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THE PRESIDENT'S ADDRESS.

BY

IRVING H. CAMERON.

Delivered at the Annual Meeting of the Canadian Medical Association, Toronto, August 30th, 1899.

THE OVERCROWDING AND THE DECADENCE OF SCHOLARSHIP IN THE PROFESSION.

Gentlemen of the Canadian Medical Association :—

My first duty is the pleasant one of welcoming you all to the Queen City of the West, and to express the hope that your sojourn here may prove at once pleasant and profitable.

My next duty is to express to you my full appreciation of the good-will and lenient judgment which prompted you to place me in the position of undeserved eminence which, by your suffrage, I occupy to-day.

"Some men are born great, some achieve greatness and some have greatness thrust upon them." In the position of the last named I stand at present quite unwillingly; and had it not happened that on the occasion of your last meeting I was absent in England I should have presumed to correct your judgment and have pointed out my lack of fitness for the post. Under the circumstances, therefore, it is not too much to ask of you to cast that mantle of charitable consideration with which one so naturally envelopes one's own mistakes, over my shortcomings and defects.

It is the fashion on occasions like the present to raise the pæan of *Io, triumphe !* and to recount the gains and the achievements of the year or of the decade; but this is done on every hand much better than I could do it and if the less skilful hand be set to point out some defects the less occasion for complaint will the auditors possess.

If, indeed, my screed turn out to be a jeremiad the proneness of the Keltic mind to such indulgence must plead my excuse on atavistic

grounds; and the increasing tendency of one's second quarter of a century in the practice of Physic to recognize much merit in the men and methods of the past will add its suit in my defence.

The burden of my lament to-day is the Overcrowding of our Ranks, and the Decadence of Scholarship in the Profession; and I shall best requite your courtesy and confidence, in giving me this opportunity to inflict my views upon you, by the briefest possible presentation of my subject.

I should do this in any case, however, recognizing to the full the truth of the ancient adage, *Verbum sapientibus sat.*

The fact of overcrowding in the Profession is sufficiently obvious to enable me to dispense with a demonstration, and is as well known to all of you as to myself.

The same thing is equally true of the other professions which, like our own, are still by courtesy called *learned.*

The Church and the Bar suffer from the same plethora as ourselves, and in their case the remedy will perhaps be more difficult of application and equally drastic in action. Your courtesy will doubtless allow me, however, to cite one or two instances in unnecessary substantiation of the proposition. And I need go no further afield than the city in which we meet to look for an illustration.

It used to be considered that a population of 1,000 souls afforded a sufficient clientèle to keep one medical man in reasonable occupation and affluence. But what do we find here? A city of 200,000 inhabitants and 400 physicians! Under the circumstances, these are naturally not of "*Toronto's 400.*" A census of other cities and of rural districts will reveal a like condition of affairs; and some three years ago Sir Wm. Mitchell Banks, in his Presidential Address to the Lancashire and Cheshire Branch of the British Medical Association discoursed upon the same state of the Professions at home in England. This year in France, too, the same subject has been the theme of more than one discourse.

The overcrowded state of the profession being granted, then, what are the evils which flow therefrom.

I make no apology, for none is needed, for answering this question by a long quotation from Mitchell Banks.

Those of you who know the man, or who had the privilege of listening to him in Montreal two years ago, will welcome again the *ipsissima verba* of the master, while they will regretfully miss his inimitable delivery; and those who have not the pleasure of his acquaintance will gladly gather some impression of the man from my selections, while I willingly confess my inability to say what I wish to say with anything like the same felicity.

"At many meetings held during the past year, I could not help being painfully struck with the often repeated mention of the very small fees which, in certain of its departments,—notably that of midwifery,—many members of our profession were forced to accept. It is not that there is anything dishonourable in accepting a small fee. Why, the very smallest fee honourably earned from and gratefully paid by the poorest workingman is a king's ransom, in moral value, compared with the great sums extorted by that prince of quacks, the fashionable London specialist. But what one could not help feeling was, that the physical labour, the mental fatigue, and the harassment and anxiety expended by many of our brethren upon their cases were utterly disproportionate to the value of the fees supposed to remunerate them. Can it be that the mercantile price of medical skill is depreciating in money value? This is not possible. The article, if one may so term it, is of far better quality than ever it was as regards intrinsic worth. Is it the general bad times?

