's blood, as suggested by Pfeiffer.

Whooping-cough. In 68 cases influenza-like bacilli were found 61 times; in 6 cases none were found before the whoop began, but later examination revealed them. In the negative cases persistent search both by smear and culture was made. Sometimes in the early spasmodic stage they cannot be found, but appear after some weeks all at once and in great numbers. Pneumococci were found in all cases in about the same proportion as in healthy throats. Streptococci were more numerous than pneumococci and more numerous than in the healthy throat. The "Micrococcus catarrhalis" was found in large numbers in some cases and organisms belonging to the diphtheria group in others to the number of eight, some of these were pseudo diphtheria.

Measles. Twenty-three cases of measles were examined, in most cases by sputa, during the stage of eruption, and they had as a rule the cough characteristic of that period. The influenza bacillus was found in 13; they were predominant in 4, occurring in almost pure culture. Pneumococci were always present about as in normal throats; streptococci were found in a few cases, but much less numerous as a rule than the pneumococci. The micrococcus catarrhalis was found in 10 cases, being very numerous and predominant in 2 cases—in these two the influenza bacillus was absent. Typical diphtheria were found in two cases. There was otitis media in 5 cases, but while streptococci were numerous all the ordinary germs of the bucco-pharyngeal cavity were found.

Varicella. Eleven cases were examined, some in the early stages, practically all had a slight cough. Influenza-like organisms were found in 7, being very numerous in two; streptococci in all numbers were found in 8, diphtheria in 1, and micrococcus catarrhalis in all.

Meningitis. Three cases were seen. In the nose in one case was found an influenza-like bacillus. Meningococci were isolated in two out of the three cases from the nasal mucosa where they existed in large numbers. Streptococci and diphtheria bacilli were isolated in culture.

Other affections. In 12 cases of bronchitis the influenza bacillus were found in the sputum 5 times; in 17 cases of typical influenza (clinical) they were found only 3 times; in 20 normal throats of adults they were found twice, but not in large numbers.

Summary. 1. Influenza-like bacilli are very commonly found in the upper respiratory tract in various infectious diseases and especially in whooping-cough. Occasionally they occur in normal throats.

2. Various organisms occur in the discharge in otitis media, the streptococci being the most common; occasionally influenza bacilli are found.

3. The micrococcus catarrhalis is a common inhabitant of the respiratory mucosa in infectious conditions and in some cases exist in nearly pure culture. It does not appear to produce specific lesions.

4. The influenza-like bacillus from whooping-cough is pathogenic for man; its specificity is doubtful. Present data permit us to consider these bacilli as secondary invaders in all the diseases in which they are found. A primary invasion at times should be considered a possibility.

5. Influenza-like bacilli are readily taken up in the test-tube by unwashed leucocytes and to a less extent by washed leucocytes. This spontaneous phagocytosis is not affected by varying the concentration of the salt solution between 0.6 per cent. and 1.4 per cent.

6. Injection of these bacilli into animals causes the production of specific agglutinins and probably also an increase in opsonins in the serum. Because of the occurrence of spontaneous phagocytosis and agglutination in such sera the determination of the opsonic index for these bacilli is rendered unreliable.

UREA AND URIC RATIO.

Prof. W. H. Porter, in the February issue of the *Post-Graduate*, concludes his paper with the following general deductions:—

1. That no fixed standard of proteid intake has been established.

2. No fixed composition of the urine exists.

3. Securing all the urinary analyses possible from different sources, adding them together and striking an average, gives a fair standard of nitrogen output by the kidneys.

4. A similar method applied to the hepatic secretion and to the other secretions and excretions, gives the total daily output of nitrogen from the system.

5. Securing the total output of nitrogen determines the amount of food that must be ingested and assimilated to insure the full quota of nitrogen in the excreta, etc.

6. Uric acid must be classed both as a secretion and as an excretion, and in both instances represents proteid utilization.

7. That 73 per cent. of the nitrogen escapes through the kidneys; 21 per cent. through the liver, 5 per cent. by other channels.

8. That Bunge's analysis of the urine is the first and only recorded analysis in which an absolute quantitative estimation has been made of all the constituents in the same sample.

9. That there is a very close correspondence between the results obtained by Bunge and those obtained by the multiple combination method.

10. That faulty action of the liver often causes the toxic symptoms commonly classed as uræmic, and especially so when there is an excessive elimination of nitrogen through the kidneys.

11. That there is only one kind of uric acid.

12. That uric acid, like urea, is an independent product of proteid oxidation reduction and not an antecedent to urea.

13. That it is still uncertain as to whether it is the so-called free or total uric acid that is determined by most of the methods advocated for quantitatively determining uric acid.

14. That in all probability most methods include both the combined and the over-produced uric acid.

15. That the author's method determines the over-produced uric acid only.

16. That in many instances there is somewhat of a corresponding rise in the uric acid and fall in the urea, but no invariable ratio exists. They may both rise and both may fall at the same time.

17. The main point to be determined is the amount of the over-produced uric acid, for it is a positive index to one form of suboxidation.

THE TREATMENT OF ANGINA PECTORIS.

Thomas E. Sutterthwaite, M.D., of New York, in addressing the Post-Graduate Clinical Society, spoke as follows:—

Nitrite of amyl is usually found to be a specific in the treatment of true angina. A few drops, three to five according to the severity of the attack, placed on a handkerchief relieve the patient. Nitroglycerin taken by the mouth in doses of $\frac{1}{100}$ of a grain each or $\frac{1}{50}$, will also give relief in less than a minute. I use for this purpose a capsule containing nitroglycerin, gr. $\frac{1}{100}$, menthol gr. $\frac{1}{50}$, amyl nitrite gr. $\frac{1}{4}$ in oleo resin of capsicum, gr. $\frac{1}{100}$. Attacks occurring in my office or in my presence are thus easily relieved.

In cases where these remedies are not at hand, morphia should be used hypodermically, and then followed up by inhalation of chloroform or ether, without waiting for the morphia to act. The patient may pour a few teaspoonfuls of ether into a saucer and inhale the fumes. Balfour's plan is to put a sponge soaked in chloroform into a wide mouthed bottle,

and then allow the patient to inhale the fumes until he gets relief. Heat applied to the chest by a hot water bottle or bag, replaced by mustard leaves or poultices, will often give relief. But cold applications are sometimes quite as useful.

If there is any sign of heart failure, brandy, whiskey or carbonate of ammonia are indicated, the latter being almost universally applicable. Digitalis is too slow to be useful. In a case I saw recently, I found the aromatic spirits of ammonia of the greatest assistance. It also promoted the expulsion of gas by the rectum. After the paroxysm has passed, aconite will be found useful in two minim doses t.i.d. also later, arsenious acid in 1/100 grain doses. If there is arteriosclerosis, arsenic should be kept up for a while and then replaced by iodide of potassium, sodium, iron or strontium in one to five grain doses.

In the pseudo cases Hoffman's anodyne is indicated, or the monobromate of camphor in grain doses, assafoetida in three to ten grain doses, and finally musk in five to eight grain doses. The *cretægus oxycantha* has been used with benefit in these cases. The dose is five to twenty drops of the tinct. t.i.d. I have used it, but not sufficiently to speak of it positively.

In one case of what I then believed was true angina in a young married woman, where the pain was agonizing, I gave complete relief by the continuous current, and certainly it did not recur during the weeks she was under my care.—*The Post-Graduate*.

AN EXPLOSIVE EPIDEMIC OF WATER-BORNE TYPHOID FEVER.

In the *Maryland Medical Journal* recently, there is an account of an epidemic of typhoid fever occurring at Mt. Savage, described by Stokes and Price, of Baltimore. The features of an epidemic whose character is such as to merit the term used are given as:—

1. A human source definitely ascertained.
2. A single, or, at any rate, a very definite, pollution of drinking water of high degree or definitely limited in time, followed by:
3. An explosive outbreak of typhoid, with a high attack rate, affecting those who have taken the polluted water, with concurrent exemption from attack among those who, otherwise similarly situated, have taken only non-polluted water.

On July 4th, Mrs. T., who occupied a small house about 100 yards above a brickyard on a rather steep incline forming the north side of a small branch of a stream known as Jennings's Run, and who had just returned from nursing her brother, was taken ill, probably a result of in-

fection contracted from her brother, as she was taken ill as soon as she returned. All the drainage from her house was conveyed by a pipe which emerged from the ground and ended about 20 yards below on the side of the hill. This mixed drainage found its way down the hill, a small portion reaching an open drain. A road runs along the open drain over a bank of fire-clay above the brickyard. At the bottom of the fire-clay bank a short distance from the open drain was a large open spring which furnished an abundant supply of clear water, of pleasant taste and appearance, and agreeable coolness. The water was drunk by all of the brickyard employees, about 200 in number. Immediately below the brickyard were the roundhouse and railway shops, where about 125 men were employed, all of whom drank artesian water. During the early part of July heavy rains occurred, washing surface impurities down the side of the mountain, on which Mrs. T.'s cottage was located, and into the spring and Jennings's Run.

On July 11th, 20 workmen from the brickyard reported to the company physician complaining of headache, backache, lassitude, and digestive disorders. The strict limitation of these cases to the brickyard employees, and the similarity of their symptoms, suggested to him a common source of infection. On the 12th of July he posted a notice on the spring, declaring the water bad, and directing the discontinuance of its use. Five additional men reported on this day, but none from the men who used the artesian water. Notwithstanding the warning, some of the men from the brickyard continued the use of the water from the spring and additional cases appeared at the rate of 5 or 6 a day, and the original cases showed unmistakable symptoms of typhoid. On July 25th, the physician had the spring filled up, the chemical and bacteriological tests showing pollution. Cases of typhoid appeared for 16 days after the filling up of the spring. The total number of cases were 115, of these 80 were confined to bed; the remainder were of the "walking type." There were 3 deaths; the Widal reaction was found in various cases. The incubation period seemed to vary from one to five weeks.

SOLAR BATHS IN TUBERCULOUS PERITONITIS.

Considerable divergence of opinion still exists with regard to the treatment of tuberculous peritonitis. Many contend that the serous form particularly is susceptible of spontaneous cure, while others energetically claim that laparotomy is the only salvation. Among those who have had an opportunity to follow up the results in a large number of cases in which laparotomy had been done, the favorite opinion previously held has been considerably modified and internal treatment is credited with

a greater proportion of recoveries than the purely surgical procedures. The reason for the favorable effects after a laparotomy has not as yet been determined, although there may be some truth in the assumption that "letting the daylight in" has brought about the curative reaction. In the belief that sunlight was actually the important factor, Oppenheimer (*Zeitschrift für physikalische und diätetische Therapie*, January, 1907) was led to try solar baths in patients the subject of tuberculous peritonitis. He employed the procedure in two cases with good success, the children gaining in weight as the ascites disappeared. The rays of the sun were allowed to shine for definite periods daily directly on the abdomen while the children were out in the open air. Oppenheimer thinks that the therapeutic effect of these sun-baths is due entirely to the local hyperemia of the peritoneum which is produced by the sun's rays, and that in this respect their action is analogous to the condition brought about by the performance of the laparotomy, for Nassauer among others has observed that this is what actually takes place. The results obtained in Oppenheimer's cases are by no means conclusive, but they suggest possibilities which may be employed before any more radical measures are resorted to. We have begun to realize that fresh air and sunlight are among the most important curative factors in the treatment of tuberculosis, no matter what its location in the body, and Oppenheimer's observations lend support to this view.—*Medical Record*, May 11, 1907.

GYNÆCOLOGY.

Under the charge of S. M. HAY, M.D., C.M., Gynæcologist to the Toronto Western Hospital, and Consulting Surgeon to the Toronto Orthopedic Hospital.

SYMPTOMATOLOGY AND EARLY DIAGNOSIS OF CANCER OF THE CERVIX.

Polosson (*Gaz. de Gyn.*, Feb. 1, 1907) tells us that cancer of the cervix occurs at an earlier age than that of the body. The earliest seen by him was at the age of 21 years. It is most frequent in women from 40 to 50 years old. In multiparæ it is more frequent than nulliparæ. Tears of the cervix seem to predispose to cancer. After the menopause cancer should be suspected if hæmorrhage occurs; before the menopause, if there is irregular bleeding. Hæmorrhage occurs especially as a result of connection, after violent exertion, defæcation, or a simple douche. A serous discharge, tinged with red, next appears. Later, when ulceration occurs, the discharge becomes fetid. Pain appears, when the periuterine tissues are invaded, from compression of nerve trunks of the pelvis or

branches in the broad ligament. When fetid discharge and pain occurs it is already too late to operate. At first there is no effect on the general health of the patient. Even in advanced cases there may be a good appetite and the color and flesh may be retained. Early diagnosis depends on examination of every patient who has irregular hæmorrhages. Vaginal touch may show vegetations of the cervix, vascular and friable, or ulcerated, bleeding when touched. The cervix is increased in size, hard, and infiltrated in some cases, while the ulceration is in the cervical canal. The uterine cavity should be explored. A fragment removed may be examined to confirm the diagnosis. Immediate operation alone will save the patient.—(*Am. Jour. of Obs. and Diseases of Women and Children*, May, 1907.)

CONSERVATIVE SURGERY OF THE UTERINE ADNEXA.

Hiram N. Vineberg (*Med. Rec.*, Feb. 9) finds that among the most common causes of disappointment in conservative surgery upon the adnexa is the negligence of taking into account the condition of the uterus itself. When there is a chronic metritis, either the result of a subinvolution or gonorrhœal or other infection, the slight periadnexitis is only a secondary affair. These cases either should not be operated on or the uterus, the prime cause of the trouble, should be removed. In patients, several years before the expected menopause, with pus tubes, every effort should be made to save as much ovarian tissue as possible, and if possible to do a plastic operation on the less diseased tube, independent of the micro-organism that may be the etiological feature.—(*Am. Jour. of Obs. and Diseases of Women and Children*, June, 1907.)

PELVIC INFECTIONS IN WOMEN.

W. W. Taylor (*Memph. Med. Month.*, Feb.) finds the first essential in the treatment of an acute infection of the Fallopian tube and ovaries or pelvic peritoneum to be absolute rest in bed. Mild purgatives should be given. Ice should be applied externally more or less constantly; opium to relieve severe pain. By these means most cases will be cured. In the chronic cases we must rely largely on general treatment, it being of more value than local. Cases requiring operation are those in which there are well-defined abscesses, those which get worse in spite of palliative measures. All cases that have repeated attacks of pelvic peritonitis, cases with a persistent tumor in the pelvis, with repeated acute symptoms, more or less continuous pelvic distress, and which affect the general health, cases that have resulted in fixed displacement of the uterus and ovaries.—(*American Jour. of Obs. and Diseases of Women and Children*, June, 1907.)

