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Original Articles

HYPEREXTENSION OF THE KNEE FOLLOWING HIP DISEASE*

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Hyperextension of the knee joint, or, as it is called, genu recurvatum, is seen not infrequently in persons who have been confined to bed in the supine position for a considerable length of time. Examination of this young woman's condition and enquiry into her history reveals interesting causes as explanatory of her condition.

H. J., fourteen years of age, had scarlet fever five years ago, followed by disease of the right hip. She was treated by recumbency in hospital for nine weeks, followed by a brace, which was worn for a year. The hip now presents no evidence of present disease. The thigh and leg show a moderate degree of atrophy. The right femur is one-half inch shorter than the left, and the tibia slightly shorter than its fellow. The proximal articular surface of this tibia is shown in a radiograph as altered in direction. If a normal tibia be held vertical it will be seen that its upper articular surface slopes backward and downward, whereas the corresponding surface in this bone slopes downward and forward. The radiograph shows also an area of increased density at the anterior portion of the bone, just below the tubercle, at which point the tibia is bent so that its anterior surface recedes and is concave, whereas in the normal bone the anterior border of the bone here presents a convexity forward.

A probable explanation of the altered direction of the superior articular surface is afforded if we assume that the knee was allowed

*Note.—Interesting case shown at the Saturday clinic at the Toronto Orthopedic Hospital.

to become hyperextended while the patient was recumbent in the supine position under treatment for hip disease.

1. Thereby increased pressure when weight-bearing was resumed would come upon the anterior part of the articular surface of the tibia.

2. This increased pressure would tend to depress the anterior portion of the enlarged extremity of the tibia and alter the direction of the articular surface.

3. It would also cause greater compactness, and probably early synostosis at the anterior part of the epiphyseal junction.

4. It would thus cause shortening of the tibia, especially at this anterior part.

During the course of disease at the knee it is well known that the increased congestion of the part bringing more pabulum to the chief growing areas of both tibia and femur, causes relatively increased length, so that the affected limb in such a case is usually longer than its fellow. Disease at the hip joint, however, on the other hand, causes so much interference with the nutrition of the entire limb that growth, both in circumference of the bones and in their length, is retarded. The continuance of the hip disease during some years of the actively growing period of life has so interfered with the growth of the limb as to make this one about an inch and a half shorter than its fellow.

The disability of the limb in this patient resulting from hyperextension, from atrophy, from shortening and from disease, was very marked, and it was on this account that advice was sought. The girl's general condition was fairly good, though she was not robust. She used a crutch in walking, and could accomplish but little without its aid.

Treatment.

The method of treatment adopted was to perform osteotomy of the tibia immediately below the tubercle, and so alter the alignment of the tibia at this point as to make a considerable elbow there. the salient angle pointing forward, thus restoring the normal convexity. This was made sufficient to fully overcome the degree of hyperextension. During the weeks while laid up with a fixation dressing applied, the knee was kept flexed at an angle of about thirty degrees. I have no doubt that the ligaments and other structures of the posterior aspect of the joint shortened somewhat during this period. These causes, together with the change in

alignment of the tibia, proved sufficient to over-correct slightly the genu recurvatum, and a few months later she was walking with a consciousness of increased power, and control was gradually returning.

Disability at the knee joint when there has been no disease affecting the part is due occasionally to laxity of the ligaments and other structures which should keep the bones which enter into its formation in close and firm apposition. The causes doubtless are varied. One of the most frequent, however, is faulty nursing while confined to bed supine. It has often been stated that extension applied to the lower extremity in such a way that the femur is not grasped is responsible for this relaxed condition of the knee joint. For several years, however, the writer has so applied the power, when extension is required, as to grasp the leg only at a point just above the ankle joint by means of an anklet or gaiter fitting comfortably that part and forming the fixation to the limb for the traction force. As a result, disability has never been seen at the knee joint. While thus recumbent a small pillow or pad should be placed under the knee, so that a slight degree of flexion should be constantly maintained. The disability and laxity of the joint is a result of hyperextension rather than of direct traction made upon the joint.

ST. LUKE'S GENERAL HOSPITAL, OTTAWA, NURSES' GRADUATION, MAY, 1912

Address by Dr. R. W. Powell.

The graduation exercises at St. Luke's General Hospital this year took place in the hospital on May the 15th, and were honored by the presence of Her Royal Highness the Duchess of Connaught, who presented each candidate with her diploma and medal.

The chair was taken by Sir Louis Davies, in the absence of Mr. J. R. Booth, the President of the hospital, and the proceedings were opened by Sir Louis with a few words of welcome to Her Royal Highness.

Dr. W. C. Cousens, Chairman of the Medical Board, then read the official returns of the standing of the nurses, and administered the Florence Nightingale pledge to the graduates.

The nurses presented Her Royal Highness with a handsome bouquet of roses, and this was followed by the presentation of the lecturer's prize to Miss Edith Exton, of Leeds, England.

The names of the graduates were: Miss P. Mott, Aylmer, Que.; Miss M. McKinnon, Miss F. Vance, Miss F. McConnell, Miss M. Owen, Miss C. Latimer, Miss L. McDermott, Miss F. Sheridan, Miss F. West, and Miss E. Exton.

The Chairman then called upon Dr. Robert W. Powell to address the nurses in valedictory.

Dr. Powell, on rising, said:

May it please Your Royal Highness, Mr. Chairman, Ladies and Gentlemen,—

Like others who have preceded me on this interesting occasion, it seems incumbent upon me to offer an apology for my appearance to-day to say a few words of encouragement and of farewell to the graduating class.

The Board of Governors and the Medical Board, which, I may say, has some administrative functions in this institution, have thought it a great pity that this present class of young ladies should be allowed to escape from the hospital without a few words of advice and farewell from the Secretary of the Board, and one who has taken in the past a deep interest in all that concerned the education of the nurses.

My colleagues on the Medical Board are by nature a retiring body of men when such functions as the present have to be undertaken; but in some other walks of life, when they appear dressed in official garb, with white operating gowns and rubber gloves, they are not so retiring in disposition. Then again my enforced absence from the graduating exercises for the past two years gave them an opportunity to do me a favor and good turn, from their point of view, and to allow me to take advantage of this occasion to blow off some bottled steam.

This class of 1912 graduates are particularly to be congratulated that the gracious lady occupying the most exalted position in Canada now has so generously consented to be present to-day to deliver personally to the members of the class their diplomas and medals, and I am sure no one who thinks on the subject at all can fail to realize what an occasion such as this must mean to the young ladies before us, and how it must be a stimulus to them, accentuated as the day is by the presence of royalty and by the countenance of all the friends whom they most value, to so fashion their future conduct and career that none of us will ever regret having been present on this interesting, and more or less solemn, occasion. This present class have not had the opportunity of listening to me from the lecture platform, as has been my custom, and that is a still further

reason why I may be pardoned if I speak a little at length to them to-day.

My first duty, of course, is to congratulate you, and I do so from the bottom of my heart, on having to-day attained the goal of your hopes and aspirations. It has been a long and weary fight, accomplished under all sorts of disadvantages, but you have conquered all obstacles and have come forth with flying colors. We realize only too well what these disadvantages have been, but we have been powerless to avoid the conditions. We are a modest institution, in size and equipment, and we have not been able to offer certain advantages attainable in other larger and more favored hospitals. Your accommodation here is unsuitable and cramped, and your opportunities for rest and recreation very limited, but you have accepted the situation loyally, and have surmounted the disadvantages of the situation, and have realized, I am sure, that we have given you in your education the best that we had.

Coming to closer quarters, it seems opportune to say that the cross words and black looks and irritability of temper shown at times towards you have been a necessity. In the first place, it is inseparable from your training, and while many a night you have laid down your aching head on your pillow, almost determined to retire from the fight, yet other occasions of triumph and well-doing have been accomplished by light hearts and glistening eyes when you were commended. This adverse criticism has been primarily done for the benefit of the sick under your care at the time, and for those who may hereafter be under your care, because it is esential that orders must be faithfully obeyed and executed, and firm discipline maintained. If it were otherwise, the whole hospital machinery, often very delicate, would absolutely run riot. Recollect that you are not singular in the making of errors; it happens to all of us; it is a necessity of our human nature. There is a well-authenticated record, buried, I hope, deep down in the archives of St. Luke's Hospital, that our present estimable Lady Superintendent once made a mistake. Is not that wonderful? Is it not a source of encouragement to us all? I fancy, if the truth were only known, the same might be said of her capable assistant in the work. They are none the worse for it, and neither are we. When a vacancy was created in the office of Lady Superintendent of this training school, owing to the lamented death of Miss Chesley, we chose one of our distinguished graduates, whom we knew so well, and one who had filled the position of Assistant Superintendent so satisfactorily, and offered her the position at once. His Grace the Archbishop, here with us to-day, will be able to tell you officially what

I am only able to tell you as a layman, that mistakes in administration occur to all of us, and that "angels once fell." So there is hope for us all, and great encouragement. Positions which others have secured by honest, painstaking devotion to duty are attainable by any one of you here before me to-day; but remember, only by the same process and through similar channels.