No doubt this accounts for a good deal, but the difficulty of making a living in medicine has been steadily getting greater in the large cities and in the manufacturing districts for the last twenty-five years. Are we, as a body, falling in the estimation of the public, who are ceasing to respect us and who think our skill no longer worth paying for? Quite the contrary. As an honourable profession Medicine never took so high a rank in all its history as it does to-day. What, then, is the cause of this bitter cry from many of the rank and file of our profession, that they can only make their bread by miserable fees, earned by intolerably hard work? Gentlemen, it requires no royal commission to find this out. The simple fact is that, with us as with many other businesses and trades, there are too many of us for it. That is the sum and substance of the whole thing.

Many circumstances have contributed to this overcrowding. In former days a man of good family and social rank, but whose fortune was not very great, while his children were numerous, could often find places for a son or two in the church or in the army, through the influence of powerful friends. But the days of interest are gone, and these avenues are closed now. As for the Bar, the number of the briefless seems ever on the increase, while legal proceedings are actually diminishing in number. In business the quiet old trading days are gone, and there is nothing but hurry and conflict and cheating and risk. So that the merchant sees in Medicine a comfortable sphere of life, where a living can usually be made by any sober and industrious man. Thus the great Medical Schools have been pouring out a deluge of young practitioners, which has overwhelmed the land. One remembers the story of Abernethy's celebrated address to an audience of new-fledged doctors, which began with, "Good heavens! gentlemen, what is to become of you all?" It is a good thing

for him that he did not live to see the present state of things. It is curious to note, moreover, how we doctors are unknowingly compelled to follow the stream of popular prejudice. At the present day the desire is for life in towns where there is activity and energy and rivalry and companionship. A quiet life in the country in not in accord with the temper of the times, and men fly to the haunts of men.

I confess that there is no profession which has such a good excuse for so doing as ours. To make the spark, steel must rub against steel; in order to progress, brain must struggle against brain. But, as a result, the overcrowding of our towns has only become all the more marked. There used to be many quiet old villages in England, where the doctors succeeded each other from father to son for three and four generations, and where the inhabitants did not believe there could be any doctors worth talking about except those who had supported their fathers' and mothers' heads as they lay a-dying, and who had brought *them* into the world. But those days are gone; and our business is not to lament the past, but to do the best for the present.

Being then, face to face with the fact that there are so many doctors in our cities and manufacturing towns, that a man must live a life of incessant labour and turmoil even to exist, and that in many cases he cannot even do that, what is the disadvantage to the public in this? For it is right to take note of them as well as of ourselves. I have heard it argued by business men that there cannot be any harm in this, seeing that competition has compelled men to exercise every mental gift they possess, so as to excel each other in manufacturing things at a cheap rate, by which means the public have been great gainers. This, I admit, is perfectly true, but, as it happens, there is an immeasurable gulf fixed between the capacity of the ordinary man or woman to judge of the value of articles of commerce, and their capacity to judge of the value of medical skill. Every man who has long taught students becomes sententious; he invents proverbs. I have long ago invented one to the effect that in Religion and Medicine the public like being quacked; they deliberately prefer it. Just look round the circle of your acquaintances. They understand a business bargain. You can't take them over in buying a house or a piece of land. They appreciate to a penny the wares of the greengrocer or the milliner. But you have only to take a bread pill and "bill" the intervening space from the pyramids of Egypt to the cañons of the Rocky Mountains with posters, which announce that it will cure every disease from chickenpox to cancer, and you will make a huge fortune, which you will no doubt bequeath to charities when you die, as a kind of *quid pro quo* for having robbed your fellow-men during a long lifetime. A man comes to consult you, whose ailment is clearly due to his manner of living. You give him honest advice about this, show