TUBERCULAR HYPERTROPHY AND STENOSIS OF THE URETHRA IN A WOMAN.

Henri Hartmann (*Ann de Gyn. et d'Obst.*, Jan., 1907) demonstrates by the history of a case observed by himself the existence of the rare condition of stenosis of the urethra in a female subject, due to tuberculosis of that organ. The patient, a woman 27 years of age, had suffered for six years from frequent and painful micturition, and had received all sorts of medical and surgical treatment, without relief. Examination showed a mass of granulations about the urethral orifice which almost entirely closed the meatus. There was only a very small opening, which was located in the middle of the trumpet-shaped orifice. Excision of the lower portion of the urethra and suture of the mucous membrane of the urethra to that of the surrounding surface of the vulva resulted in a complete cure. Examination of the tissue removed showed a typical tubercular structure, though no tubercle bacilli could be demonstrated in it. Inoculation of guinea pigs produced death with typical tuberculosis of the tracheo-bronchial glands. This case shows the occurrence of stricture of the female urethra without any cicatricial process as its cause, and should lead to a careful study of troubles of micturition in women, with a hope of finding such strictures more frequently than has been believed possible. This form of tuberculosis is comparable to lupus on the skin. —(*Am. Jour. Obs. and Dis. of Wom. and Chil.*, May, 1907.)

ABDOMINO-PELVIC ORTHOPEDICS.

Honoré Soulié (*Arch. Prov. de Chir.*, Jan., 1907) calls our attention to the long train of symptoms manifested in patients who suffer from displacement of the abdominal viscera. These are digestive troubles, constant sense of fatigue, headache, vertigo, insomnia, irritability, melancholy and loss of flesh. These are evidences of an advanced neurasthenia, resulting from the dragging of displaced organs. There may be simple stretching of the abdominal walls, or ptoses of various organs, and the association of multiple grave lesions. The equilibrium of the viscera is maintained by the folds of peritoneum, and by the pressure of tension. The latter is the result of the intraintestinal tension and the functional energy of the abdominal walls. These walls by their movements exercise an auto-massage on the splanchnic organs, which aids in keeping up their functions. They have an important effect on the intra-abdominal circulation. They empty the pelvic plexuses like an aspirating pump, and prevent congestions that are injurious to the pelvic organs. The effect on the general health results from the effect on the great sympathetic system and the arterial trunks of the abdomen and pelvis. Visceral displace-

ments add to the dragging on these organs. All these effects are lost when the abdominal walls are distended. The author believes that this condition should be treated surgically, by whatever operations are necessary to replace all the viscera and close all ruptures.—(*Am. Jour. Obs. and Dis. of Wom. and Chil.*, May, 1907.)

PHLEBOLITHS IN THE FIMBRIÆ OF THE TUBE.

Kermauner, Heidelberg (*Monats. f. Geb. u. Gyn.*, Bd. xxiv., S. 209), in a woman aged 23, operated upon for an ovarian cyst, found calcifications in the fimbriæ of the corresponding tube which on microscopical examination proved to be phleboliths. He attributes their formation to congestion during a pregnancy attended by thromboses.—*Brit. Gyn. Jour.*

OBSTETRICS AND DISEASES OF CHILDREN.

Under the Charge of D. J. EVANS, M.D., C.M., Lecturer on Obstetrics, Medical Faculty,
McGill University, Montreal.

PROTEIDS IN COW'S MILK IN INFANCY.

In the *Journal of the American Medical Association*, April 27th, Walls makes the claim that the indigestibility of cow's milk manifested in the feeding of some infants is not due to the proteids, but to the fats. It has been generally taught that the proteid content of cow's milk and in particular the casein, formed in the stomach in many cases a hard indigestible mass, which caused irritation and resulted in time in gastro-intestinal disturbance. This was usually supported by the evidence of test-tube experiment in which by the addition of rennet to milk a large solid clot was found, and the clots seen in the stools of infants whose digestion was in a bad state were supposed to be the same. It has been shown by Czerny that if the test-tube be sealed and agitated in imitation of the action of the stomach that this does not take place, but that on the contrary a fine flocculent precipitate is formed, and removal of the stomach contents by the tube will show the same. The clots found in the stool will on examination prove to be masses of fat, rarely inspissated mucus or clumps of bacilli. They can be made to disappear altogether by feeding fat-free milk, milk from which by centrifugalizing the fat has been reduced to .5 per cent. The writer has in very many cases treated successfully cases of gastro-intestinal trouble in infants with this method, and a number of these are quoted in extenso. This does not mean that he advocates the feeding of infants on fat-free milk except in cases of gastro-intestinal disorder; the normal infant requires and makes use of the fats.

MEDICAL AND CHEMICAL EFFECTS OF MILK.

A. E. Gue, M.D., on the "Medical and Chemical Effect of Milk on the Human Body," endeavors to show that the Holstein-Friesian cow produces an ideal human food. He states that the fat of milk, while of particular and complex composition, exists in milk in small globules surrounded by a true membrane, but points out that sugar contained in different varieties of milk has different properties. There is great complexity in the proteid constituents of milk. The difference in the value in milk as a food consists in a difference which is physiological and mechanical—physiological in the fact that it is impossible for the large membranous covered fat globule of the Jersey to crowd through the microscopical cells of the digestive organs, which they do when assimilation is perfect, and, if forced, will indeed produce an active mechanical irritation resulting in numerous disturbances of the alimentary tract, while with the Holstein's milk the fat globules are so small that they readily pass by endosmosis through the cellular tissue.

The author claims that there is a difference in the harmony of combination of the elements, between the milk of different breeds. He thinks that the factors influencing combinations are, first, duration, and the purity of breed, without admixture of alien blood; second, the uniformity of type, and the inherent vigor of that type. These are typified in the Holstein. The difference in the digestibility of one cow's milk over another is dependant upon the difference in their molecular arrangements, and not whether they are rich and fat or not. One should insist not on a high grade of fat, but on a high grade of solids, a fine molecular combination, and no bacteria. In other words the Holstein-Friesian is the head of all dairy breeds for infant feeding.—*Virg. Med. Monthly*, April 26, 1907.

RECURRENT VOMITING OF CHILDREN.

Howland and Richards, on "Some Possible Etiological Factors in the Recurrent Vomiting of Children," contend that the etiological factors concerned in the recurrent vomiting of children have always been hidden in obscurity. It has been generally considered that the condition is met with as a rule in the neurotic, and that the causes are, fright, excitement, fatigue, or a shock of any kind; and that the attacks are not directly attributable to errors in diet.

This paper is based upon a detailed study of several cases and upon experiments on animals.

Edsall and others show that in the attacks, acetone, diacetic acid and boxybutric acid are excreted in the urine in large amounts.

The authors confirm the work of Edson and others in regard to urinary findings. At the outset of the attack there is an increased excretion of uric acid. Invariably a heavy sediment of amorphous urates is present during the attack, and disappears when the vomiting ceases. They note that the excretion of sulphuric acid diminishes while that of the unoxidized sulphur compounds increases. The quantity of indican is increased in a high degree, before and in the first days of the attack. That starvation is not an essential factor in bringing about the appearance of these substances in the urine is generally evident. It is more logical to assume that their presence is due to a diminished power of oxidation of the body cells. In any case in these attacks the acetone bodies are probably excreted as the result of lessened oxidation of fat, brought about either indirectly as a result of lessened sugar combustion or by a direct influence of some unknown nature on fat combustion.

The increased elimination of uric acid is due in all probability to decreased oxidation, as is shown by the total nitrogen excretion. They conclude that the origin of the increase in uric acid in these cases, not being due to change in diet or to increased nuclein metabolism, must be due to decreased destruction. Since the destruction of uric acid takes place as a process of oxidation, we may conclude that oxidation of uric acid at the outset and in the first periods of the seizures is interfered with. Additional evidence of interference with oxidation in these cases is afforded by a study of the sulphur bodies in the urine; but more convincing still is the constant presence of lactic acid, as Lusk has pointed out.

These considerations justify the belief that at the outset of the attack there is an interference with certain metabolic processes in which oxidation plays a part; and that as the attack wears off, the urinary signs of this interference wear off.

Believing that the increased amount of indican excreted before the attack indicates an increase of putrefactive processes in the intestine, and bears some relation to a lessened power of oxidation in the body, the authors undertook some animal experiments designed to throw some light on this question. Indican is due to the oxidation of indol and skatol. The toxic effect of these substances is highly developed by non-oxidation. The authors employed potassium cyanide and chloroform in their experiments on account of their well-known power of diminishing oxidation in the cells.

From their experiments on animals, which are given in detail, the authors conclude that diminution of oxidation intensifies and prolongs the poisonous effects of a moderate amount of either phenol or indol. The amount of indican in the urine, they found, depends not only upon the

amount of indol formed and absorbed, but also upon the capacity of the body cells to oxidize it.

The autopsies of the animals showed very uniform results. There was marked gastro-intestinal congestion with extensive necrosis of the mucosa. The liver showed great degenerative changes. Control experiments of the effects of potassium cyanide alone proved that the changes described above were not due to the irritating effect of the cyanide, as chloroform and simple asphyxia resulted in the same pathological changes.

Thus the symptoms of this form of indol poisoning may be divided into two groups, nervous and gastro-intestinal. The experiments of the authors showed that when indol is circulating free in the blood, owing either to abnormally great fermentation or to abnormally decreased oxidation, it is excreted by the intestine rather than by the kidney. They proved that when the power of oxidation is diminished, indol, ordinarily non-toxic, is a most powerful poison.

It is a matter of observation that children subject to attacks of recurrent vomiting exhibit evidence of increased intestinal putrefaction by an increase in the urinary indican whose precursor is indol, and often by foul stools. During the attack constipation is the rule which would still more increase the absorption of indol. The presence of indol in comparatively large amounts can, therefore, be assumed, and they have shown that during these attacks diminished oxidation is present.

It appears to us in the light of our present knowledge that a shock, excitement, fright, anger or something of the kind, is exerted upon an unstable nervous system, unstable by inheritance or development, and also by age; for we cannot doubt that similar shocks are felt at a later time, but in the course of growth the brain and nervous system acquire a more stable equilibrium. As a result of this, in some way or other, unknown to us, a diminished power of oxidation results and the organism loses the power to detoxify substances absorbed from the intestine which have been present there in excess; these circulate in the blood, exerting their poisonous action, and cannot be excreted by the kidneys because they are not brought to them in the proper form. It seems probable that they are excreted and reabsorbed by the stomach and intestine, in the light of which vomiting would appear to be eliminative and thus a protective mechanism.

Finally, the power to oxidize and detoxify these substances returns; they are rapidly eliminated, and quick improvement results.—*Archives of Pediatrics*, June, 1907.

OPHTHALMOLOGY AND OTOTOLOGY.

Under the charge of G. STERLING RYERSON, M.D., L.R.C.S., Edin., Professor of Ophthalmology and Otology Medical Faculty, University of Toronto.

THE RIPENING OPERATION FOR IMMATURE SENILE
CATARACT; ITS PLACE.

Frank C. Todd, M.D., Minneapolis, Minn., in *Jour. A. M. A.* for 9th March, writes :

The earlier belief that a patient must await the time of complete maturity of a cataract before extraction could be performed with safety, led to the development of various artificial methods to hasten ripening. But this meant the performance of a preliminary operation, and Schweigger, in 1890, advocated the removal of immature cataracts after the age of 50, claiming that sufficient hardening of the lens has taken place at this age to enable the operator to remove the entire cortex. Many operators have followed and advocated this practice and the number seems to be constantly on the increase.

Yet it is a fact that ripening operations are still practiced by some surgeons with success, in all cases in which conditions make it humane not to wait for nature to bring about maturity, in preference to extracting an unripe cataract, while many other operators often perform the ripening operation under like conditions. Thus there seems to be a great difference of opinion regarding this very important question.

The ultimate question to be determined is, whether in those cases in which, for reasons to be mentioned later, we think it unwise to wait for maturity, we shall always extract an immature cataract, always perform a preliminary ripening operation, and other cases in which the extraction of an immature cataract seems the wiser course.

As evidence that trituration has not yet been discarded by many operators, the fact should be noted in these replies that twenty-six surgeons still practice the operation when occasion demands, that four rarely practice it, but nineteen who have had some experience now do not practice it at all, preferring the extraction of immature cataract, usually with irrigation. Of those who continue to practice trituration with satisfactory results, note the opinion of Colburn, who has operated on forty-seven patients; of Ayres, Wescott, White, Prince and others, who frequently practice intracocular massage with preliminary iridectomy, and have satisfactory results; of Ball, who has had much experience and similar results; of Wilder, who practices Forster's method in "certain cases" in which he performs preliminary iridectomy, but otherwise prefers to extract an immature cataract. The following significant paragraph is by de Schweinitz :

"The safest plan is to wait for maturity; but if this is impossible or very undesirable, the author has been in the habit of extracting an unripe cataract in preference to performing a ripening operation. This formerly was also the practice of Knapp; but recently he has ripened immature cataracts in a certain number of cases by the method of internal trituration, as employed by Boerne Bettman and others, and has been satisfied with his results."

That Knapp approves of artificial ripening under certain conditions is shown by his opinion expressed at the end of this paper.

On the other hand, however, note the statement of Risley, who tried a series of twenty-five cases, mostly by trituration directly on the capsule, and does not think his results were as good as after extraction of immature cataracts. He has entirely given up the operation, and does not think it is to be commended.

Many others, as Kipp, Callan, Lewis, Hubbell, Bull, Ellett, Griffin, Reynolds and Posey performed trituration formerly but never do so now. Others, as Taylor, M. Black, and Carrow, have not cared to practice the operation, having secured satisfactory results with premature extraction and irrigation.

There is only one point on which there is a general agreement, and that is, regarding the question of determining in what cases we shall not wait for maturity.

With one exception, all believe that, under the circumstances to be mentioned later, either an immature cataract should be extracted or a preliminary ripening operation performed; but Fox, in answer to Bulson's questions a year ago, states: "I do not extract immature senile cataracts, for I do not believe in taking the risk of serious secondary complications which nearly always take place, and render the ultimate results unfavorable;" and in reply to my question as to whether or not he ever performs the ripening operation, he states: "I do not," but modifies this statement, in answer to the question: "Under what circumstances would you perform the operation?" by saying: "Only when the nucleus is translucent or sclerosed, and it becomes imperative to obtain better vision quickly." He further says: "It is always dangerous to operate on an unripe cataract. The early removal of an unripe cataract leads to a great deal of trouble."