The gate of the pasture has been unlocked for you to-day by Her Royal Highness, and it is for you now to enter the field and so perform your daily tasks that your good labor will be recognized by its fruit. A great many thoughts arise in my mind that I would like to emphasize, but I must be content with a few salient points, and some that I hope you will remember.

This is a solemn occasion. The pledge that you have just voluntarily taken places the seal of solemnity on the whole proceedings. You have undertaken before God and before this assembly that you will fashion your practice and your lives on certain well-recognized high principles; see that you have not taken this pledge lightly or wantonly. I well remember the day, many years ago—I won't tell you how long—that I stood up before my teachers and solemn Dons, Fellows and Professors, and took the Hippocratic Oath preparatory to receiving my degree. I felt it to be a very solemn moment, and I there and then determined that I would, to the best of my ability and powers, so conduct my life in matters professional that I would not bring the blush of shame on my teachers or my college, who had given me of their best, and I would wish you to adopt the same attitude now to-day, and take your life, as regards your chosen calling, seriously.

There is a small part of your anatomy situated in a cavity between your nose and your chin, called the tongue, and while it has been called by the Psalmist of old "the pen of a ready writer," I think St. Paul's definition is more to the point as regards the human race, and he indeed must have had great powers as a diagnostician of rare perception when he termed it "the unruly member." It is capable of getting us all into more trouble in a short time than any other one organ we possess, and its powers for evil do not stop there, but it gets other people into trouble as well. Keep strict guard over it and see that when occasion requires it is well in harness behind your teeth and the reins drawn tight. If it ever gets loose it is apt to wag incessantly, and nearly always at the wrong time, and, moreover, what it utters cannot as a rule be amended.

When on business, stick closely to what you have on hand, and if your eyes see, or your ears hear, matters not intended for you,

but which you cannot help observing, be careful that you keep the information strictly to those organs, and do not pass it on to your voice apparatus, over which your "unruly member" presides with so much power. No matter what your other qualifications are—your physique, your carefulness, your endurance, your watchfulness, your wide sympathy, your tenderness, or your devotion to duty—you will be useless as a trained nurse and absolutely unfitted for private practice if your tongue runs away with your judgment, or your discretion, and you will at once lose your influence and your power for good, and confidence in you will be destroyed.

Besides all this, remember that a talkative, parrot-like nurse is abhorrent to most patients who, when ill, as a rule, care not to be entertained in this way, especially if the subject of conversation is other people's affairs. Tale-bearing and chattering about what you see in other people's houses, while it may tickle the ears and imagination of a certain class of people, is an abomination that ought not to be tolerated for a moment as part of the make-up of the trained nurse. In fact, to do these things is at once to advertise yourself as quite untrained.

You may rest assured that medical men will not befriend you, or employ you, if they once realize that you are of this type of dangerous citizen. The devil—I apologize—I did not mean to even mention the gentleman's name—but let us call him the captain of the lower regions. Well, the great trouble with him is that he is not domesticated; he will not stay at home.

I presume, if all reports are true, that home is not too attractive a place for him; the atmosphere is close and sticky, and even in winter it is apt to be sultry, and the consequence is that he is constantly leaving his abode and putting in an appearance on this fair world, and poking his nose into other people's business, and buzzing about, making himself very objectionable. He ought to be kept in his place, and each time he shows himself above ground he ought to be cracked on the head and made keep quiet, and be told politely, but firmly, that he is "*de trop.*" If all the human race would adopt this attitude he would soon tire out and sink to his own level, and finally be annihilated and suffocated in his own environment. It is the encouragement he receives by our misdoings that gives him pabulum for existence. He is frightened at anything savoring of a reversal of his schemes. This is the idea underlying the two lines of Cowper's beautiful hymn:

"And Satan trembles when he sees
The weakest saint upon his knees."

This used to be rendered "sinner," but we are getting better now, and we are termed "saints." I hear someone say: "What is Powell driving at?" It ought to be manifest.

If you were a class of graduates in Arts, or Science, or Domestic Economy my mind would in all probability be drifting in another direction; but it is because you are a class of graduate nurses that I am talking on these lines. Do not imagine for a moment that your Creator will place you on a pedestal, safe from temptation to do wrong; not at all. The time may be short or long, but come it will, and that sooner than you possibly dream of; and be sure that you make up your mind now, at once, firmly and boldly, that the very first suggestion will be thrown back with the scorn it deserves, and that you will hurl the tempter from you. Each reversal for him weakens his power and reads victory for you, and, moreover, the victory is easier on each successive occasion.

Your conscience comes to your rescue and strengthens you for the next battle. The temptation may assume many a subtle form—at one time financial, another time enhanced worldly power or position, and next some other insidious suggestion of advancement in what you most prize and value. Always adopt the same attitude; tell the approacher, who is an emissary for the special occasion, and often chosen with intelligent discrimination to soften the blow, that the application has come to the wrong door; that he or she must descend a bit lower down the avenue of life and keep on descending till one is found on a level equal to the proposer of ill deeds; that you are trained on different lines and do not consort with sordid creatures, or low and vulgar people.

The Florence Nightingale lamp must be ever well oiled and kept lighted in your hearts and homes, and with her, the earliest lady nurse whose works have followed her, and whose name will go down to posterity as a shining example of a stirring devotion to duty, and a life budding and then blossoming with shining crystals of fortitude and Christian excellence, as your guide and beacon, and with the memory of to-day kept bright and burnished, and the glad faces enjoying your happiness and extending to you their sympathy, and above all with the recollection of the gracious royal lady who, at personal inconvenience, has come to-day to preside at your graduation and speak her personal congratulations, surely you must be termed fortunate graduates of St. Luke's, and such a day must strengthen and fortify you for your life's work.

You have to-day placed your foot on the first rung of the ladder that leads to success or failure, and I want you to determine well that you will work with all your might and main to achieve success

in your noble calling. Take hold of the ladder with both hands and never let go as you proceed to climb upwards. Be careful you don't slip. You are not likely to do so from the first rung, as there is not much space below; but as you go on you will find some of the rungs thorny and slippery—yes, and some even slimy—and they become difficult to negotiate. The lower rungs, also, are crowded, and you are liable to be pushed off to one side or the other in the scramble.

If you come down a rung or two through carelessness or inattention, or, what is worse, by doing that I hinted at a while ago, you will find it difficult to recover the lost ground, and more than that, the way becomes even more beset with difficulties than it ever was before. Keep your eye always on the top rung. What others have attained to you can accomplish. Your motto must be "Onward and ever onward; upward and ever upward." There is always plenty of room at the top for all of us. The lower and middle rungs of life are crowded, but as you pass the rubicon the atmosphere is clearer; the air is lighter; breathing becomes easier. So much is this the case that the remark has become a truism. When we get over a difficulty or surmount an obstacle that was causing anxiety we say, "I breathe more freely now." We have an example of the top rung here with us to-day, and the head of the Anglican Church in Canada has not attained to his lofty and dignified position without much patient care and laborious, persistent effort. He can show forth personally to-day in our midst what I can so feebly put into words, viz., that there are plenty of priests and deacons, but very few archbishops.

Finally, young ladies, let me beg of you to keep a warm place in your hearts for your Alma Mater, she who has given you birth to-day; she needs your assistance and your sympathy. She rejoices with your triumphs and your successes and grieves over your downfalls and your failures; she feels her responsibility more keenly than you imagine; she is anxious for your welfare, but is also jealous of her own reputation; she is the one, you graduates are the many; she has not been in a position to do all for you that she would have wished, but she has done what she could with the opportunities she possessed, and what she has done she has done ungrudgingly. She expects in return your loyal attachment and real support; not only a lip support, which is easy to give and costs nothing, but a support from your heart and your brains that may cost you some small sacrifice at times.

You will have in life no better friends than the authorities of this hospital, who will now watch your career with eager hope and

high expectations. Don't reward us the wrong way; don't sully the name of St. Luke's, but uphold the institution in every possible way and advance her interests whenever opportunity offers; don't bring the blush of shame to our faces by unladylike actions, loose, wanton conversation, or grievous misdemeanor; but conduct yourselves after the pattern of those good women of old and also of those of modern days, who never weary of well-doing, and who keep themselves spotless and untarnished in their character. The world knows nothing finer than a kind, sympathetic, good-looking, modest and chaste woman.