The methods which have been devised for the purpose of ripening an immature cataract, are:

1. Puncture of the anterior capsule combined with iridectomy (Mooren, 1858).
2. Puncture of the capsule combined with trituration (Rhomér, 1886).

3. Preliminary iridectomy with trituration through the cornea, indirect trituration (Forster, 1881).

4. Trituration after simple paracentesis without iridectomy (T. R. Pooley operated on rabbit, 1885, and soon after J. A. White operated by this method on a human being).

5. Paracentesis, with or without iridectomy, and direct trituration on the anterior capsule (Ricaldi, 1888, and Bettman, 1892).

From investigation it appears that the last two methods are practiced to almost the same extent. Two operators, Dr. J. A. White and Dr. Edward Jackson, however, practice exclusively and with great success, the method of Pooley. Knapp considers needling the capsule or direct trituration the only efficient method.

Operators of experience disagree regarding the selection of the method of Forster or Bettman. Ayres, Wilder, Prince, Wescott, and others prefer the former. Wilder is strongly opposed to direct trituration, having had two serious results following this method, but Colburn, Ball, Weeks and others prefer it to trituration outside of the cornea.

The Safety of Trituration of the Lens. Considering the large number of operators who have performed this operation, the number of cases in which ill results have occurred have been very few. Only three are reported in which loss of life resulted, and two of these might be excluded, because one proved to be an unfavorable case (Wilder's), and the other was due to iris prolapse and infection (Colburn's). In one there was so much reaction that later it became necessary to remove the eye. This was Wilder's case, in which he did trituration directly on the capsule, "which, however, was found to have a choroiditis, together with posterior staphyloma, so that it would not have been a favorable case for any kind of intraocular operation." Baker's case was one of glaucoma, in which the eye subsequently had to be removed on account of pain.

There have been a number of cases of iritis, but no cases in which ultimate poor vision resulted, though Wadsworth feels that vision was not so good in some cases (Wadsworth, Callan, Reynolds, Hansell). Four cases of glaucoma were reported, one each by de Schweinitz and Griffin, both ending well, likewise another by Donovan, in which it became necessary to remove the lens. Posey had a case in which he suspected retinal detachment, but if so, it was cured by rest in bed, and the ultimate results were good. With very few exceptions, operators who have had experience do not regard the operation as unsafe in uncomplicated cases.

The Efficiency of the Operation. A study of the opinions expressed shows that the operation is most effective in ripening senile cataracts when a hard nucleus is present and it is in just such cases that the oper-

ation would be most needed, but that it is entirely ineffective in young people, and in cases of soft cataract. This is expressed by Dr. Edward Jackson, who practised Pooley's method. He says: "In the matter of efficiency, my experience indicates that indirect massage is efficient only in senile cataract, that is, only when the opaque lens contains a rather large, firm nucleus." Dr. J. A. White has had some success with the same method in cases of cortical cataract, though he has had to resort to a repetition of the operation in two cases. He also states, however, that the operation is most successful when a hard nucleus is present, which, he says: "Acts as a base on which to crush the cortex." Several operators express some dissatisfaction, *i.e.*, inability always to secure ripening, but do not stipulate the character of cases. Weeks says: "I have not found that the lens substance escapes more readily after the ripening operation than when the immature cataract is extracted," and Knapp, Lewis, Bull and Hubbell make similar complaint of failure in some cases. These, however, are exceptions, and there is not much complaint on this point.

Time Required for Ripening. From one to four or five weeks are necessary, according to most of the opinions expressed, but extraction is not practiced usually for ten weeks.

It would seem that a second operation for membranous cataract is not required so often after extraction following a ripening operation, as after extraction of immature cataract, though many operators state that they do not think there is any difference in this respect.

Objections to the Operation. It does not appear that the objections to the operation by those who have had experience and do not commend it arise from ill results, as these have been comparatively rare, but rather because it is believed by many that an immature cataract can be removed as easily as an artificially ripened one, many believing that the trituration thickens the capsule and causes it to adhere to the lens substance. One operator (Bulson), who prefers the extraction of immature cataract, and presented a paper on this subject before this section a year ago, believes that this is the only place for the ripening operation, *i.e.*, "unless patients having immature cataracts, should, from nervousness or other reasons, give the operator a feeling that but little manipulation at the time of extraction should be employed."

An immature cataract can sometimes be well removed after the age of 60, and even before that time if it is not very immature, but without irrigation before that age, and often after 60, considerable cortical matter is apt to remain, to cause much trouble later with iritis and membranous cataract. The enthusiasm with which those who practice irrigation in cases of extraction of immature cataract (with the apparatus of Lippen-

cott, Carrow or Reik) leads one to believe that it is of great value under such circumstances. Carrow practices irrigation in all cases, ripe or unripe, and extracts "whenever the patient loses reading ability."

Some object to trituration on the ground that it means an extra operation, and this is valid where it is not required, in those cases in which an immature cataract can as well be extracted; but, on the other hand, some operators often perform preliminary iridectomy, which also is an extra operation. Thompson, of Indianapolis, advises preliminary iridectomy in all cases in which for any reason there is doubt regarding successful results. Weeks still practices trituration occasionally when he does a preliminary iridectomy, evidently believing it to be an aid, but not of enough value to warrant the extra operation unless preliminary iridectomy is to be performed.

Contraindications and Indications. In no case of immature cataract would operative measures be resorted to when the patient had sufficient vision in the other eye. No definite degree of loss of vision can be defined in exact figures, for other things have to be taken into consideration in deciding the advisability of the removal of, or ripening of, an immature cataract. The slow and equal development in both eyes, of central cataracts; the loss of ability to earn a livelihood when dependent on the same, and especially when others, too, are dependent; the unhappiness which may result to the patient and those about him; and the general and local conditions have to be considered.

I have been in the habit of performing the Förster operation in uncomplicated cases of immature senile cataract having much soft cortex (recognizing the fact that many lenses are hard, even though not opaque, particularly in patients over 60), and in those patients having two eyes with slowly maturing cataracts and poor vision, enough to interfere with earning ability or to cause the patient unhappiness. This has been done with satisfaction. In no case has a secondary operation been necessary, and in all cases good results have followed, but I am not prepared to say that equally good results might not have followed extraction with irrigation, though I am sure irrigation would have been necessary.

Conclusions. If, therefore, we grant the success and safety claimed by those of much experience in irrigation, the operation of ripening is indicated. 1. In case of immature cataract (not mentioned as contra-indicated), in which a preliminary iridectomy is to be performed. 2. In those patients who would not be likely to behave well during the extraction, thus preventing the operator from performing much toilet or from practicing irrigation. If irrigation is not practiced, trituration of the lens would be indicated in all patients with immature senile cataract under 60, in whom for reasons mentioned, relief is required.

LARYNGOLOGY AND RHINOLOGY.

Under the charge of PERRY G. GOLDSMITH, M.D., O.M., Toronto, Fellow of the British Society of Laryngology, Otology and Rhinology.

HAY FEVER.

As general treatment, antacids, especially potassium or sodium citrate, and salicylates are to be used to lessen acidosis and to remove any gouty tendency.

S. Estes Cohen recommends the following:—

R:	Sodii Salicylatis,	ʒiii	12
	Sodii Benzotis,	ʒvi	24
	Essentia pepsin,	ʒii	60
	Tinct. nucis vomicae,	ʒi	4
	Acquae mentha piperitae,	ʒiiv	120

Sig. : Two teaspoonfuls in half a tumbler of water every fourth hour for four or five doses daily.

The local treatment of the nose is largely operative and is best carried out by a specialist. Internal treatment designed to lessen the sensitiveness of the nose may be resorted to and Cohen recommends in addition:—

R	Hyocyami Hydro-Bromatis, gr.	$\frac{1}{10}$	0006
	Camphor Monobromatae, gr.	ii	12
	Sacchari Lactis qs.		
	(Mix well and divide in 20 capsules.)		

Sig. : Give one capsule at intervals of from 10 to 90 minutes until sneezing and running of the nose are controlled, after which one tablet may be taken every second, third or fourth hour as may be necessary to maintain the effect.

The following may be given in the same way:—

R	Atropia Sulphatis,	gr.	$\frac{1}{30}$	001
	Camphor Monobromatae,	gr.	v	30
	Mfac. capsules	no	xx	

H. H. Curtis, at American Medical Association (Section of Laryngology) recommends the following:—

R	Strychniae Arsenatis,	gr.	$\frac{1}{3}$.
	Atropia Sulph,	gr.	$\frac{1}{3}$.
	Camphor,	gr.	xxv.
	Ipecacuanhae,	gr.	v.
	(100 pills.)		

One pill from three to six times a day.

Curtis has found this especially useful in cases in which the hyperæsthetic rhinitis depends on an adynamic state of the nervous system.

Gleason recommends fresh nitromuriatic acid, 5 to 10 drops after meals.

As a powder Cohen uses the following :—

	Parts.
℞ Suprarenal alkaloid,	1
Bismuth Subcarbonat,	500
Zinci oxid,	300
Zinc Sterate,	200

Use as snuff in nose.

The antitoxine serum devised by Dunbar is still on trial. It is specific against a certain pollen, hence a special serum must be made for the pollen most prevalent in a certain region. The serum for people in this country and the United States is intended to counteract the effects of the pollen of the ragweed and golden rod, which are the most common excitants of hay fever in this country. The relief given in some cases is remarkable, while it seems to have no effect on others.

Ingalls, of Chicago, advises the use of the following spray :—

℞ Resorcinol,	gr. v.
Adrenalin Chlor,	gr. ss.
Acid Boric,	gr. xv.
Aq. Camphor, (fen)	℥ ss.
Glycerine,	℥ ss.
Aq. Dest qs ad,	℥ ii.

Sig. : Spray nose four or five times a day.—*Jour. A. M. A.*

THE INDICATIONS FOR RESECTION OF THE MIDDLE TURBINAL.

Since 1891, Dr. W. E. Casselberry, of Chicago (*Jour. A. M. A.*, July 6), has operated on 120 patients. The indications for the operations were: (1) To promote drainage and counter-drainage in nasal accessory sinus suppuration and for access in diagnosis and treatment; (2) to promote drainage and cleansing in certain types of atrophic rhinitis (atrophic ethmo-rhinitis); (3) to relieve œdematous turgescence and to provide access for the radical treatment of non-suppurative ethmoiditis and nasal polypus; (4) to suspend pressure leading to headache, neuralgia, eye symptoms and broadening of the nasal bridge; (5) to improve nasal respiration and ventilation; (6) to relieve hyperæsthesia and to diminish certain reflexes, *e.g.*, sneezing, asthmatic stimuli, etc. He attaches great importance to the middle turbinal in the treatment of empyema of the middle antrum and in a measure advocates the opening of the *middle* meatus from the antrum and removing a portion of the middle turbinal and ethmoid. One can readily follow as reasonable the removal of a *diseased* middle turbinal and opening into *diseased* ethmoid cells, but it is very difficult to see why the turbinal should be removed for any other reason.

LATENT DIPHTHERIA.

Mayer Solis-Cohen, *Jour. A. M. A.*, July 6, gives notes of twenty-seven cases of latent diphtheria, most of which were seen in his capacity of inspector of the Philadelphia Bureau of Health. He regards as diphtheria any pathological condition, local or general, due to infection by specific diphtheria organisms as defined by Williams, and applies the term latent to those forms unassociated with pseudo-membrane. His conclusions are as follows:—

(1) The prevalence of diphtheria is due to lack of control over latent cases of diphtheria and over the so-called "carrier" cases.

(2) Diphtheria may occur in a latent form without pseudo-membrane and with only slight symptoms.

(3) All cases of sore throat should be reported to the health authorities and should be examined bacteriologically.

(4) Latent cases of diphtheria should be isolated until two successive negative cultures have been obtained.

(5) Infected contacts should be excluded from work or school and should not be permitted to frequent public places until two successive cultures have become negative.

(6) All who have been in contact with a diphtheria patient, whether at home, at school, or at work, should be examined bacteriologically.

(7) Disinfection of germites and terminal disinfection of rooms and their contents is insufficient and reliance thereon is treacherous. Animate carriers of infection are more dangerous than inanimate.

In an editorial dealing with Solis-Cohen's paper, the *Journal of the American Medical Association* says: "The bacteriology of diphtheria has not yet been fully elucidated and further investigations as to the relations of the Hoffman and the Kleb-Loeffler bacilli are still in order before we can put the sanitary control of the disease on a firm basis."

THE CHOICE OF ANÆSTHETICS IN NOSE AND THROAT SURGERY.

S. J. Goodman (*Laryngoscope*, March, '07) in a somewhat extensive paper dealing with anæsthetics in all its phases, read before the Oculist and Aurists Club in Columbus, comes to the following conclusions: For brief operations, ethyl bromide is the best anæsthetic; for preliminary anæsthesia, this product is not only convenient, but it impresses one with the fact that there is less danger when the exciting stage is eliminated by

it; use. Ethyl bromide is better than ethyl chloride. Severe nausea and vomiting are seldom seen after prolonged anæsthesia when this agent has been used as a preliminary anæsthetic.

Ethyl bromide is a heart stimulant and not a depressant. This compound is absolutely safe in the hands of any man who understands anæsthesia; nothing is safe in the hands of a novice. The average time for producing complete insensibility is from thirty to sixty seconds, but seldom longer than sixty seconds.

The advantages of ethyl bromide over chloroform are: (1) It can be given with the patient in any position; (2) anæsthesia is induced very much more quickly; (3) there is no struggling; (4) a measured dose can be given; (5) it is much safer; (6) after effects are trifling or absent.

The advantages over nitrous oxide are: (1) The anæsthesia is of a better type; quieter and absence of suffocative symptoms; (2) no cumbersome apparatus is necessary; (3) the available anæsthesia is about twice as long.

The advantages over ether are: (1) Much pleasanter to take; (2) induction of anæsthesia is quicker and no struggling; (3) there is no cyanosis or secretion of mucus; (4) does not leave an unpleasant taste in the mouth or smell in the room; (5) the after effects are much less.

A DISCUSSION ON THE TREATMENT OF DEVIATIONS OF THE NASAL SEPTUM.

Sinclair Thompson (introductory paper, B. M. A.) quotes Butlin in reference to the difficulties not infrequently met with in nasal surgery, especially that dealing with the septum. "While I (Butlin) have had no difficulty at all in many cases, there have been other cases in which no kind of after treatment has seemed to be attended with success. The more one does for some patients the worse they seem to be. The difficulty of preventing adhesions, of maintaining the large passage one has made at the time of operation, of raising the valleys and keeping them up, of lowering the hills and keeping them down, etc., is enough to choke off the youngest and most stout hearted of nasal surgeons. There have been patients with nasal troubles on whom I have operated whom I have afterwards heartily wished I had never seen." Thompson has had no such difficulties since he adopted the sub-mucous resection method.

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EDITORIAL.

THE PROPOSED CONSTITUTION OF THE CANADIAN MEDICAL ASSOCIATION.

On several occasions we have directed the attention of our readers to the proposed constitution and by-laws for the Canadian Medical Association. This Association is our national one, and it behooves all to look carefully into the proposed constitution in order that no new regulations become operative that would tend to do harm to an Association that in the past has done so much good.

Article 11 of the constitution, on page 3, sets forth the objects of the Association as (a) periodical meetings, (b) the publication of a journal, and (c) the publication of transactions or papers.

The first object has been accomplished for many years. The third was once tried and it was a lamentable failure. Judging by what we know of the annual volumes issued by many State and special societies, they are not read and accomplish practically no good. Once the meeting is over, the papers heard and discussed, and read within the next few months in the journals, they cease to have any practical interest and the profession is looking forward to some other association in the near future. No one will deny the truth of this.

The second object, the publication of a journal, we have tried to show on several occasions to be a task quite beyond the reach of the Association. It must be taken for granted that practically all the journals now published will stay in the field. They will be keen competitors with the journal of the Association both for circulation and advertising. These are the only sources of revenue. The Association has no money to subsidize a journal. At the proposed price of \$5 a year nothing less than 1,500 paid subscribers would make the journal pay. This would yield \$7,500, and grant that \$2,500 be secured from advertising patronage, there would be a total of \$10,000 to meet the cost, which has been shown on more than one occasion to be at least \$10,000 for a circulation of 1,500.

But there is neither the circulation nor the advertising to begin with, and, if the journal is to be published these must be found, and at heavy cost. The bills for printing, paper, office rent, bookkeeper, canvasser, cuts, postage, reprints, commissions, travelling expenses, stenography, clerical help, delivery, salaries, etc., will come in regularly and must be met. This we have shown will total at least \$10,000 on a circulation of 1,500, and a smaller circulation will be of little use to the Association, the profession, or the advertisers.

On page 3, article v., we are told what the powers of the Executive Council shall be: "It shall elect all the officers of the Association, except the President, by ballot, and transact all the general business of the Association."

On page 6, article viii., we learn that "the general officers of this Association shall be a President, a Vice-president for each of the Provinces of the Dominion of Canada, a local secretary for each of the Provinces, a General Secretary, and a Treasurer." From the same article we learn that "the President shall be nominated by the Council and elected by the Association in general session." It is true that any five members of the Association may hand in the name of a member for an office to the Secretary; but the Council may ignore all such recommendations.

Turning again to the Executive Council, we read on page 5, article v., that "it shall consist of delegates elected by the affiliated societies or associations or branches, by the Dominion and Provincial Boards of Health and by the Canadian Medical Association as hereinafter provided for in the by-laws."

When we look up the by-laws on this matter we find that article i., sec. 3, page 12, provides that "every affiliated medical society or association shall be entitled to elect one delegate to serve on the Executive Council for its membership from fifteen to fifty; two delegates for its membership from fifty-one to one hundred and fifty; three delegates for its membership from one hundred and fifty-one to three hundred; and thereafter one delegate for every three hundred of a membership above three hundred."

Sec. 4 of the same article, on page 12, states that the Canadian Medical Association shall elect fifteen to the Executive Council.

Now our arithmetic may be at fault, but it does seem quite possible that the delegates from the various boards of health and affiliated provincial, county, and other societies might quite overshadow those directly elected by the Canadian Medical Association. As the entire destiny of the Association is under the control of the Executive Council, it might be well to move carefully at this point.

This is especially so, when one bears in mind the fact that the Finance Committee shall consist of five members of the Executive Council and chosen by it, and that it shall be a Publishing Committee. (See article ix. of the Constitution, page 7.) Thus it would seem that the management of the Canadian Medical Association might, at any time, fall into the hands of an Executive Council, the majority of whom might have nothing in common with the larger body, which it is supposed to act for; and, further, through a Finance Committee, in no way responsible directly to the Canadian Medical Association, but only to the Executive Council, a majority of whose members may represent other organizations. The Association might be committed to an expensive publication at any time. Here is a real danger, and it is for the members of the Canadian Medical Association to guard the Association against this real and imminent pitfall.

There are now many boards of health and many provincial, county and city medical societies. These might affiliate and completely control the Executive Council of the Canadian Medical Association. Never do we think the sage words of Horace were so much in order as on this occasion—*Festina lente*, hasten slowly.

DOMINION REGISTRATION.

It is with much pleasure we once more return to this subject. Among the many topics that might engage the attention of the forthcoming meeting of the Canadian Medical Association, none is of as great importance as that of a common medical standard for the whole Dominion.

On more than one occasion we have urged that all the Provinces should take steps to have the provisions of the Roddick bill put in operation. We have also contended that if a majority of the Provinces would agree to this course it might be possible to have the Act amended so as to permit of its going into force for those consenting Provinces. In course of time all the portions of the Dominion would see the advantages of the Act and then it would become general. No Province nor medical college could lose by the change in the long run.

In Britain a qualification that is good in Scotland is also good in Ireland or England, and vice versa. This is true of the various Provinces of Australia, and the movement is on foot, as we have already pointed out, to secure a common standard for all the portions of South Africa, Natal, Cape Colony, the Transvaal, the Orange River Colony, and Rhodesia would then recognize each other's diplomas. This is as it ought to be.

In the United States, the need for a national standard has been felt keenly for a long time, and the American Medical Association is doing what it can to secure this standard.

In Canada we are in a most disjointed condition. If a citizen of Ontario takes ill in another Province he finds the medical men of that Province both capable and attentive. The physicians of any one Province have no monopoly of knowledge, and why should they have a monopoly of territory?

At the Montreal meeting in 1903, Professor Osler gave an address that charmed all who heard it and all who have since read it. In that address he spoke of the Roddick bill as the means of curing the compound comminuted fracture that existed in the medical profession of Canada. As a profession we ought to be really ashamed of ourselves that a man who has a qualification which entitles him to practice in one Province cannot go to another Province without passing examinations.

The general effects of such a common standard would be excellent. A man could locate where he pleased, and the fact that he held a license from a national board would be good guarantee to the people of the community where he might settle. There would be a common minimum, to which and above which all must rise.

This change must come and the sooner the better. In the language of Goethe, *Wir heissen euch hoffen*, we bid you be of good courage.

WRONGS THAT NEED RIGHTING.

Ever and anon we must leave the transcendental in medicine and become of the earth earthy once more. No matter how altruistic the medical profession might desire to be, its members must live.

One of the perennial subjects for discussion wherever two or three are gathered together is that of lodge or club practice. Those who know anything about the conditions of the profession in Britain know how serious the club practice has been to the medical profession. In Germany it has almost wrought ruin to the general practitioner. At the present moment it is up for discussion in South Africa, and is a positive apple of discord in Australia. Here in Canada we go jogging along, doing club practice for about one-fourth of what it is worth. In many instances a doctor has to give his attendance and furnish medicines for \$1.25 per head per annum. This cannot be done, and some one must suffer. From what we have been able to learn of this business, the lodge doctors are usually conscientious and give careful attendance. This being so, it is very apparent that these doctors are far overworked for what they get, and all too soon they break down in health.

It may be all right for a certain number of persons to band themselves together to bear each other's burdens, but they should not load the lion's share upon the shoulders of the club doctor. These members should be willing to pay the doctor a fair fee, and unite themselves together to raise the requisite amount. By this method they would prove themselves true brothers to the sick members and to the doctor who gives his attendance upon them.

It is one of the proud boasts of the medical profession that no person, however poor, need go unattended in sickness. But there is a wide margin between the needy poor and a club of men joined for mutual assistance. The vast majority must always be well and able to come to the rescue of the few who may be ill. They should not ask for alms at the hands of the medical profession in the form of underpaid services. Let us soon have done with this *impedimentum*.

It is a fact known to all that the cost of living has advanced fifty per cent. during the past twenty years. There has been no corresponding advance in the average income of the doctor. Indeed, we are rather inclined to think that the average income of the doctor has been declining. The question of fees is, therefore, one of much interest to the general practitioner, as he is the one mainly concerned.

For some years there has been an active agitation in the Maritime Province to advance the fees for insurance examinations. To a very considerable extent the effort has been successful. Recently the medical men of Saskatchewan in convention decided that they would not make a full examination for insurance companies and friendly societies for less than \$5, and \$3 if no urinalysis be required.

In Ontario already one society, that of St. Catharines, has declared for a \$5 fee for insurance examinations. A short time ago the territorial association for West Toronto passed a resolution that insurance examinations be \$5, and for friendly societies \$2. In this latter fee we think the association erred in fixing it so low. The examination forms for the various friendly societies are just as lengthy and troublesome as those for insurance companies.

THE MEDICAL CURRICULUM.

That the medical curriculum for Ontario is not in a satisfactory form the frequent changes that have been made in it fully bears out. The tendency, however, is making towards a higher standard.

At the recent meeting of the Council of the College of Physicians and Surgeons for Ontario, there was considerable discussion over the fifth year. We have pointed out on former occasions that the fifth year in Ontario is very much a wasted one.

The student is forced to wait a year for the final examination after he has secured his M.B. from the University. During this year he has to make what arrangements he can to spend the time profitably. Some of these fifth year students secure appointments in hospitals, while others put in the year with doctors.

It cannot be argued that this is quite satisfactory. Students, teachers, medical men, examiners, and the Council, all recognize that there are defects in the working out of this fifth year. The Council referred the matter to the Educational Committee to report upon at the next annual meeting, when it is to be hoped some better scheme than that now in use will be recommended.

Whatever the Council should decide upon, one thing is quite clear, that the present plan cannot be allowed to go on any longer. Some definite course of study should be laid down, and some means furnished whereby this course can be carried out effectively. It is unjust to the fifth year students to demand of them a year's delay, and to establish no systematic way of spending it. There should be a regular course of study prescribed. If this were done the teaching bodies would find some way of enabling the students to carry out the work as laid down.

Much has been said about the overcrowded condition of the medical profession. This is too true, but as long as freedom of choice remains to the subject, this is likely to continue.

Quality is of more importance than quantity, and one of the ways of improving the quality, and at the same time of reducing the numbers who enter the profession, would be that of raising materially the standard of entrance. The present junior matriculation is too low. For the medical matriculation we are strongly of the opinion that there should be a special course of study.

We fail to see wherein six books of Euclid or Geometry is ever going to be of any use to a doctor. Nor can we see what possible use he can make of the algebra prescribed. He will never have any occasion to put in use his knowledge of the theory of quadratics, and many of the other sections of algebra laid down for his study. Then, again, no doctor has any need of trigonometry in his professional work. Much of the ancient history, too, is utterly valueless. It is quite true that it can be said that these subjects train the mind, but this can be said of any study.

We think the entrance examination should be high; but we also think on subjects of real use to the doctor who intends to live in this country. Those who intend entering upon the study of medicine should be required to read up a rather extensive course on English composition, grammar, literature, and history. He should know the history of his own country and the Empire thoroughly, and that splendid language in

which that history is written. Next to this he should have a good working knowledge of Latin. Much of the time that is now spent on the mathematics and ancient history would be much better spent on English literature, British and Canadian history, and Latin. The French learned for matriculation is soon forgotten and is of no practical use.

In all this matter of laying down courses of study there has been far too much of the blind following of custom and usage. Somebody thought that to be a good doctor one must have read about fifty pages of some French author and learned some French grammar. This is nonsense pure and simple!

Sydenham was a great physician in his day, but he knew no Russian; John Hunter was a great anatomist and surgeon, but he never studied Italian; Baron Larrey, of the French army, never studied Swedish; and Lord Lister did not trouble himself with Spanish. Just so our young matriculants need not be taxed with some French, which is just enough to waste a good deal of valuable time, and not enough to enable him to ask a patient a few questions in French and understand the answers.

We hope we have made ourselves clear. Have done with trigonometry, most of the geometry and algebra, and all of the ancient history and French. In lieu of these lay down a thorough course of study on Canadian and British history, on English literature, and a good working knowledge of Latin.

To have passed such a matriculation would stand to one's credit for all his life, and make him feel that he had accomplished something of real value. It would also give him that culture which would enable him to acquit himself effectively both by tongue and pen.

COMPULSORY ISOLATION.

An interesting case has been before the court in Brantford. The Health Act and the regulations of the Provincial Board of Health appear to be somewhat at variance with each other. The regulations of the Board of Health state that: "On the occurrence of the first or any case of scarlet fever in the municipality, the M.H.O. shall at once place the persons attacked in the isolation hospital, tent or other place provided under the Act, and shall take proper measures for the disinfection, or, if necessary, the destruction of all clothing, which may have been exposed to contagion."

Acting under this section of the regulations, the local health officer for Brantford compulsorily isolated a case of scarlet fever. An appeal was entered, and the contention set up that the Health Act provides that the Board of Health may isolate if it can be done without injury to the health of the patient.

Mr. J. R. Cartwright, of the Attorney-General's Department, gave out his decision that this latter is the correct position of the law, and that the Health Act governs rather than the regulations of the Provincial Board of Health.

The case was then dropped and the isolation not enforced. This decision is an important one, and bears out the position we took when these regulations were issued in the first place.

THE MANAGEMENT OF JUVENILE CRIMINALS.

At the recent convention of the chief constables of the Dominion, the following resolution was adopted with regard to juvenile courts:—

“That while this association is strongly in favor of separate trial for juveniles and their entire separation from the adult criminals, we feel that the proposed legislation and its possible effect and cost are not as yet sufficiently clear to warrant its adoption until its various provisions have been thoroughly studied and more generally understood, and that the secretary be instructed to forward a copy of this resolution to the Minister of Justice accompanied by a copy of an extract from the last annual report of the chief constable of the city of Liverpool, England.”