My last word is on my tongue, and I am done. If you find yourselves, soon or late, in trouble or distress of any kind, be it of mind or body, be it moral or physical, or financial, the hand of fellowship will be held out to you here and always and forever.

Where can you turn for succor in time of anxiety and need if not to her who gave you birth? And if this is true of your human frame, and applies to your nature as woman, it is equally true and forcible that your scholastic mother, St. Luke's Hospital, in its corporate capacity, as well as individually by its members, will ever be faithful to its responsibilities for you and proud and glad to have the privilege of helping you in time of need.

Young ladies, farewell.

CANADIAN PUBLIC HEALTH ASSOCIATION

The second annual meeting of this Association was held in Toronto on Monday, Tuesday and Wednesday, the 16th, 17th and 18th of September.

The public address was given on the evening of Monday, September 16th, by Dr. W. A. Evans, of Chicago, who is recognized as one of the foremost public health authorities in America. The President, Dr. Charles A. Hodgetts, Medical Adviser to the Commission of Conservation, Ottawa, delivered his address on Tuesday.

The meetings were held in the Medical Buildings of the University of Toronto.

The Annual Conference of Medical Officers of Health of Ontario was held in connection with this meeting.

1.—Section of Military Hygiene.

J. T. Fotheringham, Lt.-Col. P.M.O., A.M.S., Chairman.

Paper—G. Carleton Jones, Col. A.M.S., D.G.M.S., Canada.

"The Sanitation of the Bivouac."—D. B. Bentley, Lt.-Col. A.M.C., District Officer of Health, Ontario.

"Simple Means for Ensuring Supply of Drinking Water on Active Service"—Campbell Laidlaw, Lt. A.M.C.

"Some Observations on Sanitation for the Soldier"—T. B. Richardson, Major A.M.C.

"The Militia as a Factor in Public Health"—Lorne Drum, Major A.M.S.

2.—Section of Milk Inspection.

Andrew R. B. Richmond, V.S., B.V.Sc., Chairman.

"Municipal Milk Inspection in Toronto"—G. G. Nasmith, Director of Laboratories, City of Toronto.

"Municipal Food Inspection"—Robert Awde, Chief Food Inspector, Toronto.

"Dominion Meat Inspection"—L. A. Wilson, in Charge of Dominion Meat Inspection Staff, Toronto.

"Municipal Meat Inspection"—Andrew R. B. Richmond, Chief of Staff of Veterinary Inspectors, Toronto.

3.—Section of Sanitary Engineers.

T. Aird Murray, C.E., Chairman.

"Toronto Filtration Plant"—F. F. Longley, C.E., Toronto.

"A Complete Sewage Disposal Plant for a Public Institution"—T. Lowes, C.E., Toronto.

"Filtration of Water, from an Engineering Point of View"—T. Aird Murray, C.E., Toronto.

"How to Obtain Efficiency from Pressure Filters"—H. W. Cowan, C.E., Toronto.

4.—Section of Medical Officers of Health.

James Roberts, M.D., Medical Officer of Health, Hamilton, Chairman.

"A Modern Hospital for Communicable Diseases"—Dr. Chas. J. Hastings, Medical Officer of Health, Toronto.

"The International Hygiene Exhibition, Dresden"—Dr. J. F. Honsberger, Berlin.

"Municipal Control of Milk Supplies"—Dr. Whitelaw, Medical Officer of Health, Edmonton, Alta.

"The Importance of Trained Sanitary Inspectors"—Dr. A. J. Douglas, Medical Officer of Health, Winnipeg, Man.

5.—Section of Medical Inspection of Schools.

Dr. W. E. Struthers, Medical Inspector of Schools, Toronto, Chairman.

"Tuberculosis in Children"—Dr. J. H. Elliott, Toronto.

"Nursing Side of Medical Inspection of Schools"—Miss L. L. Rogers, R.N., Toronto.

Lantern Slides of the Work of Medical Inspection of Schools in Toronto—W. E. Struthers, B.A., M.D., Toronto.

"The Feeble-Minded Child"—

6.—Section of Social Workers.

Joint Secretaries—Vincent Basevi, Editorial Staff, "*The News,*" Toronto; Dr. W. A. Whyte, Medical Superintendent Riverdale Hospital, Toronto.

Convener—Helen MacMurchy, M.D.

"Prevention of Social Misery"—J. Howard T. Falk, General Secretary, Associated Charities, Winnipeg.

Discussion.

Dr. J. A. Pagé, Medical Superintendent, The Immigration Hospital, Quebec, P.Q.

Dr. MacAuley, Chairman Board of Health, Halifax, N.S.

Mr. J. W. Smith, President Children's Home, Regina, Sask.

Dr. W. E. Home, Victoria, B.C.

Rufus D. Smith, Secretary Charity Organization, Montreal, P.Q.

Mrs. Smillie, Women's Club, Montreal, P.Q.

Dr. Huerner Mullin, Hamilton, Ont.

Mr. Edward Gurney, Toronto.

Mr. Joseph W. Bonnier, Recorder of Vital Statistics to the Quebec Government, Quebec, P.Q.

Mr. Rowland Dixon, Clerk of Statistics to the Manitoba Government, Winnipeg, Man.

Miss Alice Ravenhill, Shawnegan Lake, Vancouver Island, B.C.

Mr. G. A. Smith, General Supervisor Toronto Playgrounds Association, Toronto.

Mr. G. Frank Beer, President of the Toronto Housing Co.

"The Dentist as a Social Worker"—Dr. A. W. Thornton, Toronto.

Discussion.

Mrs. Adam Shortt, M.D., Ottawa.

Dr. Albert E. Webster, Toronto.

Mr. Joseph Likely, St. John, N.B.

Dr. W. H. Delaney, D.P.H., Quebec, P.Q.

A Symposium—"The Scientific Management of Household Work and Workers."

From the Viewpoint of the Mistress—Mrs. L. A. Hamilton, Lorne Park, Ont.

From the Viewpoint of the Maid—Miss Yates, O.A.C., Guelph.

From the Viewpoint of the Physician—Dr. T. F. McMahon, Toronto.

From the Viewpoint of the Church—Rev. Daniel Strachan, Toronto.

From the Viewpoint of the Settlement—Miss Helm, University Settlement, Montreal, P.Q.

From the Viewpoint of the University—Miss Cartwright, Lady Principal, St. Hilda's College, Toronto.

(Ten minutes for each speaker.)

Discussion.

Dr. Grace Ritchie England, Montreal.

Professor Stevenson, University of Toronto.

7.—Section of Laboratory Workers.

John A. Amyot, M.D., Toronto, Convener.

8.—General Section.

"Diet in Relation to Disease"—Dr. H. B. Anderson, Toronto Professor V. E. Henderson, Toronto, and Professor Fotheringham, Toronto, will open discussion.

"How Shall Canada Save Her People from the Physical and Mental Degeneracy Due to Industrialism as Seen in the Great

Cities of Older Civilization?"—Dr. P. H. Bryce, Superintendent of Immigration, Ottawa.

Symposium—"Tuberculosis"—Dr. J. H. Elliott, Toronto.

Discussion.

Dr. G. D. Porter, Toronto.

Dr. Harold Parsons, Toronto.

Dr. W. B. Kendall, Muskoka Sanatorium.

Dr. C. D. Parfitt, Gravenhurst.

Miss Dyke, Toronto, and others.

"Prevention of Tuberculosis in the Country"—Dr. H. G. Roberts, Guelph.

"Of What Value Are Sanatoria as a Public Health Measure?"—Dr. W. B. Kendall.

"Open Air Schools for Children"—Dr. J. H. Holbrook, Hamilton.

"The Feeble-Minded"—Mr. J. P. Downey, Superintendent Asylum for Insane, Orillia.

Paper—Dr. W. T. Shirreff, Medical Officer of Health, Ottawa, Ont.

"A Threatened Outbreak of Typhoid Fever in Fort William, and Means Taken to Successfully Abort It"—Dr. R. E. Wodehouse, District Officer of Health, Ontario.

Paper—Dr. H. W. Hill, Director Institute of Public Health, London, Ont.

"Medical Inspection of Public Schools"—Dr. A. P. Reid, Provincial Health Officer of Nova Scotia.

Symposium—"Communicable Disease."

Rhinology, Laryngology and Otology

GEOFFREY BOYD, GILBERT ROYCE.