The extract referred to is as follows: “There is much vague talk about children's courts and probationary systems, but it is to be hoped that sentiment will not be allowed to swing the pendulum over too far. If a new influence over the rising generation is to be of any value it must as well as being consistently judicious and kind, be consistently strict and severe when severity is necessary. The treatment of offenders, though it ought to be educational and reformatory, must not altogether lose its punitive nature.

“I am not, merely, because I am a policeman, prepared to say that the divorce of the police from the probationary treatment of juveniles as it is being tried in one special case, is a mistake, but I do say that keeping the police and the administration of the criminal law for use only in cases where a probationary system fails, destroys two useful lessons which are taught by doing this work through the police, as it is done here; the first, to the poor, and especially to the children of the poor, that the agents of the law are their friends even if they do get into trouble, and the second to the police, that their preventive duties are their most important and effective ones.”

The question of how best to deal with juvenile criminals has called forth much discussion. If a juvenile criminal, waif, or stray can be brought back to honest habits and a regular method of life, and an adult criminal prevented, a very great service has been rendered the State.

Judge Lindsay, of Denver, Col., has made his court famous; but two strong objections have been urged: that it is not well that these young criminals should be led to regard the police as their enemies, and the other that they should not be coddled too much.

In Toronto these juveniles are tried by the magistrate in a separate room, with only the immediate friends of the child, the witnesses, and the counsel present. If the child has no friends the Children's Aid Society sends some one to the court.

The magistrate may decide that the child may be allowed to return home, or be taken from the custody of its home and handed over to the Aid Society to be placed out with some reliable person, or, thirdly, to be sent to the Industrial School. This system appears to have worked well in Toronto. About 1,000 are dealt with annually and none are sent to jail. The record of this court in Toronto is very gratifying and worthy of careful study by the officers of other large cities

CHILD LABOR IN BRITAIN.

While there is a universal cry going up on all sides, and from the most influential and learned sources, that the general health and vigor of the inhabitants of Britain are deteriorating, we read the following statement from the official capable of giving us reliable information:—

“Child workers, according to the annual report by the Inspector of Factories, increased last year by 29,291 to 390,869. Of these 42,613 were ‘half-timers’ under the age of fourteen years, and of this number again 23,728 were in Lancashire.

“Some of the larger thread manufacturers in Britain employ large numbers of girls sticking labels on reels, skeins and balls by licking them. Miss Squire, one of the lady inspectors, found in one case forty little girls all licking and moistening the adhesive labels by the mouth. ‘The usual quantity of labels moistened in this way by each girl is about thirty gross a day; some do more. The elder girls, aged fourteen and fifteen, had many of them been so employed for three years, but the majority had been working for about six months. The tongues of most of them had the polished tip characteristic of label-lickers, and the rest of the tongue coated with the brown gum. Many complained of the gum tasting nasty and making them feel sick at times.’”

Under such circumstances could it be expected that the general health, vigor, and stature of the British subjects would not be impaired? What could be expected of girls working under such conditions? Such a state of affairs is a disgrace to Britain, and is like a cancer eating out her vitality.

There would be no need for this child labor in Britain if the British people would reduce their drink bill. If less money was spent on intoxicants most of these 400,000 children could have been another year or two in school.

This statement is not overdrawn, as proven by the fact that the revenue to the British Government from the excise and customs duties on spirits, wine and beer three years ago was £39,341,408, which represented the consumption of over £198,000,000 in these three stimulants. This represents an annual consumption of beer, wine and spirits of the value of about \$25 for every man, woman and child in Great Britain. If Britain would only stop her drink bill, there would be less child labor and a higher standard of physical development in the people, and fewer people in her poorhouses and asylums.

Lord Rosebery saw this a few years ago, and had the courage to express his opinions.

"SALUS POPULI SUPREMA LEX EST."

There is much said at present about old age pensions, but very little about the health of those who must earn the money to pay these pensions if they are ever to be granted.

Surely the Governments of the Dominion and the several Provinces could afford to spend some of their time in discussing ways and means to lessen the incidence of sickness and death and in prolonging life. After some intelligent scheme had been devised, it could be put in operation. Lord Beaconsfield once said that "the public health is the foundation on which repose the happiness of the people and the power of a country. The care of the public health is the first duty of a statesman." There is a vast amount of instruction of the public needed, which the public, through its Parliaments, alone can undertake.

The vast numbers that are dying yearly from consumption, typhoid fever, pneumonia, infantile diseases, and from alcoholic excesses are a reproach to the country. With less sickness and fewer deaths there would be more happiness and more comforts among the people. All the attention of our legislators should not be given to royalties on mines, the wheat fields of Alberta, or the timber lands of New Quebec.

Medical men may urge these matters at their conventions, but they are addressing each other who know the importance of preventive medicine. We all know that tuberculosis is very largely a preventable disease, and yet the Government of Canada is doing nothing to prevent its spread. The value of the lives lost each year would far more than pay for sufficient sanitarial accommodation to effect isolation of the sick and thereby eliminate the disease from the country.

No bold and medical step forward has as yet been taken to stay the creation of degenerates on the one hand, and their marrying and stocking the community with their kind on the other. Much is said about horse and cattle breeding, but almost nothing about the rearing of a good human stock. Man is an animal and requires healthy parents, good food and proper housing, just as much as a horse, in order to be a good animal. Juvenal taught long ago, *mens sana in corpore sano*. It is just the same to-day.

All the revenue of the Provinces and the Dominion comes from the labors of the people. Is there anything more reasonable than that some of this should be used for the benefit of the health of the people? A wide distribution of simple literature on temperance and sanitary questions, and on the prevention of disease, would yield a handsome return for the outlay. The dividend would be so much per cent. in human lives saved and suffering avoided. This is not a bit Utopian. As Longfellow said, "Life is real, life is earnest, life is not an idle dream."

The time has come when action should be taken. Consumption, typhoid fever, pneumonia, unsanitary conditions, ignorance of child life, are slaying in this young country their tens of thousands every year. Very little attention is given to this state of affairs, because it is common. If we had a war that killed 50,000 and wounded 200,000 we would all stop and cry out for a stay of the awful scourge. But when this happens from preventable diseases we go on as if nothing had happened. Public opinion, awake from your sleep!

HOSPITALS AND THE MEDICAL PROFESSION.

Hospitals are good things. This we can all at once admit. They are increasing in numbers all over the country, and those that are in existence are steadily growing in size. It is now a recognized fact that sickness and injuries can be treated in hospitals on the whole better and more economically than in the homes of the people, especially in the homes of the poorer people.

While this is true, the hospitals should take special pains to safeguard the interests of the medical profession. In the first place, every duly qualified practitioner should have the right to attend his patient in any public hospital. Of course there can be drawn up a set of rules that will protect the hospital.

In the second place, the hospital should be a place for clinical study and practical work of a valuable character. At very moderate cost the doctors in the district where a hospital is located could arrange for a small laboratory in which examinations could be made. In this way each

hospital in the country would become a centre of postgraduate work. All cases of interest should be studied by the members of the profession in the vicinity. In this way the doctor in charge of such a case would confer a lasting favor upon his professional brethren.

The hospital should be a place for frequent meetings of the medical men of the locality. Clinical meetings should be held, cases studied and discussed, and papers read. In this way material would be put to great use and a spirit of progress developed among the doctors of the district. These little meetings are among the most valuable which medical men can hold. They afford ample scope for the best, and the more timid need not hesitate to take part in the programme. Every hospital, therefore, should be a centre of scientific work and of professional good feeling—a true *esprit de corps*.

But there is a third thing that should be a feature of the management of every hospital. It should be a place of refuge for the sick and suffering, and with a wide open door for every licensed practitioner. If the patient be indigent and the ward of the hospital for the time, it will be necessary for the hospital to provide such medical and surgical treatment as may be required, and this must be without fee. But if the patient comes in and pays his way, or, in other words, receives no charity from the municipality or the hospital, he should be allowed perfect freedom of choice as to who should attend him. This is the tendency of the age, and it must be recognized as the proper method.

One more thing. Many of the most useful books come high and soon pass somewhat out of date. In every hospital a room should be set aside as a reading room. In this the doctors of the town could meet without restriction. In this room, by a slight union of interests, there could soon be gathered a useful working library. This would become a sort of rendezvous where the doctors of the locality would foregather. This course would bring true the words of Paley, that "the great principle of human satisfaction is engagement," and also the words of Cicero, that "man has been born for two things—thinking and acting."

ILLUSTRATIONS OF DISLOCATIONS.

The Battle Chemical Company, of St. Louis, is issuing a series of illustrations of dislocations. These will be sent to any physician on a request being made for them. Several have so far been issued, each of which is of artistic finish.

PERSONAL AND NEWS ITEMS.

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ONTARIO.

Dr. Robert D. Forbes, whose home is in Stratford, has just been admitted to the Fellowship of the Royal College of Surgeons, England.

Dr. H. B. Anderson, of Toronto, and for some time editor of THE CANADA LANCET, spent an enjoyable trip to Germany.

The graduating class this year from the Western Medical College and University numbered twenty-four.

Drs. Primrose and Gibb Wishart, both of Toronto, are again well and able to resume their usual professional duties.

Dr. R. A. Reeve, Dean of the Medical Faculty of Toronto University, is now a life member of the British Medical Association.

Dr. F. N. G. Starr, of Toronto, announces that after September 1st 1907, he will devote his attention to surgery and consultations in surgery.

Dr. G. E. Seldon, formerly of Ingersoll, who has been acting as house physician, has been appointed senior house surgeon to the Salford Royal Hospital, Manchester, Eng.

Dr. R. B. Nevitt, of Toronto, has suffered from glaucoma of both eyes. He has had an iridectomy performed on each eye. His numerous friends will unite in wishing for him much improvement in his sight.

Dr. Allan Kinghorn, of Toronto, who has been in Britain for some time, has gone with the Liverpool expedition to Africa for the purpose of studying the sleeping sickness.

Dr. W. H. Moorehouse has resigned the Deanship of the Medical Faculty of the Western University. He has been succeeded by Dr. F. R. Eccles.

The site for the London Isolation Hospital has been approved of by the Board of Health. The building will accommodate 120 patients and cost \$50,000.

Dr. J. O. Orr's friends were very sorry to hear of his bereavement, caused by the death of his wife, while on a visit to Vancouver, B.C. Her death was very sudden.

Dr. F. H. Scott, son of Principal Scott of the Normal School, Toronto, received the appointment to the staff of the University College, London, England, as teacher of physiology. He is also the winner of the Gunning prize for research work.

Dr. C. H. Thomas, of Toronto, who spent some time abroad in post-graduate study, was recently admitted a Fellow of the Royal College of Surgeons of Edinburgh. He has returned and resumed his practice in Toronto.

Dr. Palmer Smith, of London, was riding on Richmond street, August 1st, when his horse took fright at a street car and fell. Dr. Smith was pinned between the pavement and the struggling horse, and his right knee was badly fractured.

There are as many cases of smallpox in Toronto at present as in the German Empire for a whole year with nearly sixty millions of people. The one is an evidence of the folly of not insisting on vaccination, and the other of the wisdom of that course.

Dr. Donald Armour, son of the late Justice Armour, has been appointed one of the lecturers on surgery at the Royal College of Surgeons, England. His subject will be the surgery of the spinal cord. It will be remembered that a short time ago he was awarded the Jacksonian Prize for his essay on surgical diseases of the cord.

A sanitarium for nervous diseases has been opened in Toronto Junction. Dr. J. H. Kellogg, of Battle Creek, was present at the opening. Drs. W. J. and F. D. McCormick, of Battle Creek, and a number of Battle Creek nurses are in charge of the sanitarium, which is in connection with the one in Battle Creek.

Dr. John L. Bray, of Chatham, will enter upon his duties as Registrar of the Medical Council with the support of the entire profession of Ontario at his back. He has been long and favorably known throughout the Province. He follows a very popular Registrar in the person of Hon. R. A. Pyne, and it is felt the office will not lose any of its prestige in the hands of Dr. Bray.

Dr. C. A. Hodgetts, secretary of the Provincial Board of Health for Ontario, says that 95 per cent. of the cases of smallpox reported to the Board were of unvaccinated persons, and of the remaining 5 per cent. very few had been vaccinated within five years. Of the twenty-five cases in the Swiss Cottage Hospital only two are of vaccinated persons, and one of these, a physician, has not been vaccinated since early life.

Dr. Reeve, of Toronto University, declared, at a temperance meeting at Exeter, that he had abstained all his life and never had cause to regret it. The President of the B. M. A., Dr. Davey, viewed the matter from a scientific standpoint, but they couldn't afford to ignore the effect of habit. He had been appalled by a sight of London women giving sugar soaked in gin to infants. The drink habit afforded scope for great effort by medical men to secure, if not total abstinence, at least sobriety.

For the past eight months a movement has been on foot to establish a hospital in Welland. Sufficient funds have now been raised to assure the project and the Welland Hospital Trust has been incorporated with the following officers: President, W. E. Phin; Vice-president, A. Griffiths; Treasurer, George C. Brown; Secretary, Dr. W. K. Colbeck. The

board has secured donations to the amount of \$10,000 and appointed a committee to have plans for the building prepared at once.

Fifty-five thousand circulars have been issued by the Department of Agriculture to be distributed among the farmers of the Province in the interests of a pure milk supply. The circular urges the importance of clean milk and cool milk, a combination insuring good cheese and butter, and more money for the farmer and the manufacturer. Directions for insuring cleanliness and quick cooling are given, also information as to the instruction and sanitary inspection of the factories and creameries, which are grouped in sections including forty or fifty each.

The report of the first annual meeting of the Canadian Hospital Association is out. The committee is to be congratulated upon its early appearance and its neat and attractive form. It contains a list of the hospitals represented, the names of those present, the officers and committees, the papers read, the leading parts of the discussions, and the constitution. The association has a useful future and should be the means of bringing these institutions and the public into closer touch with each other than has ever been the case in the past.

The fourteenth annual report of the work for the aid of neglected children has just appeared. All concerned in this work are to be congratulated on the results of their efforts for these unfortunate children. This report differs from so many official reports in the fact that *it makes interesting reading*. It is full of useful information on the many phases of the subject of saving these neglected children for the State. This report should not be thrown aside when it is received, but studied. It tells of splendid work well done.

The second number of the *Bulletin of the Toronto Hospital for the Insane* is to hand. It is full of useful information regarding the insane, and it is to be hoped the medical profession will read the issue carefully. According to the *Bulletin of the Toronto Asylum*, we learn that sixty years ago Ontario had only two or three scattered houses in Toronto for the care of the insane. Now the following exist: Toronto, 850; Hamilton, 1,100; London, 1,050; Mimico, 650; Rockwood, 625; Eastern Hospital, 675; Cobourg, 150; Penetanguishene, 250; Orillia for Imbeciles, 800; and Woodstock for Epileptics, 180, or a grand total of 6,280. Instead of the old-time restraints and guards, the patients are attended by male and female nurses, and are treated as if they were invalids by means of baths, packs, etc. This is making progress.

QUEBEC.

Dr. J. A. Rouleau has been named Inspector of Anatomy in place of Dr. G. E. Roy.

Dr. Wilkins, professor of histology, has asked to be released from his work, giving as a reason his advanced years.

Dr. H. S. Birkett, of Montreal, was elected President of the American Laryngological Association for the coming year. This is high honor for our Canadian specialist.

At the recent meeting of the Medical Society of St. Hyacinthe it was agreed that the examination for friendly societies be \$2. A committee was also appointed to frame a tariff of fees.

The treasurer of the College of Physicians and Surgeons of Quebec reported that the funds on hand amounted to \$4,592. Dr. Marsolais reported that there were 1,715 medical men registered in the Province.

Judge Lafontaine and others are putting forth an effort to secure a "Students' Home" for Laval University. It is intended for all the faculties.

The Montreal Medico-Chirurgical Society elected the following officers: Dr. Wesley Mills, President; Dr. J. Alex. Hutchison, Vice-President; Dr. A. H. Gordon, Secretary; Dr. A. T. Bazin, Treasurer; Dr. J. A. MacDonald, Trustee.

The graduates from McGill this year numbered seventy-four. Of these 21 were from the Maritime Provinces, 20 from Ontario, and 16 from Quebec. This shows that McGill draws most of her students from outside her own Province.

A short time ago a man was beaten in Montreal until he became unconscious. The jury recommended that in every case where a person was found in an unconscious condition the police should at once send for a doctor.

The Governors of the College of Physicians and Surgeons of Quebec have tried to secure reciprocity with Britain, but so far have not been successful. It would appear that an important amendment to the Quebec law shall be necessary to secure this.

"Look at the poor children he and others are sending to the cemetery," was the reproof employed by Mr. Recorder Dupuis, of Montreal, when counsel for Louis Kutzman, milkman, of 216 St. George street, asked for clemency for his client, saying, "this is a poor man, your Honor." Kutzman was charged, in the words of the complaint, with selling milk, "the vehicle for contagion or infection, inasmuch as the mixer, cans and measures employed were dirty." Mr. Recorder Dupuis further told Kutzman that he was letting him off easy. "Cases such as yours," he said, "will in future be dealt with in such a way that the offenders will suffer the utmost severity of the law." Kutzman was fined \$20 and costs or one month in jail.

MARITIME PROVINCES.

Dr. Malcolm, of Fogo, Newfoundland, died at his home there, where he had practised for twenty years.

The officers of the St. John Medical Society for the year are: Dr. T. H. Lunney, President; Dr. C. M. Pratt, Vice-President; Dr. J. S. Bentley, Secretary; Dr. James Christie, Treasurer; Dr. G. G. Corbett, Financial Secretary; Dr. Wm. Warwick, Pathologist, and Dr. W. F. Rowley, Librarian.

At the July meeting of the Medical Society of Nova Scotia, the following resolution was almost unanimously passed: That the Nova Scotia Medical Society endorses the action of the Lunenburg-Queen's Medical Society in accepting, for the present, the compromise with the Canadian Life Officers' Association in setting a level fee of \$4 for old line life insurance examinations."

WESTERN PROVINCES.

Dr. Little, of Alexander, Man., has sold out his practice to Dr. John H. Conklin.

The Medical Act of Alberta has been declared *ultra vires* by the Supreme Court of Canada.

For the Provincial University of Alberta, which is to be located at Strathcona, a site of 258 acres has been purchased at a cost of \$150,000.

The work of securing a sanitarium for consumptives for Manitoba is being pushed forward. It is hoped that a site will soon be secured.

Dr. Ralph T. Maclaren, Moosomin; Dr. Gilbert Robertson, Stoughton, and Dr. J. H. Cole, Gull Lake, have been appointed coroners.

Souris, Manitoba, has felt the need of a hospital for some time, and will erect one this year.

The foundation stone has been laid by the Lieutenant-Governor of Manitoba for a hospital at Selkirk.

Dr. J. H. Conklin has taken over the practice of Dr. Little at Alexander, Man.

Dr. Rush, of Vegreville, Alta.; Dr. Mulvey, Edmonton, and Dr. R. M. Simpson have gone to Europe.

Judging by the reports of the Calgary Medical Society, it is doing good work. The papers are of an interesting and able character and the discussions lively. Good papers produce a good attendance.

The death of a boy from sucking fireworks and several suicides from drinking carbolic acid, have induced the Winnipeg authorities to place phosphorus and carbolic acid on the list of certified poisons.

In Regina a sanitary law has been passed calling for bread to be delivered covered by a special paper, and that fruit must not be exposed for sale on the streets and sidewalks.

The Provincial Board of Health has placed a supply of antitoxine at the disposal of the Medical Officer of Health. It is supposed that it shall be used only for the indigent and those requiring immediate treatment.

The Alberta Provincial Board of Health is composed of Drs. Mewburn, Corbett, Lafferty, Owens, and Irving. Dr. Irving is to act as secretary.

Dr. H. P. H. Galloway has been appointed to the position of orthopedic surgeon to the Winnipeg General Hospital. Dr. Galloway will receive the congratulations of his many Toronto friends.

The new hospital at Calgary is to cost about \$140,000. It will furnish wards for maternity cases, a building for isolation work, and a good nurses' home. The hospital is to be a stone and brick structure.

The Grey Nuns who took over the management of the Park Sanitarium at Regina, have now opened it as the Regina Hospital. It has accommodation for about 30 patients.

The births in Winnipeg for the month of June were 235 and the deaths 93. For six months, ending 30th June, the births in Brandon were 127 and the deaths 92, and in Edmonton the births were 69 and the deaths 19.

The Board of Governors of the General Hospital in Calgary has decided to discontinue managing the Isolation Hospital, as the city did not make the allowance for its maintenance agreed upon. The city must in future take charge of the Isolation Hospital.

Last year the Winnipeg General Hospital treated 2,255 patients at a cost of \$59,181. There are 152 public beds, 63 semi-private, and 31 private. They are urging additional accommodation and that the city should increase its grant from \$30,000 a year to \$40,000.

Dr. Stewart Mackid has settled at Calgary; Dr. May at Foxwarren; Dr. Mackay, of Winnipeg, at Rapid City; Dr. H. S. Maukham at Vegreville; Dr. R. C. McGee at Nepinka, Man.; and Dr. Linehame at Dauphin, Man.

A short time ago, a patient in the Misericordia Hospital, at Edmonton, made his escape from a window in the third story and was walking along on a stone cornice a foot wide. Every effort which was made to induce him to return to his ward failed. At last he was shown a bottle of whiskey and with this he was coaxed in again.

Considerable difficulty has arisen over the decision of the Supreme Court of Canada declaring the Medical Act of Alberta *ultra vires*. Between the passing of the Act and the handing out of the judgment a

number of medical men registered in the Province. These medical men may now have to pass an examination and register a second time.

At a meeting of the Saskatchewan Medical Association, held at Prince Albert, the following officers were elected: Hon. President, Dr. J. W. Kemp; President, Dr. W. A. Thomson; Vice-Presidents, Dr. W. Hall and G. H. Munro; Secretary-Treasurer, Dr. G. A. Charlton; Executive Committee, Drs. A. B. Stewart, H. A. L. Reid, and T. M. Leask. The meeting in September will be held in Indian Head. A committee was appointed to report on the matter of a tariff. At a later hour the committee reported that the fee for examinations for insurance and friendly societies should be \$5, and if the urinalysis be omitted, \$3. This was adopted. The Rev. Dr. Wm. Moore, of Ottawa, addressed the meeting on the topic of preventing consumption among the Indians. The members were the guests of Mr. and Mrs. Galbraith in the evening.

BRITISH COLUMBIA.

Dr. Tunstall, of Kamloops, has gone for a trip to Japan.

Dr. and Mrs. Gordon Cummings have decided to settle in Vancouver.

Medical men in the vicinity of Nelson, B.C., are discussing the advisability of forming a medical association.

The Asylum for the Insane at New Westminster had on 30th June 406 patients, 297 males and 109 females.

Dr. W. G. McGuigan, of Vancouver, was seriously ill for some time in St. Paul's Hospital in the city.

Dr. Frank Hall, of Victoria, is spending a few months in Britain and on the Continent.

Dr. and Mrs. Riggs, Vancouver, have returned from their trip to Britain, which they enjoyed very much.

Dr. Fagan, who has taken so much interest in the work of a sanitarium for consumptives in British Columbia, has recommended the site at Fish Lake, Kamloops.

There will soon be a maternity section and a nurses' home in connection with the Royal Columbian Hospital at New Westminster. The need for these have been keenly felt.

The funds for the British Columbia Sanitarium for Consumptives are steadily growing. The amount now subscribed is \$60,000. Dr. Fagan is spending some time on the mainland in the work.

Dr. R. H. Carter, of Victoria, has been spending some time in post-graduate work in the Eastern States, and has now gone for further study to Europe.

Dr. and Mrs. Gibbs, of Victoria, have gone to Vienna, where the doctor will take up post-graduate work, and Dr. and Mrs. Baucher, of Vancouver, have gone for a holiday to Germany.

Hon. Dr. J. S. Helmcken, of Victoria, a short time ago celebrated his eighty-second birthday. He was educated at Guy's and came to this country as an officer of the Hudson Bay Company. He was Speaker of the first Legislature of British Columbia in 1855.

In Vancouver from 1st January to 30th June there were 367 marriages, 559 births, and 435 deaths. The largest number of the deaths was due to accidents, heart disease, consumption, pneumonia, children's diseases, and stillborn.

The work of the Royal Jubilee Hospital at Victoria has increased very rapidly. Dr. Hassell, in his report, urges the need for more private wards, a diet kitchen, accommodation for chronic cases, a maternity ward, an x-ray apparatus, and an assistant resident physician.

Dr. Underhill, the Medical Health Officer for Vancouver, has advised that an assistant be appointed with authority to examine dairies, milk, etc. He also recommends that the public schools should be medically inspected. He has also formulated a complete set of rules for the scavenging system of the city, with the view of rendering its sanitary condition as near perfect as possible.

FROM ABROAD.

Andrew Carnegie has deposited in the Bank of England \$500,000 as a contribution to the King Edward Hospital Fund.

An Act has passed the Indiana State Legislature making it lawful under certain conditions to render sterile confirmed criminals, idiots, imbeciles, and rapists. The operation must not be performed unless the person is pronounced unimprovable.

The King Edward Hospital Fund for London is doing excellent service to the hospitals of that great city. Annually the Fund is distributing about £100,000. A council has been appointed to advise on the expending of the Fund.

Professor Emmanuel Mendel, of Berlin University, died recently at the age of 67, of general arterio sclerosis. He was a very eminent neurologist and authority on psychiatry. He was an extensive writer on mental and nervous diseases.

In some studies on the influence of the common house fly in spreading disease, it has been shown that typhoid fever has been caused by milk that was contaminated by flies that came direct from a closet, and that they carried on their bodies the bacilli of Eberth.

A Transvaal Medical Union has been formed, of which the objects are set forth as follows: "(a) The protection of members in their professional capacity; (b) the regulation of contract medical practice; (c) all other matters affecting the general welfare of the profession."

The Transvaal Medical Council at a recent meeting passed a strong resolution calling upon the Government to take action to restrain the quackery going on in the country by the sale of electric appliances and certain remedies vaunted to cure serious diseases.

Mrs. Russell Sage has given \$300,000 to endow an institute in connection with the City Hospital and City Home on Blackwell's Island, New York. In doing this she has made a wise use of some of her wealth and has set a good example to other wealthy people. This gift will place the laboratory of the above charities on a sound footing.

The Miami Presbytery, in convention at Covington, Ohio, and the Presbytery of Lima, Ohio, have adopted strong resolutions calling upon religious papers to refrain from advertising patent medicines, and inserting reading matter of a flagrantly exaggerated character. Several other presbyteries have adopted similar resolutions.

The Association for the Care of the Feeble-minded in Britain is making progress. An appeal has been issued, under the patronage of Princess Christian, for funds to establish an industrial colony for the feeble-minded, and already £1,200 has been received. It is proposed to teach the inmates useful trades.

A very successful meeting of the Society for the Promotion of School Hygiene for Switzerland was held recently at St. Gall. The leading feature of the meeting was the hygiene of the teaching staff. It was urged that a small *vade mecum* should be issued for the guidance of teachers.

John Graham Brooks, of Boston, a writer on social problems, holds that the increased cost of living in cities, where so many must reside, is the cause of the decrease in the birth-rate. The cost of bringing up children limits the size of families, in his opinion, far more than all other causes.

Sir William Church, ex-President of the Royal College of Physicians, London, remarked lately, when addressing the committee of the Imperial Cancer Research, that the probability of dying of cancer for men over 35 was one in twelve, and for women one in eight, whereas twenty years ago it was one in twenty-one and one in twelve respectively. This shows marked increase.

The fifth annual meeting of the Imperial Cancer Research Fund was held in London on 1st July. The Prince of Wales presided. Sir W. S. Church gave an account of the year's work, showing that much progress

had been made in the study of cancer. It was announced that Mr. and Mrs. Bischoffsheim had donated to the fund \$200,000 (£40,000) in celebration of their golden wedding.

Our contemporary, *The Antiseptic* (India), in its June issue deals vigorously with the foolish restrictions on the sale of cocaine under a doctor's prescription, while the sale of other poisons is not restricted in this way. If our contemporary was in this country the anomaly would be noticed of regulations for the sale of poisons which can be evaded by selling these poisons in the form of patent medicines.

The London, Eng., County Council has made the notification of cerebro-spinal fever compulsory. The Council decided last March to introduce compulsory notification for a period of six months, but has now extended the time for two years additional. This will enable the health authorities to thoroughly study the disease and its method of spread, as well as doing much towards its prevention.