The Massacre of the Tonsil. By John N. Mackenzie, M.D. Clinical Professor of Laryngology and Rhinology in the Johns Hopkins University and Laryngologist to the Johns Hopkins Hospital. *The Maryland Medical Journal.*

During the past few years I have been repeatedly urged by medical friends to give some public utterance by way of formal protest against the indiscriminate and wholesale destruction and removal of the tonsils, which, far above all others, is the chief and most glaring abuse in the laryngology of the present day. They have been good enough to say that a word might not be amiss from one who has been through the dust and heat of the conflict that has raged around this and other fancies in surgical laryngology which have risen and fallen during the quarter of a century that has just passed away.

One of these friends, a distinguished general surgeon of wide experience, large practice and exceptionally high professional skill, in insisting that I say something on the subject, gave me as his deliberate opinion that of all the surgical insanities within his recollection this onslaught on the tonsils was the worst, not excepting the operation on the appendix. And, indeed, when I look back through an experience of over thirty years, in which I have seen theory after theory, for some of which I have been partially, if not wholly, responsible myself, come and go, materialize and dissolve, I feel that, notwithstanding the fact that I approach the subject with reluctance, with diffidence, with hesitancy—with even timidity—and fully mindful of the truth that we are all liable to error, even the youngest of us, and that nowadays in some quarters apparently age and experience count for nothing, I feel I may be pardoned for saying a few words in what I consider to be the interest of the public health, and, therefore, of the public safety.

Let me at the outset be not misunderstood. It is not my object to stir up strife, to impute unworthy motives to anyone, or to arrogate to myself any superior wisdom in the surgical management of tonsil disease.

Nor do I wish to shift to other shoulders all the blame. I, too, in my earlier days, have fallen by the way. Indeed, it was once face-

tiously said that the street in front of my office was paved with the turbinated bones of my victims.

That there are a host of conditions that call for more or less complete destruction of the tonsil is an axiomatic proposition which is not open to discussion. We have all been taking out tonsils for innumerable reasons ever since we entered our special field of work, and we will continue to do so when proper occasion demands it. My contention is simply this, that in selecting our cases for operation we should be guided by a sane and safe conservatism and common sense, and not be carried away by those who, by their precept and example, are fast bringing our specialty into disrepute in the eyes of thoughtful and honorable men.

Many years ago Austin Flint was conducting an examination in physiology at the Bellevue Hospital Medical School in New York. Among the students who came up for graduation was a bright young fellow to whom Flint propounded the following conundrum: "What is the function of the spleen?" And the lad replied that the function of the spleen was to enlarge in malarial fever. To the next question, "What is the function of the tonsil?" the boy declared that the mission of the tonsil was to swell and suppurate in quinsy. "That will do," said Flint, "you have passed a perfect examination, for you know as much about the subject as I do myself." Long before, a distinguished medical luminary on the other side of the Atlantic had said that were he, like Frankenstein, to attempt the artificial construction of a man, he would leave the tonsils out. In other words, at that period, or, as a matter of fact, from a period as long back as memory can run, the tonsil was regarded as a perfectly useless appendage which cumbered the throat, and which, therefore, ought to be gotten rid of. Like its little neighbor, the uvula, it was sacrificed on every possible pretext or when the surgeon did not know what else to do. I remember, a long time ago, in a discussion on hemorrhage after tonsillotomy before a New York society, a distinguished laryngologist made the statement that he had removed without accident many thousands (I have forgotten the exact number) of tonsils—to which declaration an inquisitive, incredulous individual present, with a mathematical turn of mind, said he had made a calculation which showed that in order to have removed that many tonsils within the limit of an ordinary lifetime the operator would have to average a bushel a day.

This general extirpation of the tonsils that obtained in the early days of laryngology received a rude and jarring jolt when, in the last century, it was proclaimed that the tonsil was physiologically directly related to the virility of the male. According to this

luminous conception, which owed its popularity chiefly to the teachings of no less a personage than Chassaignac, destruction or extirpation of the tonsil meant impairment or extinction of procreative power. This doctrine at once made tonsillotomy very unpopular among the male laity; but when the Homeric shock of the battle that raged around this burning question had subsided, and it had been found that there were no facts to support the alleged relationship, then the work of slaughtering the tonsils again went merrily on.

But never in the history of medicine has the lust for operation on the tonsils been as passionate as it is at the present time. It is not simply the surgical thirst from which we have all suffered in our earlier days, just as at a still earlier period we suffered from the measles; it is a mania, a madness, an obsession. It has infected not only the general profession, but also the laity. A leading laryngologist in one of our largest cities came to me with the humiliating confession that, although holding views hostile to its performance, he had been forced to do a tonsillectomy in every case in order to satisfy the popular craze and to save his practice from destruction.

To-day the laity, with or without medical advice, insist on entire removal of the tonsil for almost every conceivable infirmity. If I had time to do so, I could tell you some, if they were not so serious, amusing stories in this connection.

I will only relate one. A few days ago a woman brought her little six-year-old daughter to me to know whether her tonsils ought to come out. Her nasal and throat passages were normal.

The child was in perfect physical condition and complained of nothing. I said to the mother: "Your baby is perfectly well; why do you want her tonsils out?" "Because she sometimes wets the bed."

In the annual reports of nearly all the special hospitals for diseases of the nose and throat the number of tonsil removals, as compared with all other operations on the upper air tract and its appendages, is simply appalling. In conspicuous and refreshing contrast to the usual narrative of these productions let me quote from the last report of a well-known children's hospital in this city these words of sanity and wisdom:

"A large and annually increasing number of cases apply for operation for hypertrophied tonsils, or for adenoids. Of these the adenoids practically all need and receive operation with benefit and without injury.

"The recent universal inspection of the throats of school children

has revealed the fact that nearly all children at some time of life have more or less enlarged tonsils.

"That most of this is harmless if not actually physiological, and that their removal in these cases is not only unnecessary but injurious to the proper development of the child is our conviction.

"The rarity of rheumatism or endocarditis in children, while nearly every child has enlarged tonsils, would indicate that their removal is only exceptionally advisable unless they mechanically interfere with respiration, deglutition, or speech. When this is the case they are still best removed with the tonsillotome unless radical extirpation is necessary for other reasons."

I cannot more correctly express the general attitude on the matter than by quoting the words of Professor Swain of Yale University, in the admirable paper with which he opened the debate on the subject at the last meeting of the American Laryngological Association in Philadelphia:*

"When an author speaks of his experience in upwards of 9,000 cases, mentioning especially 3,000 removed within the capsule within the last six or seven years, the only method which he thinks is really worth the while—he certainly has a right to speak as an expert in regard, at least, to methods. Also, it will be readily deduced that he felt in removing tonsils thus wholly he was not depriving the patients of anything important. When it is the practice in recent years of many operators all over the country to always enucleate the tonsils as completely as possible in all cases, either children or adults, as a routine procedure, it would certainly seem to argue that in general tonsils are better out than in. The question of relative size, appearance, healthiness of structure or any such matter is apparently never thought of. Remove, anyway, and dismiss the matter as not worthy of further consideration. And, again, it is a most excellent condition of things to be operating laryngologist to a busy internist, who takes the entire responsibility of removal. Failure and success are alike credited against him, but it is a case of blissful inexactness which I consider deplorable."

Much wild and incontinent talk, for which their teachers are sometimes largely to blame, has poisoned the minds of the younger generation of operators and thrown the public into hysteria. Tonsillectomy, for example, is held out to them, not only as a sure cure for, but as an absolute prophylactic against rheumatism and heart disease. They are told that with the disappearance of the tonsil in man these diseases will cease to exist. Parents bring nowadays their perfectly sound children to the laryngologist for tonsil removal in

*See Transactions, 1911.

order to head off these affections. Tonsillectomy is recommended as a curative during the agony of acute articular rheumatism.

But the origin of the latter disease has recently been traced to an infection of the nasal mucosa following operation. To-morrow it will come from somewhere else. Those of us who are old enough to remember will recall the story of chorea. Years ago we found the cause of this affection in the nasal passages. When this view, after the usual struggle, had to be abandoned, it was suddenly discovered that the eye was the portal of entrance. To-day it has been caught in the tonsil. If we exercise a little patience it will turn up soon in some other organ.

In considering the question of operation on the tonsil, and especially complete removal, we must face the following facts:

I. The functions of the tonsil are, in the present state of our knowledge, unknown.

Whether they are portals of entrance or avenues of exit for infection, whether they protect the organism from danger or invite the presence of disease, whether the pathogenic bacteria sometimes found in them are coming out or going in, whether they are manufacturers or storehouses of leuco—or lymphocytes, whether they represent the extreme outlying protective ramparts and that, therefore, their destruction would mean the removal of the battle-line against infection from the throat to the neck lymphatics, whether the efferent current of lymph exceeds the afferent in volume or velocity, whether, which seems probable, there is an endless flow of lymph from their interior to the free surface, which, unchecked, prevents the entrance of germs from the surface and washes out impurities from within, whether the organ possesses an internal secretion, *sui generis,* or whether, in fine, the tonsil structure is in any way essential to the well-being of the individual, are questions which have as yet received no definite solution, but which are full of interest and furnish material for instructive discussion and debate. Until the functions of the tonsil are known the final word on its removal cannot be spoken.