The Australian Government has issued orders regarding the importation of medicines ready for use that they be submitted to public analysis if their composition be not already known. A list of drugs of a poisonous nature are given. If any preparation contains any one of the list, the exact amount must be clearly given. It looks as if the time is coming when proprietary medicine men will not sup with so large a spoon.

By the death of Professor Graucher, of Paris, France loses one of her ablest physicians. He always took a deep interest in everything that made for the elevation and benefit of the people. He was one of the most active of French physicians in the movement to lessen the ravages of tuberculosis. He was with Pasteur when the first inoculation was made for the cure of hydrophobia.

From the *Medical Times* we learn that Dr. L. F. Barker, of Johns Hopkins, advocates mastication until the food is practically dissolved before swallowing. By this use of Fletcherism the obese become thin and the thin stouter. Those with too great an appetite drop to normal and cease overeating, while those with a faulty appetite acquire a better one. This thorough chewing evens the appetite and causes complete digestion of the food, so that the fat lose weight and the lean gain.

The new immigration law for the United States came into operation 1st July. The head tax is raised on all aliens from \$2 to \$4. The law excludes imbeciles, the feeble-minded, those suffering with tuberculosis, those who are mentally or physically defective so as to interfere with their earning a living, and all who have an immoral purpose in view. Such regulations will do much to accentuate the necessity of being in good health.

During the last week in July a medical meeting was held at Aintab, Turkey. This is the first medical meeting ever held in Turkey. The object of the meeting was mainly to spread the gospel of preventive medicine, as the death rate in Turkey is very high. The standing of the medical profession throughout the country is also low, and many have no qualifications at all. An organization of the medical men of the country will do something to correct this.

The Public Health League of the United States has as its objects the following: (1) To combat quackery, (2) prevent food and drug adulteration, (3) prevent indecent advertising, (4) advocate a national department of health, (5) prevent the sale of narcotics and alcohol in patent medicines, (6) spreading knowledge of public health questions, (7) assist the authorities in carrying out health regulations, and (8) to co-operate with any other similar society.

The long hours of railway employees are coming in for severe condemnation in Britain. The *Medical Press* of 3rd July points out that in three instances of injury the men had been on duty $13\frac{1}{2}$, $14\frac{1}{2}$, and 16 hours respectively. A fireman who was killed had been on duty 17 hours. Another employee had been on duty $23\frac{1}{2}$ hours. No wonder that these men were neither able to take care of themselves nor others. Their brains failed to work any longer.

The *British Medical Journal* for July 6 gives the composition of a number of "obesity cures." "Antipon" contains some 39 grains of citric acid to the ounce. The Russell's Anticorpulent Preparation contains about 37 grains of citric acid and a quarter of a grain of iron and ammonium citrate to the ounce. A certain obesity "paste" consists of oxide, beeswax, lard, oil, and carmine. The J. Z. Obesity Tablets are composed of sulphur, ginger, sugar, and gum acacia.

In discussing the subject of preventive medicine, the *Therapeutic Gazette* of 15th July directs attention to the pollution of the oyster beds by sewage, and how serious this may prove in the spread of typhoid fever to great distances. The journal also refers to the extremely unsanitary condition under which many bakeshops are conducted. It has been shown that the baking is carried on in rooms where there are water-closets.

In a paper read before the Academy of Medicine, Paris, Dr. Delorme pointed out that syphilis and all venereal diseases were three times as frequent among civilians as in the army and navy in the same number of persons. This he thought was due to the prevalency of clandestine prostitution among civilians, where there was no protection against these diseases. He urged that the crusade against syphilis should be continued. Professor Fournier concurred in the need for legislation to regulate prostitution.

The committee appointed by the Chicago Medical Society to consider the subject of criminal abortion, has reported. The committee has been very successful in its efforts. It interviewed a number of the leading newspapers, which at once agreed to discontinue all advertisements of this class. The other papers which did not voluntarily agree to this course were brought to time by the efforts of the committee with the officers of the law, who notified these papers that if they inserted such advertisements they would be cut off from the postal privileges of the country.

In a recent issue of the *Review of Reviews*, Dr. J. J. Cronin has a very timely article on school inspection. Of 92,240 children examined, 65 per cent. were in need of medical care. No less than 30,958 suffered from errors of refraction, and a larger number had bad teeth. About the same number had enlarged cervical glands, while 20 per cent. had hypertrophied tonsils, and 10,000 had adenoids. Of the backward children some 95 per cent. had adenoids, and a very large percentage of truant children suffered from physical defect which rendered school life disagreeable or painful. The children who leave school early are usually defective in some way.

At the meeting of the British Association at Exeter, Sir Victor Horsley proposed a motion urging the Government to institute in connection with the medical inspection of school children a system of periodic measurement. Some astonishing instances of results of successful measurements were given at Marlborough. For twenty years the boys have been annually measured, and from a comparison of figures it appears that in 1906 boys fourteen years of age were about five pounds heavier and nearly one and one-half inches taller than those of the same age in 1886. The sixteen-year-old boys of the present date keep up in proportion, being three-quarters of an inch taller and eight pounds heavier.

Dr. John Tatham, Registrar-General of Births, Deaths and Marriages for Great Britain, has recently issued his report. He points out that the birth rate has declined during the past forty years, and that this influences the death rate, as many deaths occur during the first year of life, a lowered birth rate would lower the death rate. Notwithstanding this he concludes that the death rate has declined in forty years by 16.3 per cent. There is much difference in localities in the infantile mortality. In some parts of the country it is 10 per 1,000 of the births, while in other places it is still very high. The health of the adolescent has markedly improved of recent years. Consumption has decreased from 3,457 to 2,010 per million. The expectation of males is now 44.13, and of females 47.18. Cancer has more than doubled.

OBITUARY.

JAMES VENABLES, M.D.

At his home in Halifax, on 4th July, 1907, Dr. James Venables died in his sixty-eighth year. He was a graduate of Harvard, from which he obtained his degree in 1867. He had been in continual practice in Halifax all his life. He leaves a widow and family.

A. A. FRANKLIN, M.D.

Dr. Franklin, of Brockville, in his thirty-sixth year. He was a graduate of the Western University, London, of the class of 1894, and had been located for some time in Chicago.

G. MADORE, M.D.

Dr. Madore died at Prince Albert after an illness of some duration due to heart trouble. He had been a surgeon to the North-West Mounted Police for some years.

JAMES BRIEN, M.D.

The death of Dr. James Brien came as an indirect result of the explosion at Essex, on 12th August. He was lying on a sick bed at the time, and the doctors say the shock resulted in hastening his end. Dr. Brien was born in Kent county in 1848. He was a prominent citizen and the Police Magistrate of Essex. He enjoyed a very large practice for many years.

BOOK REVIEWS.

DISEASES OF THE STOMACH.

By Dr. I. Boas, Specialist in Gastro-enteric Diseases in Berlin, Germany. The solo authorized English-American edition from the latest German edition. By Albert Bernheim, M.D. (Freiburg, Germany), Assistant to the late Dr. D. D. Stewart at the Philadelphia Polyclinic Hospital and Post-graduate School, as Instructor in the Department of Diseases of the Stomach and Intestines, etc. etc. Appropriately illustrated, with five full-page plates and sixty-five engravings in the text. 730 royal octavo pages. Extra cloth, \$5.50 net; half morocco, \$7.00 net. Sold only by subscription. F. A. Davis Company, Publishers, 1914-16 Cherry street, Philadelphia, Pa.

Dr. Boas has an international reputation on diseases of the stomach and intestines. The present volume deals with the diagnosis and therapeutics of gastric disorders. It may be said at once that this is a work of the highest authority, and should be in the library of every physician. To have this book is to be in possession of one of the best books on the subject. Every subject is treated with peculiar skill, and due attention given to all the diseases of the stomach. The author has been a painstaking student of the pathology and therapeutics of this organ, and has, therefore, the experience requisite to give each disease its proper attention. We can recommend this book as one of the very best we have ever reviewed.

COD LIVER OIL, AN EXPERIMENTAL STUDY.

A Comparative Study of the Influence of Cod Liver Oil and Cod Liver Oil Emulsion upon the Nutrition of Normal and Tuberculous Pigs, by J. W. Wells, M.D., D.P.H., F.C.S., Manchester. At the University Press.

This is a small book which sets forth the results of much experimental work on pigs, with and without tuberculosis. As the result of these researches the author concludes (1) that pigs gain weight when cod liver oil is added to their diet; (2) that this gain is more rapid when the emulsion is used containing glycerine and hypophosphites of lime and soda; (3) this is true of tuberculous as well as non-tuberculous pigs, and that the emulsion restrained the disease for a long time. The effects of the use of the emulsion are: (1) Production of fibrous tissue in the stroma and capsule of glands; (2) well marked evidence of calcification; (3) reduction in the number of tubercle bacilli. We must congratulate the author on these researches, as they lay a solid foundation for our belief in cod liver oil, and especially when it is combined with the hypophosphites.

DISEASES OF INFANCY AND CHILDHOOD.

Their Dietetic, Hygienic, and Medical Treatment.—A Text-book designed for Practitioners and Students in Medicine. By Lous Fischar, M.D., Visiting Physician to the Willard Parker and Riverside Hospitals, of New York City; former Instructor in Diseases of Children at the New York Post Graduate Medical School and Hospital, etc., etc.; Fellow of the New York Academy of Medicine. With 303 Text Illustrations, several in Colors, and Twenty-seven Full-page Half-Tone and Color Plates. 979 Royal Octavo Pages. Extra Cloth, \$6.50, net; Half-morocco, \$8.00, net. Sold only by subscription. F. A. Davis Company, Publishers, 1914-16 Cherry Street, Philadelphia, Pa.

The reviewer's duty in commenting on such a work as this is certainly a pleasant one. The work before us is one of undoubted merit. The entire field of children's diseases is fully discussed, and very careful and explicit instructions given. Such a work as this is a most valuable one to have at one's command for reference. In the routine of daily practice the need for such a work is constant. The resort to this work will not prove disappointing in any way. We can most cordially recommend the work.

MISCELLANEOUS.

CANADIAN MEDICAL ASSOCIATION.

Regarding the transportation rates, Montreal meeting, 11th to 14th September, the following information should be noted:—

The standard convention certificate plan will prevail for this meeting, and all delegates when purchasing first-class single transportation to Montreal for themselves, their wives or daughters (no others) must get from the ticket agent at the same time a standard convention certificate, which, when vised at Montreal, will entitle holders to return free if three hundred are present holding these; one-third if fifty or over. Everyone should, therefore, endeavor to make one of these three hundred, so as to provide for free return transportation.

British Columbia points.—The Canadian Pacific Railway will apply rate of single fare on certificate plan to Montreal and return, tickets to be sold and certificates issued on September 1 and 2, and validated certificates honored for tickets for the return journey up to and including October 9th. Tickets good for continuous passage only in each direction.

Manitoba, Saskatchewan and Alberta.—On Canadian Pacific and Canadian Northern, tickets to be on sale 5th, 6th, 7th, and 8th September west of Port Arthur, and to be honored at Montreal up to and including the 11th of October. If Lake route used in one direction, \$4.25, both directions, \$8.50 extra.

Ontario, east of Port Arthur, and Quebec, and Maritime Provinces. —Tickets for sale on the 7th and 8th September; final purchase at Montreal September 10th. Passengers going rail and returning R. and O. Navigation Co., or vice versa, rate to be one and one-half fare, Toronto or Kingston to Montreal. Tickets will also be honored via R. and O. Navigation Co. on presentation of rail excursion tickets to the ticket agent at Toronto, or to the purser on board steamer and payment of the following arbitraries, viz., \$6.65 Toronto to Montreal, \$5.50 Kingston to Montreal.

Between Port Arthur and Halifax, the C.P.R., G.T.R., C.N.R., Intercolonial, and R. and O. Navigation Co. are included in the arrangements.

THE DOCTOR.

The following poem was written by James Whitcomb Riley in memoriam of Dr. W. B. Fletcher, of Indianapolis (who died April 25), and was published in the Indianapolis *Morning Star* on the day of the funeral.

THE DOCTOR.

“He took the suffering human race;
 He read each wound—each weakness clear—
 And struck his finger on the place
 And said, ‘Thou ailest here—and here.’”
 —Matthew Arnold.

We may idealize the chief of men—
 Idealize the humblest citizen—
 Idealize the ruler in his chair—
 The poor man, or the poorer millionaire;
 Idealize the soldier—sailor—or
 The simple man of peace—at war with war;—
 The hero of the sword or fife-and-drum. . . .
 Why not idealize the Doctor some?

The Doctor is, by principle, we know,
 Opposed to sentiment; he veils all show
 Of feeling, and is proudest when he hides
 The sympathy which natively abides
 Within the stoic precincts of a soul
 Which owns strict duty as its first control,
 And so must guard the ill, lest worse may come. . . .
 Why not idealize the Doctor some?

He is the master of emotions—he
 Is likewise certain of that mastery—
 Or dare he face contagion in its ire,
 Or scathing fever in its leaping fire?
 He needs must smile upon the ghastly face
 That yearns up tow'rd him in that warded place
 Where even the saint-like Sisters' lips grow dumb.
 Why not idealize the Doctor some?

He wisely hides his heart from you and me—
 He hath grown tearless, of necessity—
 He knows the sight is clearer, being blind;
 He knows the cruel knife is very kind;
 Ofttimes he must be pitiless, for thought
 Of the remembered wife or child he sought
 To save through kindness that was overcome.
 Why not idealize the Doctor some?

Bear with him, prayerful, in his darkest doubt
 Of how the mystery of death comes out;
 He knows—he knows—aye, better yet than we,
 That out of Time must dawn Eternity;
 He knows his own compassion—what he would
 Give in relief of all ills, if he could.
 We wait alike one Master—He will come.
 Do we idealize the Doctor some?

—*Jour. A. M. A.*

MEN OF SCIENCE AND ALCOHOL.

The battle goes on over the question of the value of alcohol. Sir James Crichton-Browne raised it the other day at the annual dinner of the Medical-Psychological Association. He took the company present as an object lesson in support of his views as a friend of alcohol.

With the friendly assistance of the manager of the dining-room where the dinner was held, Sir James made a careful record of what they individually and collectively drank. Then when he proposed a toast to science he sprung the result of his observation with the following remarks:—

“We have at this table many of the highest authorities in the country on the alcohol question. The medical superintendents of lunatic asylums, who see much of the evil of alcohol, are strenuous advocates of temperance and have supplied teetotalers with some of their strongest arguments. I thought, therefore, that it would be interesting to ascertain

how far they have adopted the extreme views on the alcohol question which are now being promulgated.