II. Whatever its functions may be, and the production of leucocytes is undoubtedly one of them, the tonsil is not, as is generally taught and believed, a lymphatic gland.

The general ignorance of this fact had led to the useless sacrifice of thousands of tonsils, on the fallacious assumption that their functional activity may easily be replaced by the myriads of other lymphatic glands in the body. The physiological integrity of the tonsil is of the utmost importance in infant and child life. The gland appears early in embryonic life (fourth month), attains

maturity at the end of the first year of infancy, and at or about puberty tends to diminish in size. It does not develop as a lymphatic gland from a plexus of pre-existing lymph vessels in the mesothelium, but as an ingrowth of endothelium from the second branchial pouch, and, therefore, in its origin must be classed with the thymus and the thyroid, the former originating from the third, the latter from the fourth, while the parathyroid takes its origin from the third and fourth branchial pouches, all by inbudding of the endothelial lining of the primitive pharynx. These anatomical facts have been recently emphasized by Gordon Wilson,* of Chicago, who, in a careful study in comparative anatomy, has shown from various relations which the tonsil shows to the pharynx that the tonsil secretes or excretes a substance into the pharynx. The tonsil is present in all mammals, with a few exceptions, notably the white rat, and its anatomical arrangement is such that no matter how concealed it may be by folds of membrane it always retains communication with the pharynx. Observations made in his laboratory on the carnivora show that in this genus the tonsil is often so protected by folds as to be invisible from the mouth; but there always exists a channel of communication. This is well shown in the lion, where the tonsil lies in an elliptical sac of considerable size, which is so placed that during certain movements of the pharynx the contents may be expelled into the back of the mouth. In other words, we have here a structure which plays a rôle of importance in early life, in addition to its production of lymphocytes, and which necessitates a close relation to the pharynx. This rôle may be of infinite value to the infant in his earliest days of life, but which, as he grows through childhood into manhood, he is able to dispense with.

Now, the first organ to manufacture or store leucocytes in embryonic life is the thymus gland (Jacobi).† In view of the origin of the tonsil from the branchial pouch, is it not conceivable, as Jacobi suggests, that it may assume the rôle of the thymus after birth, or when the latter gland ceases to functionate or disappears?

III. It is rarely possible to separate the tonsil from its neighborhood during the acute invasion or rapid progress of a microbic or toxic poison (Jacobi).

Years ago Jacobi called attention to the fact that in cases of membranous throat disease, whenever the membrane is limited to the tonsil, there is little or no glandular swelling in the neighborhood. If the membrane extends from the tonsil to its neighborhood, or starts at a distance from the tonsil, neighboring lymphatics swell at once.

*Transactions of the American Laryngological Association, 1911, p. 263.
†*Archives of Pediatrics,* July, 1906.

Again, the treatment of this neighborhood shows its effect almost immediately in the swollen glands. This is especially true of diphtheria, which, when limited to the tonsil, produces less adenitis and constitutional symptoms, and, therefore, is less dangerous. We all remember, too, in the days before antitoxin, how much graver the prognosis was when the membrane appeared in the nose and upper pharynx than when it appeared on the tonsils. Nearly every case died.

IV. The rôle of the tonsils as portals of infection, like all new doctrines in medicine, has been greatly exaggerated. To state that they are, in certain cases, the avenues through which pathogenic organisms reach other organs is simply to state an incontrovertible proposition, in the light of present-day research. But to make them responsible for the long Iliad of woes which has been laid to their account is to remove the whole question from its legitimate place in the region of cold clinical fact into the atmosphere of fads and fancies. Some absorption takes place in and from the tonsil, but it is far less than that which occurs in the more abundant and receptive lymphatic structures of the nose and nasal pharynx. The tonsil, moreover, is not built anatomically as a gateway of infection. I have not time to go into a review of this interesting subject, but will simply quote, with some modification, from a summary by Faulkner, of Pittsburgh (*Medical Record*, July 9, 1910), based on an analysis of observations made by Most, Retterer, Labbé, Hodenpyl, Jacobi, Grober and others, and also refer you to a symposium on the subject of the naso-pharyngeal lymphatics and their relation to other parts of the body, by Hartz, Poli, Logan Turner and Broeckart:*

"The faucial tonsils are peculiar organs. They possess an anatomical character different from other tonsils and other lymphatic tissues. They are innocent organs with functions chiefly confused by medical literature. Their blood supply is scant and they have almost no communication with the lymphatic system. * * * Their crypts are lined by mucous membranes having the ordinary function of other mucous membranes, so far as known. They are distinctly separated from the very active absorptive and bacteriolytic structures of the fauces, pharynx and nose. Their position is a segregated one. Their external deep surface is covered by a dense fibrous capsule which sometimes sends a network of fibrous tissue as outrunners along the tonsillar blood vessels (Hodenpyl), the tonsil contains a system of closed lymph canals in the follicles

*These papers have been collected, the foreign ones translated into English, and published in the *Laryngoscope*, March, 1912.

which do not open into the connective tissue reticulum (Retterer, confirmed by Hodenpyl), diphtheritic membrane confined to the tonsil is relatively innocent (Jacobi). There are no lymphatic sinuses around the tonsil, and the nearby lymph current is less active than that of the pharynx at some distance (Labbé), and, finally, injections made into the region of the tonsil (not even into the tonsil itself) do not spread like those made into other parts of the nasopharynx (Labbé, Retterer, Hodenpyl, Most and Jacobi)."

Hartz,* in reviewing the important experiments of Lenhardt, says: "These experiments would lead to the assumption that the tonsils are frequently infected secondarily to acute infection of the nose and the accessory cavities and the nasopharynx. * * * * It is probable that every inflammation of the mucosa induces a swelling, often imperceptible, of the neighboring lymphatic glands of greater or less extent, which, acting as a protective mechanism, inhibits the development of the germ. To the tonsils, which have the function of an open lymphatic gland, may be ascribed a protecting influence against the micro-organisms which are ever present in the mouth and nasopharynx, acting, also, as a barrier against their invasion into the trachea and esophagus. On the other hand, it must be admitted that the tonsils are frequently the seat of primary inflammation, and that they are more susceptible to disease than other membranous structures in this region."

The question has two sides—a purely bacteriological and a purely clinical one. If we consider the vast extent of the area through which infection can possibly take place, and if we follow the lead of experiment and that of the pure bacteriologist to its extreme limit and logical end, we may find that nothing short of the guillotine or the axe will insure the patient against absolute and certain immunity from infection through the throat.

On the other hand, when we consider the fact that there are constantly loitering around the oro and nasal pharynx—this region is the clubhouse of the streptococcus—a miscellaneous crowd of pathogenic bacteria, and when we consider the further fact that thousands of operations are done in these regions every day, and necessarily without antiseptic precautions, is it not significant at least that we meet with so little sepsis following their performance?

V. The chief practical lesson to be drawn from the foregoing facts is that in cases in which the throat, and particularly the tonsils, is apparently the starting point of infection, it is mandatory to examine the entire upper air tract and not be content with appearances that are visible to the eye through the open mouth alone. How many stop their search for the cause at the tonsil and fail to

* *Laryngoscope*, March, 1912, p. 180.

explore the deeper parts of the pharynx, the retro-nasal space, to say nothing of the nasal passages and accessory sinuses? This entire region must be reckoned with, and failure to do so has probably sent more than one to his grave. I know of a number of cases of fruitless removal of the tonsil which have only gotten relief when treatment was subsequently directed to the nasal cavities and post-nasal space. Not to mention many others, I am forcibly reminded of a case of general poisoning and wrecked health in a young woman in whom I had thought I had traced the source of infection to an antrum maxillæ empyema. As there was no escaping pus, my diagnosis was not accepted by the family and attendant, and I was not even permitted to make an exploratory puncture. I am unable to say what operation, if any, was done, as she naturally passed out of my hands. But as she grew rapidly worse, and as the futility of the treatment became apparent, my advice was finally reluctantly and doubtfully taken, the antrum was opened, the fetid contents evacuated, and the patient, under appropriate treatment, went on to speedy and complete recovery.

I could tell you, also, of cases in which the tonsil has been held responsible for the morbid condition, and has been partially or completely removed, in which relief has only been secured by the discovery and treatment of disease in the nose and retro-nasal space. And of far graver, far-reaching and deeper significance are cases of infection in which life has doubtlessly been sacrificed by clinging to the lazy and stupefying delusion that the tonsil is the sole portal of poisoning.

VI. The hypertrophied lymphatic tissue of the vault of the pharynx (adenoids) does harm chiefly through obstruction. Restore normal respiration in the child, and in a large number of cases the tonsils will take care of themselves. Even if the glands should remain large, if they are giving no trouble, they may be safely left *in situ,* for as their growth does not go on *pari passu* with the growth of the rest of the pharynx, the time soon comes when they become inconspicuous in the fully developed fauces.

The mere size of the tonsil is of itself no indication for removal except it be large enough or diseased sufficiently to interfere with respiration, speech or deglutition, in which case it, or a sufficient portion, should be taken away without delay. A large tonsil does not mean necessarily a diseased tonsil, nor does a small tonsil always indicate a healthy organ. Tonsils apparently diseased may consist of normal tissue, and, on the other hand, perfectly normal-looking glands may be found pathological microscopically. The tonsil may be greatly enlarged, may extend far down into the pharynx or be

buried deeply in the palatine arcade, and yet not interfere with the well-being of the individual. Such tonsils are the special prey of the tonsillectomist. If they are not interrupting function, they had best be left alone, for they are doing no harm. The change in anatomical relations after operation is often so great that function is crippled more after their complete removal than it was before. Moreover, it occasionally happens that the resurrection of a "buried" tonsil is followed by the burial of the patient.

A most interesting and instructive part of this subject is the occurrence of tonsil disease, with or without cervical adenitis, from infection from the nasal passages (from pus cavities, operations, etc.) and the improper care of the teeth during dentition. Wright* of Boston reports a remarkable series of 150 cases in which operation on the tonsils was deferred until after the eruption of the molars, not only in the six, but in the twelve-year period, and when dentition had been completely accomplished the enlarged cervical lymphatic glands disappeared, together with the swelling of the tonsils.

Tonsillitis not infrequently follows operations on the nasal cavities, especially if pus be present, or even after a cold in the head. Experimental work along this line would seem to indicate that infection takes place through the lymphatics. Thus, in the carefully conducted experiments of Lenhardt† it was found, among other things, that foreign matter, even when injected into the mucous membranes of one nasal passage, was found in both tonsils a short time after the injection.

The practical illuminating lesson of these observations is that if, in infancy and childhood, we pay more attention to the neglected nasal cavities and to the hygiene of the mouth and teeth, we will have less tonsil disease and fewer tonsil operations.

VII. In the permanent removal of tonsil disease equally good, and in the long run even better, results may be obtained in a large percentage of cases by measures less radical than those usually employed at the present time. Out of a multitude of examples, take the case of recurring quinsy, for which complete enucleation is done. In this condition it has been found that it is frequently only necessary to thoroughly slit up and shrink the upper lobe of the tonsil. Most quinsies occur in this situation, and the destruction of that part of the tonsil is all-sufficient to prevent recurrence. By this method enough of the organ is left to entirely perform its function, and the ultimate development of quinsy of the lateral columns of the pharynx, which follows sometimes complete removal, is avoided.

**Boston Medical and Surgical Journal,* May 20, 1909.

†*Archiv f Laryngologie,* 1909, Bd. XXI.

VIII. I do not propose to enter the perennial and monotonous controversy of tonsillotomy versus tonsillectomy. Each operation has its legitimate indications and aims. I do not intend to discuss them. I will only say, in passing, that enucleation of the tonsil, with even the removal of its capsule, if so desired, complete enough for all practical purposes, and this fact should be generally known, practically free from danger and with equally, and in some instances better results, can be done with the guillotine or one of its modifications. In the majority of cases this procedure will be all-sufficient. It is a much simpler method, especially in children, and it is not handicapped by the danger of complete enucleation, with its many accidents and complications, to say nothing of its long roll of unrecorded deaths. To subject a child to the latter operation, with all that it entails, when we have very much safer and practically just as efficient measures at hand, is, to say the least, bad judgment and unnecessary surgery.

As I see this part of the subject in the light of my own experience, and in the experience and observation of others, the truth is slowly but surely dawning, and at no distant day will irresistibly emerge into recognition that the so-called complete enucleation—the chief objection to which is that it can never be made complete—except in individuals in whom the organ is totally diseased, is an unnecessary operation in the great majority of cases in which it is at present done, and may be supplanted by many other methods which are perfectly safe and efficient and not open to its many serious objections. That the tonsil has some important mission to fulfil is furthermore shown from its frequent reappearance after enucleation—a protest, as it were, on the part of nature against the total destruction of its functions, and the vicarious activity of the neighboring lymphatic tissues when its physiological properties cease to exist. This is strikingly shown in the case of quinsy of the lateral columns of the pharynx, before referred to, when the tonsil is rudimentary or gone. In the case, too, of infectious disease, whose poison is eliminated by the throat, this compensatory action is most marked. Thus, in the malignant epidemic of tonsillitis which occurred last year in Boston, in which the disease was not contagious, did not start from a septic focus in the throat, but was introduced through the food supply (milk), after much constitutional disturbance, the whole tonsillar ring, as Coolidge* expresses it, broke into flame at once. The patients whose tonsils had been removed did not escape the process in the pharyngeal lymphoid tissue, the constitutional symptoms or the cervical adenitis.

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*Transactions American Laryn gological Association, 1911, p. 272.

IX. The tonsils are phonatory organs and play an important part in the mechanism of speech and song. They influence the action of the surrounding muscles and modify the resonance of the mouth. On the other hand, they may be so enlarged as to cripple both these functions, and should, therefore, be removed, such removal being sometimes a gain to the voice of one or more octaves. In tonsillectomy no one can foretell the amount and character of change in the anatomical relations of the parts, no matter how skilful the surgeon is or how skilfully the operation is performed. The adhesions and contractions left after this operation, even in the best of hands, lead often to deplorable changes in the quality and ruin of the singing voice. I should certainly hesitate long before advising such an operation in a great singer or anyone dependent upon the voice as a means of livelihood. The operation of tonsillectomy is a capital operation, a dangerous operation, and should only be done in a hospital or other place where every facility is at hand to meet the gravest possible emergency. It should only be done by a surgeon skilled in its performance and thoroughly equipped for every accident, and with a mind fully awake to the possible fatality which has so often followed as its result.

X. One word, again, to those who will fail to grasp the meaning of these remarks. It is not my object to decry in the least degree the many excellent measures which modern ingenuity has devised for the surgical treatment of tonsil affections. No one resorts to them with more alacrity than myself when the necessity for their adoption is apparent.

It is not my purpose to assail operation for definite and legitimate cause, but to warn against the "busy internist," as Swain so aptly terms him, who is too busy to waste his time with such trifles as differential diagnosis or diagnosis by exclusion, and his accommodating tonsillectomist, who, whether he admits it to himself or not, cares less about the cause of the trouble, as he is in the business for revenue only.

We who are teachers of laryngology should wake up to the responsibilities of our position and see to it that our pupils shall not leave our institutions or post-graduate schools until they are taught, on the one hand, conservatism and moderation in the surgical treatment of the simpler affections of the upper air tract, and, on the other hand, thoroughness and completeness when brought into the presence of situations of graver emergency. The problem, though difficult, is not impossible of solution. The cure for the evils I have been discussing is largely educational. While impressing upon our students the absolute necessity for surgical measures in proper cases,

we should at the same time make the dangers of their indiscriminate performance fully apparent. In this way only can we be reasonably sure of accomplishing the desired result. The error of first impression derived from teacher and text-book is often difficult of eradication. In the lecture-room, in the clinic, in our daily walks with the student, let us make that first impression a good one.

But equally, if not more, responsible for the deplorable state of affairs which exists to-day in the matter under discussion are the teacher of internal medicine and the general surgeon. When pre-eminent authority proclaims in lecture-room and text-book as indisputable truth the relationship between a host of diseases and the tonsil of the child, and advises the removal of the glands as a routine method of procedure, what can we expect of the student whose mind is thus poisoned at the very fountainhead of his medical education by ephemeral theory that masquerades so cheerily in the garb of indestructible fact? How are we to offset the irresponsibility of the responsible? But we hear on all sides, "Look at the results." Results? Here is a partial list from the practice, not of the ignorant, but of the most experienced and skilled: Death from hemorrhage and shock, development of latent tuberculosis in lungs and adjacent glands, laceration and other serious injuries of the palate and pharyngeal muscles, great contraction of the parts, removal of one barrier of infection, severe infection of the wound, septicemia, troublesome cicatrices, suppurative otitis media and other ear affections, troubles of vision and voice, ruin of the singing voice, emphysema, septic infarct, pneumonia, increased susceptibility to throat disease at the seat of operation, pharyngeal quinsy, and last, but not least, tonsillitis!