"There are now at this table eighty-four members of the association. Of them 6 per cent. have declined alcohol, although all the rest, 94 per cent., have partaken of alcohol in some form, and a large majority in several different forms. I dined a fortnight ago at Sir Andrew Noble's table with eighteen of the leading men of science of the day, from the venerable Lord Kelvin down, and not one of them declined alcohol.

"These are facts," added Sir James, "and in view of such facts it would be a farce or obsession or gross hyperbole to speak of alcohol as a deadly poison. Those who declared alcohol to be a deadly poison should also state that we constantly carry about in our bodies more deadly poisons or toxins, but these human poisons are harmless and may be beneficial so long as they are kept in their right places, and our great aim should be to keep alcohol in its right place."

NORTH-WEST LICENTIATES.

The following is the list of those who passed the examination of the College of Physicians and Surgeons, North-West Territories, at Regina and Calgary: J. W. Auld, Calgary, Alta.; W. Allen Bapty, Langdon, Alta.; J. T. Brander, Ponoka, Alta.; A. D. Calbeck, Hardisty, Alta.; R. G. Duggan, Hamilton, Ont.; C. Houston, Stettler, Alta.; A. E. Kelly, Swift Current, Sask.; C. Learn, Claresholm, Alta.; F. H. Mayhood, Calgary, Alta.; H. G. Taylor, Bankhead, Alta.; H. A. Stewart, Saskatoon, Sask.; D. W. Gray, Bowden, Alta.; R. L. Hutton, Hague, Sask.; J. H. Storry, Tuxford, Sask.; Roy D. Nasmyth, Sedley, Sask.; William McLeod, Kisbey, Sask.; H. D. McLean, Lang, Sask.; W. B. Cassels, Brandon, Man.; A. N. Hardy, Tyvan, Sask.; R. Stipe, Milestone, Sask.; A. C. Phillips, Indian Head, Sask.; K. C. Cairns, Lumsden, Sask.; J. H. Code, Gull Lake, Sask.; J. H. Galloway, Glen Ewen, Sask.; Alex. Mitchell, Macoun, Sask.; A. R. Munroe, Langham, Sask., and C. W. Doran, Saskatoon, Sask.

THE UNITED SERVICES MEDICAL SOCIETY.

The first meeting of the Council of the newly formed United Services Medical Society was held on May 30th. It was decided that meetings be held at the Royal Army Medical College at 8.30 p.m. on the second Thursday in each month, commencing on October 10th, 1907; that the annual subscription be 5 shillings, payable in advance; and that a noti-

fication of the formation of the society accompanied by an invitation to join he sent to all medical officers on the active lists and to those on the retired lists whose addresses can be discovered. Should any medical officer on the active or retired list of the Navy, the British and Indian armies, or the auxiliary and colonial forces not receive an invitation the Council hope that, if desirous of joining the society, he will communicate with one of the Honorary Secretaries, Fleet Surgeon W. W. Pryn, R.N., "Tredown," 25 Idmiston road, West Norwood, S.E., or Lieut.-Col. C. H. Melville, R.A.M.C., Royal United Service Institution, Whitehall, S.W.

LORD LISTER AND THE FREEDOM OF LONDON.

More than a century ago the Corporation of London presented the Freedom of the city to Dr. Jenner in recognition of his great work for the prevention of small-pox. In conferring the same honor on Lord Lister a few weeks ago, the Corporation expressed its appreciation of the bearer of another great name whose work marks an epoch in the history of preventive medicine. Speaking on the occasion, Sir Joseph Dimsdale, the City Chamberlain, said: The treatment of disease—the safety in operations—and the careful and tender nursing of the patient are a few of the many developments of our time, and throughout this period Lord Lister has held a foremost place and has been recognized as one of the greatest and most prominent among surgeons. But it is not only as a great surgeon he is known. He is equally a great scientist, and it is by blending his antiseptic treatment with modern surgery that he has made possible so much that has—until lately—been impossible. He stands out as one who has been instrumental in assuaging suffering, lessening disease, and, under God's blessing, prolonging and saving numberless lives. Few are permitted to see the full fruition of their lofty aims and aspirations, but it is with sincere pleasure we greet Lord Lister in this ancient Guildhall, and rejoice to feel that he is able to enjoy the honors conferred upon him by his Sovereign, to be the recipient of universal expressions of esteem and admiration of his work from all seats of learning; while eulogiums from every quarter of the globe proclaim the appreciation the world in general feels for his life-long labors. While they fully recognize his great work, probably the trait that touches the hearts of his fellow countrymen most is his abnegation of self, and his humble-mindedness, which, amid all his triumphs, recognizes that it is under Divine blessing he has achieved so much. The name of Lister requires no embellishment, nor is the sculptor's art needed to perpetuate it in posterity. As long as humanity exists, as long as kind and sympathetic hearts beat in the breasts

of mankind, as long as the human race is capable of estimating the worth and value of the truly great and good, so long will the name of Lister live, and the memory of him who bears it remain enshrined and held in affectionate reverence by succeeding generations. Three-quarters of a century ago there lived in adjacent houses at Upton, in Essex, two Quakers, Joseph Jackson Lister and Joseph Dimsdale, my grandfather. A dear relative of mine still living, can well remember "little Joseph Lister" as a playmate. The "little Joseph Lister" of those days is the great Lord Lister to whom we pay just and heartfelt honor to-day.

THE DOCTOR AND THE AUTOMOBILE.

Physicians and professional men generally have found the automobile of the utmost benefit. In the first place, a doctor with a large practice saves expense, for a motor car can do all the work necessary day or night where two or three horses would ordinarily be required. Then, again, with an auto always at his command, the doctor finds he is able to cover his round of visits, increase his practice, and at the same time have leisure for other pressing affairs.

An automobile is ready at any time you require it. It is not necessary to keep a coachman standing outside of your patient's door. It is true that a chauffeur is advisable, but still he is not by any means necessary, and if a chauffeur is unavailable, the doctor can easily run his own car.

Attention is called to the advertisement of the Chatham Motor Car Co. in this issue. The Chatham Motor Car Co. of Chatham, Ont., are an all Canadian concern, manufacturing the "Chatham" motor car. The "Chatham," it is stated, has points of advantages over American cars. It is not over weighted and therefore easy on tires, and again has all the power necessary for any purpose. The "Chatham" motor car, with its four-cylinder 25 horse power engine, and seating five, is quite equal in finish, construction and durability to many imported cars, averaging upwards of \$5,000.00. The cost of the "Chatham" is \$2,500.00.

The Chatham Motor Car Co. are offering special inducements to the people who buy the first of their cars in each district. Any one interested may find it very worth while inquiring in regard to their proposition.

MEDICAL PREPARATIONS, ETC.

THE CARE OF GROWING GIRLS.

One of the most responsible tasks of the family physician is to advise parents of girls entering upon their 'teens, as to the diet, mode of life, and hygienic measures best calculated to preserve the health of budding womanhood. In dealing with these cases the practitioner is often called upon to treat the anæmia which in such a large proportion of instances characterizes the unfolding of the growing girl. Full well does the family doctor grasp the meaning of this anæmia, and the vast importance of combating it before it is too late,—before the impoverished condition of the blood of puberty has left its imprint upon the powers of resistance of the adult organism; has done permanent damage to the future woman and the future mother.

Unsuitable diet, an over-indulgence in sweets or spices, over-study, lack of fresh air and physical exercise, indulgence in late hours and abandonment of novel reading, to tight lacing, and other abominations of dress, contribute their quota to the causes of anæmia in the growing girl. Each of these factors is, of course, removable by good common-sense advice to parents and by proper exercise of discipline. Still, when the damage has been done, we must assist nature in its generous work of restoration, and here it is that we are obliged to give that sovereign cure of impoverished blood, iron, in such form as may best be suited to these cases.

The question as to what form of iron we should give to produce the best possible effects has been solved by both experimental and clinical researches conducted during the past twenty-five years—ever since Bunge and Hamburger experimentally demonstrated the inferiority of inorganic preparations (Morat and Doyen, *Taité de Physiologie*, Paris, Masson, 1904, I., 467). Iron, in the anæmia of puberty, produces the best effects when given in a form that will stimulate digestion and increase assimilation, *i.e.*, in the form of the peptonate. With it should always be combined that second hæmatinic which has been shown to enhance the value of iron,—manganese,—and the two are best given in the form of the well-known solution, styled "Pepto-Mangan (Gude)."

With this may be given, in the anæmia of growing girls, minute doses of Fowler's Solution, or else equally small doses of strychnia which may be incorporated with Pepto-Mangan as indicated in individual cases.

Pepto-Mangan has a great advantage over other forms of iron medication in that it does not constipate. Girls at puberty, however, are

notoriously prone to constipation. Therefore, this should receive proper attention, chiefly in the regulation of diet, including a sufficient amount of fruit, raw and cooked, and of cereals giving a large residue of cellulose.

With this method of treatment many a physician has achieved success which was rewarded tenfold, by the sight of rosy faces and bright eyes.

WHAT IS THE MORAL OF THIS INCIDENT?

Dr. X enjoys the largest general practice uptown. His large automobile is always on the go. He paid me a visit this afternoon. He was in the neighborhood, he said, and he thought he would drop in and make the acquaintance of the editor of the "brightest and most interesting medical journal published." He evinced some interest in the environment of the C. & G. office. He noticed a large number—over two hundred—of different journals of the current year, neatly arranged in piles. "You read all of them?" "Yes." "Where do you get the time?" "You can get the time for anything, if you really want to." "Well, I can't. All I read is the *J. A. M. A.* and the *Critic and Guide*. I think they are the best journals published. And you and Dr. Simmons deserve a great deal of credit for the work you are doing with reference to patent medicines and proprietary nostrums. Great work. Time the physician's eyes were opened." Here he coughed and continued: "Would you please let me have a swallow of water? I have a little cold." The office boy brought a glass of water. Dr. X took out a tablet from a box in his vest-pocket and swallowed it, washing it down with the water. The tablet was an antikamnia and codeine tablet.

I said nothing.

A life subscription to the reader who will point out the best moral of this incident.—From the *Critic and Guide*, May, 1907.

THE MORAL: On page 8 of the January, 1907, *Critic and Guide*, appears the following editorial, with which, no doubt, Dr. X fully agrees:

"When a patient comes to consult me and pays me a fee, then my sole sacred duty is towards that patient and towards nobody else. And I am going to use on him and prescribe for him whatever I consider most useful for him, regardless of all other considerations. Whether the preparation is trade-marked or not, whether it has a fanciful name or not, whether it has a circular around the bottle or not, whether the druggist makes 50 or only 5 per cent. profit on it—for all of these things the patient does not care a picayune; and neither do I."

AN ADVANCE IN DIETETICS.

Of the substantial advances in dietetics during recent years none is more important than the Egg-O-Sec Process of treating cereals.

This process involves a careful selection of the grain which is steam-cooked until the starch granules burst their cellulose walls. In this condition the starch is partly converted through the action of diastase. The grain is then rolled into thin flakes and baked at high temperature in specially constructed ovens, until each flake is toasted to a crisp brown.

The baking checks all action of the diastatic ferment so that when the food is placed in air tight packages it will keep indefinitely. The entire process is mechanical so that at no stage is there any danger of contamination. It is a scientific, hygienic, and healthful method and not the least of its advantages is that the cereals so treated are more appetizing than when prepared in any other manner.

This process is employed in the preparation of "Egg-O-Sec," the whole-wheat food, and "E. C. Corn Flakes," a corn food from which the outer covering and excess of fat have been removed.

Both of these foods should interest physicians on account of being so easily digested and assimilated. They give the maximum amount of cereal food value with the least tax on the digestive organs.

Readers of this journal may secure full size packages of "Egg-O-Sec" and "E. C. Corn Flakes" free of charge by addressing the Egg-O-Sec Cereal Co., Chicago.

GLYCO-THYMOLINE AS A MOUTH WASH IN FEVER CASES.

When the temperature keeps a point or two above normal for a few hours, the membrane of the oral cavity becomes dry and parched, causing great discomfort to the patient. Supplemented with this frequently comes the formation of sordes on the teeth and more or less inflammation along the marginal surface of the gums. The flow of saliva is checked and the sense of taste greatly interfered with. In cases of this kind we may win the gratitude of the patient for all time by urging the frequent use of an alkaline mouth wash of the nature of Glyco-Thymoline. This solution is admirably adapted both by physiological action and therapeutic effect to meet the requirements. The normal flow of saliva is re-established, the further formation of sordes is prevented, and the mouth is kept sweet and clean. No one can estimate the amount of comfort derived by the patient under this simple treatment.

GENERAL ANÆSTHESIA BY THE HYPODERMIC METHOD.

The rapidity with which the Abbott-Lanphear method of anæsthesia has advanced in the confidence of the profession is unparalleled. The method is simple, easily used, requires less assistants in surgical operations, is acceptable to the patient, is remarkably free from danger, is devoid of after effects to a greater extent than inhalation anæsthesia, is recovered from promptly and can be adjusted to nearly all patients. Its most marked influence is in the slowing of the respiration, which is apt to alarm those who have not proven that no harm results, the respiration being that of deep sleep. The use of hyoscine instead of scopolamine is a great improvement on the original method, and the introduction of this substance, by Dr. Abbott, and of cactus in the form of cactin in the compound, hyoscine, morphine and cactin comp. (H. M. C. Abbott) has added a safeguard which is invaluable, and which in time will be fully appreciated. Abbott has the confidence of the profession because he makes good. On his presentation it was promptly tried and another success is scored.

PAIN.

This is the condition we are most often called upon in a hurry to relieve. Our therapeutic measures employed will be gauged by the cause, location, severity, etc. A hot water bag should always be accessible. Hypodermics of morphine should be used as sparingly as possible. Papine is an excellent pain reliever that is devoid of the danger and unpleasantness of ordinary opiates. It relieves pain promptly, but does not produce narcosis, constipation, etc.- W. T. Marrs, M.D., in the *Medical Herald*.

A BLEND OF HARMONIZING DRUGS.

The above condition has been fulfilled in Sanmetto—its ingredients harmonize, forming a most perfect blend of the santal and saw palmetto with soothing demulcents and well chosen aromatics, resulting in a soothing, healing and restorative remedy for the diseased genito-urinary economy, at once efficient, and adapted alone or in combination with other drugs.