Who, may I ask, is in the better position to advise, the surgeon or practitioner who, without sufficient knowledge, lightly recommends complete enucleation of the tonsils, or those who have devoted their lives to the study of throat conditions, and who come in daily contact with its disastrous and often fatal end results? Formerly it was the nasal septum; now it is the tonsil that is the surgical objective of every beginner in laryngology, and a tonsillectomy is usually his first baptism of blood. This operation is done all over the land by operators of all kinds, and, if the truth were known, with great mortality. The amount of reckless surgery done in this field will never be known or chronicled in the pages of medical literature, but it may be found in its abiding-place in the book of the recording angel.

Let us hope that the day is not far distant when not only the profession, but the public, shall demand that this senseless slaughter

be stopped. Is not this day of medical moral preaching and uplifting a fitting one to lift the public out of the atmosphere in which it has been drugged, and for the reckless tonsillectomist a proper time to apply the remedy of the referendum and recall?

We are going through to-day in laryngology what the gynecologist went through years ago. The ovaries were removed then under as little provocation as the tonsils are being taken out to-day. The so-called "tonsil question" is one of simplicity and comparatively small dimensions when viewed in the light of sanity and common sense, but it has been made to assume formidable proportions by unsound observation and reckless surgery. It has come to a point when it is not only a burning question to the profession, but also to the public. This senseless, ruthless destruction of the tonsil is often so far-reaching and enduring in its evil results that it is becoming each day a greater menace to the public good. Until we have more definite knowledge concerning the use of the tonsils no one can tell the damage done to the children of the present generation or the influence of wholesale tonsil removal on the children of the next. Whatever a more exact examination of the tonsil may reveal as to its function, I believe it was placed in the throat, not with evil, but with good intent; to serve a teleological rather than a pathological purpose; that its mission is physiological, and that it was not designed by Nature as a natural, easy and convenient avenue of infection. It is, of course, not open to debate that there are a multitude of conditions that call for partial destruction or more or less complete removal of the tonsils, but radical operation should not be done without definite and sufficient reason. The tonsil should not be sacrificed any more than any other organ without convincing evidence that it is the cause of the disease to be removed.

Hasty theory, which sees in destruction of the tonsil the only means of treatment, and which, unmindful of the lymphatic and other anatomical arrangement of the neighboring structures, and their physiology, and which, losing sight of the further fact that it is hard, if not impossible, to determine during life that the tonsil is the only avenue of entrance in a given infection, throws differential diagnosis to the winds, should have no part in modern scientific laryngology. When we shall clarify the atmosphere of our ideas in this matter, and when sane authority shall demand a halt, then we will hear less of the massacre of innocent organs and have less frenzied literature on the subject.

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COMMENT FROM MONTH TO MONTH

Man's Inhumanity to Man is not to be compared to man's inhumanity to woman. Burns had in mind mankind in general when he conceived this phrase. Had he known of a specific case where a man had neglected to engage professional attendance for his wife in her approaching confinement, or could he have conceived of a man failing to provide for the professional fee in an emergency call upon that wife, especially at night time, he might have written man's inhumanity to woman.

Each man's humanity is a nature and a law unto itself; and the man who fails to provide against emergency sickness in his household is not deserving of a very great deal of sympathy from the general public.

It is easy to cry "close corporation" and point the finger of scorn at the entire medical profession when one member thereof seems to fall from the pedestal of professional ethics and follows the dictates of his own human nature.

Practically all the members of the medical profession are sympathetic and true. Their deeds speak far louder than any mere, written words. They are not given as a class to advertising their good deeds from the house tops. They are the pioneers and ardent workers in the cause of preventive medicine which slashes into and cuts out chunks from their professional incomes. They never pause to think of the reason of it. They simply work away and do it.

Very few fail to respond to a call when they are plainly and simply told the case is one of charity. This is their humanity.

As to "close corporation"—where is it? Surely not in a professional field which is the stamping ground for charlatans, fakirs and cults of every variety and description. It is a joke to call the medical profession a "close corporation," when that profession is parasitized as it is.

Are Tea and Coffee Harmful? This is the title of a symposium in the *Medical Times* for September, 1912. All have been of the opinion that if these beverages, same as alcohol, were abused, they were harmful. Most of us consider them harmless in moderation.

Caffeine is the principal alkaloid in both tea and coffee. Therefore, exact studies of the amount of caffeine in a cup of tea or coffee are of interest as well as important.

Prof. J. W. Wallet, of the University of Virginia, who has recently made exhaustive studies says that in one cupful of hot, black tea there are 1.54 grain of caffeine; green tea, cold—a glassful—2.02 grains; coffee—cupful—with hot milk, three-fifths coffee, 2.61 grains; coffee, "black," demitasse, 1.74 grains.

This would prove that black tea and coffee with milk would be the safer beverages to drink. It can readily be computed just how much caffeine is taken into the system with two or three cups of either at a meal or in the course of twenty-four hours; and it will be worth while to know what is the maximum amount of either that can be drunk safely daily and what effects upon various organs of the body excessive doses of caffeine have.

Pilcher has found that therapeutic doses increase cardiac tone, the vasomotor centre stimulated, vascular relaxation, sometimes raised blood pressure, usually a more rapid blood flow. With larger doses there is decrease of cardiac tone, vascular relaxation and a lowering of blood pressure. In excessive doses death takes place by cardiac dilatation.

The abuse of tea or coffee, therefore, will prove harmful to the normal heart, whilst small quantities may prove helpful when the heart is dilated.

In severe intoxication from alcohol Pilcher finds caffeine of no value, but helpful in mild intoxication.

Some of the disorders following in the train of caffeine are nervousness, feverishness, headache, irritability, dyspepsia and disturbance of sleep. One writer considers it an etiological factor in chronic nephritis.

One to four grains of caffeine *per diem* does not appear to cause any appreciable alteration in the quality or quantity of sleep, but above this the sleep is neither so sound or refreshing as it should be. So the person drinking more than two cups of coffee or three of black tea is verging on the border line of abuse.

As caffeine is not a food to nerve or muscle tissue, but a stimulant pure and simple, demands upon reserve force by repeated stimulation will tend to exhaustion and perversion of function. It is well, therefore, not to use tea or coffee regularly day in and day out, but to allow time for its elimination. This offsets its cumulative action in the tissues.

Individual opinion is both valuable and interesting.

Harvey W. Wiley believes that all caffeine beverages are harmful in varying degrees, depending upon the age and physical condition of the drinker, idiosyncratic tendencies, and the manner and quantity in which they are used, but the almost universal use of these beverages shows they do not produce very serious lesions. Caffeine, nicotine and alcohol has had much to do in creating the large number of neurotics found in the world to-day. Excessive drinking of tea and coffee, especially upon an empty stomach, is to be condemned.

Tom A Williams says special susceptibility is sometimes very great and instances cases where caffeine has proven poisonous even in small doses. People early learn, however, of this special susceptibility.

F. H. Barnes, of the Dr. Barnes Sanitarium, does not consider tea and coffee harmful if used in reasonable quantities; nor can he remember a case where they have been the cause of a neurosis or a psychosis. He believes there are too many extremists and alarmists in the medical profession.

On the other hand Solomon Solis Cohen, whose opinion must also carry weight, states they are harmful except when prescribed for definite purposes in the treatment of the sick. Most physicians cut them off in the case of the sick, even though the sick often crave for a cup of tea. Cohen believes one will escape serious injury, however, if he controls his appetite and keeps his daily allowance down to one cup of moderately weak coffee, diluted one-half with hot milk, in the morning, and one-half cup of black coffee—but a weak decoction—after dinner.

J. H. Kellogg, of the Battle Creek Sanatorium, answers the question of harmfulness by saying, "Yes, decidedly so." Tea and coffee are poisonous drugs. They are, in his opinion, the cause of, or lead to hardening of the arteries, among the results of which are Bright's disease, heart failure, apoplexy and premature old age. The mis-

chief done by tea and coffee is exceeded only by the harm caused by alcohol and tobacco. Tea and coffee are baneful drugs and their sale and use ought to be prohibited by law.

Superintendent Barnes and Superintendent Kellogg have very divergent views. Perhaps "There's-a-Reason."

What the people want to know from the medical profession about coffee, tea, alcohol and tobacco is the maximum quantity which can be partaken of daily without injury to their economies. There will always be some who will abstain from one, two, three or the whole all the time; and it is equally true there will always be some who will partake of one, two, three or four for all time. The total abstainers want no scientific knowledge upon the subject. The others want to know what quantity can be consumed without danger to themselves or their progeny.

The Massacre of the Tonsil, published in full on other pages of this issue, is so sane, so timely, and so important in its pronouncements that it is adjudged worthy of reproduction so as to give it as wide circulation as possible.

Coming from an undoubted, authoritative source at a time when medical inspectors, many practitioners and others have gone mad with an insane desire to rip the tonsil up the back, no matter what the cost, it cannot fail to make a profound impression upon all, and, indeed, upon those even who would harass, fine and imprison people who would fail to bow down and worship this golden calf of latter-day surgery.

Whilst laying no claim to any extended or far-reaching observations upon tonsil disease, there must be many practitioners of medicine who have, time and again, seen many tonsils right themselves as time went by under simple treatment. There must be many, too, who have often treated diseased tonsils successfully without hasty reference to the surgeon's hands, and had the joy of seeing them restored to their natural functions, whatever they may be, without running the danger to life and other diseases which these operations assuredly entail.

It was high time someone called a halt, and it is exceedingly satisfactory that the call has issued from one so eminently qualified by knowledge, experience and position.

The pronouncement has been deemed so important by the Editor of the *Maryland Medical Journal* as to call for reproduction in its September issue, an almost unheard-of proceeding in the history of medical journalism.

EDITORIAL NOTES

WELLESLEY HOSPITAL.

The new Wellesley Hospital, erected on the site of the well-known "Homewood" property of Mr. Frederick Nicholl at the head of Homewood Avenue, was formally declared open for public service on the morning of the 27th of August by H. R. H. the Governor-General.

H. R. H., accompanied by Princess Patricia, Miss Pelly, Col. Lowther and Capt. Long, drove up to the entrance to the hospital shortly before 12 o'clock and were received by Lieut.-Governor Sir John Gibson, with whom were Bishop Sweeny, Bishop Reeve, Canon Dixon, Sir William Mulock, President of the new institution, Mr. E. B. Osler and other distinguished gentlemen.

Following an address by the Lieutenant-Governor, in which he explained the objects of the hospital, H. R. H. said:

"Sir William Mulock, ladies and gentlemen, when you and Dr. Bruce asked me last May to open this hospital in August it gave me great pleasure to accede to your invitation, and I congratulate you on being ready for the opening to-day.

"As you have justly remarked—In England, Europe and the United States, they have many private hospitals for the accommodation of people whom it is inadvisable to treat in their homes. This hospital should be of great advantage to people in that condition who can afford to pay for medical attention. They can get here just as efficient treatment as could be obtained in any public hospital with the added advantage of absolute privacy.

"The Duchess obtained great benefit in a private ward in the Royal Victoria Hospital at Montreal, and it is my sincere wish that all who come to this institution may receive as good treatment and may make as good a recovery."

The Lieut.-Governor explained that the hospital was to be devoted exclusively to the care of paying patients.

"It is furnished with all the accessories and equipment of a modern hospital," he said, "but with the privacy and comforts of a home. On the top of the building is a roof garden, sufficiently large to accommodate all the patients. Nearly all the rooms have a southern aspect, so that even patients who are in bed can be wheeled to the windows to benefit by the rays of the sun.

"There is no regular visiting staff, as each patient will be attended by his or her own physician or surgeon. The hospital is

open to all physicians in good standing and surgeons who confine their practice to surgery.

"We are fortunate in having secured the services of Miss Elizabeth G. Flaws as Superintendent. Miss Flaws graduated in the Toronto General Hospital some years ago, subsequently held an important post in the Lakeside Hospital, Cleveland, and later was Superintendent of the Kingston General Hospital."

Following the official ceremony the royal party were conducted through the hospital and expressed the highest appreciation of the building itself and its splendid equipment.

MONTREAL'S DEATH AND BIRTH RATE.

The annual report of the Medical Officer of Health of Montreal shows that the birth rate in that city in 1911 was 37.49 per 1,000 of the population and the death rate 21.19 per 1,000. These figures represent a gain in births of one per cent. over 1910, and a decrease in deaths of one and one-fifth per cent. The total deaths for 1911 were 9,974. The births numbered 17,637, which places Montreal very high in natal statistics.

DRINKING AND SMOKING INCREASING IN CANADA.

For the fiscal year ending 31st March, 1912, Canada consumed spirits, beer, wine and tobacco per capita as follows: 1.030 gals., 6.598 gals., .114 gals., 3,679 lbs. This shows a decided increase, when compared with those of the previous year: Spirits, .941 gals.; beer, 5.959 gals.; wine, .112 gals.; tobacco, 3.302 lbs.

How is this to be explained in the face of many local option municipalities and a militant temperance movement?

CONGRESS ON HYGIENE AND DEMOGRAPHY.

The Fifteenth International Congress on Hygiene and Demography will be held in Washington, D.C., September 23rd to 28th, 1912. The President of the United States is Honorary President of the Congress. Dr. Henry P. Walcott of Massachusetts is President, and the Secretary-General, Dr. John S. Fulton, of Maryland.

This Congress will probably be the largest gathering in the interest of public health ever held. It will be the first time in the half-century's history of the Congresses that one has been held in the United States and probably the last for a generation. The fee for membership is $5.00 and copies of the proceedings are only available for members.

News Items

Dr. A. L. Danard, Owen Sound, is in London, England.

Dr. Kaufmann, Montreal, has sailed for Europe.

Regina is to have a new isolation hospital.

Dr. Hill, of the University of Minnesota, has been appointed Superintendent of the Hygienic Institute at London, Ontario.

In the past five months there have been fifty-four deaths in Toronto from whooping cough; scarlet fever, thirty-two deaths.

Drs. E. S. Harding, Montreal; E. D. Ault, Acton, Ont., and J. G. Hands, Victoria, B.C., are in London, England.

Dr. Wm. Burden, Trinity '95, Rochester, N.Y., has been visiting in Toronto and other points in Ontario.

Dr. W. S. Harrison, will represent the Toronto Board of Health at the Hygienic Congress in Washington.

Dr. Allan Cameron, Owen Sound, Ont., died on the 6th of September, aged eighty-three.

Dr. Bruce Hewson, Trinity '95, formerly of Colborne, Ont., is now practising in Peterboro.

Dr. Tait Mackenzie, Philadelphia, formerly of Montreal, has been a guest of Lord Aberdeen.

Drs. W. B. Howell and I. C. Sharp, Montreal, have returned from Europe.

Dr. Geo. W. Badgerow, London, England, is visiting his old home in Toronto.

Dr. J. D. McDonald, formerly of Lion's Head, Ont., is located in Regina.

Dr. George Elliott has moved to 219 Spadina Road.

A new hospital is being erected at Weyburn, Sask., at a cost of $50,000.

Dr. Douglas, M. O. H., Winnipeg, has returned from a trip East.

Dr. R. T. Rutherford, an old Stratford boy, practising at Strathclair, Man., has been appointed Medical Inspector of Immigration at the port of New York for the Dominion of Canada.

Winnipeg now has a Children's Hospital, the first in Western Canada. H. R. H. the Duke of Connaught opened the hospital on the 17th of July.

Dr. Hugh A. MacCallum, London, Ont., has been elected President of the Canadian Medical Association, which will meet next year in London.

In August there were 304 deaths in Ontario. Infantile paralysis, 15 cases, 8 deaths; spinal meningitis, 13, 13; smallpox, 31, no deaths; scarlet fever, 140, 10; diphtheria, 193, 27; measles, 64, 3; whooping cough, 348, 30; typhoid fever, 1,022, 94; tuberculosis, 179, 119.

A most successful public health exhibit was that at the Canadian National Exhibition this year. It was in charge of Dr. J. W. S. McCullough, the Chief Officer of Health of the Province of Ontario, and from the vast crowds who inspected it, it may be certain the public are taking an exceeding great interest in matters of a public health nature.

SUMMER DIARRHEA.—H. Heiman (*Am. Jour. Obs. and Diseases of W. and C.*) advises an initial cathartic of castor oil or milk of magnesia in the non-inflammatory, milder cases. Milk should not be given from twenty-four to forty-eight hours. Upon cessation of the diarrhea give diluted skimmed milk, barley water and sugar in gradually increasing quantities. In most cases astringents are unnecessary. If, after the thorough removal of the decomposed products causing the dyspepsia, diarrhea continues, 5 to 10 grains of bismuth may be given in mucilage of acacia every one to two hours. With abdominal pain, cramps, restlessness and watery diarrhea, he advises five to ten drops of paregoric. He reports favorably upon "Eiweiss Milch," which consists of casein and buttermilk.