him how he must alter his habits, and tell him he doesn't require physic. He has no sooner got on to your doorstep than he proclaims you a fool, and proceeds to dose himself with Elliman's Little Kidney Pills, or Beecham's Embrocation, or Siegel's Gore Mixture. Both in his religion and in his medicine the average man doesn't want to hear common sense; he wants to have something that will cure his soul or his body at once, by some supernatural means; and if you can lie hardily enough to him, he will swallow any dogma or any pill you like to stuff down his throat,—and pay handsomely for it, too. I cannot be accused of exaggerating, when one considers the vast numbers of persons who have voluntarily paid for Harness' Electric Belts and Count Mattei's Cure for Cancer. But the result of all this to us, as a profession, is very serious, for it is a direct inducement to us to prey upon the credulity of our patients, and I do not believe there is another body of men to be found anywhere which makes such strenuous efforts to be honest as we do, in spite of very great temptations to the contrary. If any man among us chooses to cut himself clean adrift from the society of his honest brethren, and to set up as an out-and-out daring charlatan, he is at any rate sure of making plenty of money, if only he will take for his motto, "L'audace, toujours l'audace." Let us pursue the argument a stage further. Let us suppose a condition where, owing to there being more men than there is work for them to do, a certain number see no prospect of earning a decent living before them. What are they to do? It is all very well for Monsieur Talleyrand to tell the poor devil who said that he had to live, that he saw no necessity for it. The poor devils insist on living in spite of Monsieur Talleyrand; and if they cannot live honestly, well, then, they will live the other way. Go down any big street in the north end of Liverpool, and before you have gone far you will come on a shabby-looking shop, which has evidently remained empty for a long time till occupied by the present tenants. The window is blackened, but its dulness is relieved by gold letters which inform you that this is a Dispensary; that Dr. Dosem, Physician, Surgeon and Accoucheur is in attendance from 9 a.m. to 9 p.m., that medicine and advice are given for the moderate sum of sixpence, or even threepence, and that vaccination is performed at a phenomenally low figure. If you come back in a month or two you will find that the Dispensary has been let to a greengrocer, but Dr. Dosem has transferred his large and lucrative practice to another shop in a back slum of Manchester. Many of you are medical officers to clubs, and have been waited upon by the representatives of these clubs to know what is the very lowest figure at which you will take them. In the course of a week you learn that a neighbouring practitioner, two streets off, has been entertaining these gentlemen to pipes and whisky-and-water in his best sittingroom, and that he has agreed to take them

at sixpence a head less than you had announced as your minimum. Others of you having gathered around you a comfortable practice, can remember how a practitioner from a neighbouring village planted in a house close to you one of those wretched Helots of medicine, known as unqualified assistants, to whom he acted as "cover," while his slave sweated for him in the pleasant task of undermining your practice by underselling you. Thank God! the Medical Council has pretty well succeeded in stamping out such proceedings, well stigmatised by them "infamous" from a professional point of view. And still there is a lower depth; for in every big city you will find qualified men sitting in shops of, and openly abetting, those pests of society, the dealers in mysterious remedies for venereal diseases, whose advertisements, with singular appropriateness, adorn the walls of the public urinals.

If you ask, gentlemen, how these miserable things can be done by educated gentlemen, the members of a liberal profession, I reply that these are not educated gentlemen. They are men who should never have been in the ranks of our profession at all. They are, I admit, sorely tempted. Mostly they have wives and children depending on them, and clamouring for bread. Practice does not seem to come their way, and still the butcher and the baker must be paid; and so they naturally say to themselves,—if we cannot live honestly, we must live as best we can. I am charitable enough to believe that this is the case in the majority of instances, but there are not a few men who have simply the instincts of small shop-keepers. Their point of view of practice is identical with the point of view of a small grocer or third-rate chemist as regards his "takings." They adopt, positively by choice, the mean and sordid part of their profession. One of these men frankly told me, some years ago, that he did not care a fig for his profession, nor for the respect of his professional brethren. He wanted to get hold of money, and money he would have, however he got it.

I need not dwell further upon this very painful side of professional life. You are all too well acquainted with it."

Another evil of this overcrowding to which, however, Mitchell Banks does not allude, is an undue growth of Specialists. Young men entering the Profession—oftentimes men of enterprise and ability,—finding the general-practice avenues to employment and emolument thronged by a jostling crowd, seek by-paths to the attainment of their goal and speedily blossom out into full-grown specialists whose opportunities of attracting attention (not to say advertisement) are so much greater, whose fees are so much larger, and whose lives are made up of so much less-laborious days and nights of uninterrupted ease and enjoyment. The temptation, indeed, is great!

But I would not be misunderstood as decrying a proper specialism in

practice. When cases of a certain kind accumulate in sufficient number to confer upon an individual special skill and experience in their management, it is highly proper for him to devote himself to their treatment, and much to the advantage of all concerned, for he will bring to bear upon his special work a mind well developed by general experience and well stored with the facts of General Pathology. The mutual inter-dependence of all parts of the Animal Economy renders it imperative, in my mind, that the Specialist should grow out of the General Practitioner, or else be prepared for his special work by long residence on all sides of a General Hospital (including the Pathological Department). Otherwise he may possess consummate technical skill but nine tithes of time, his knowledge will be as nothing to that of the family physician who adds to a liberal stock of general information an acquaintance with disease in general, and a knowledge of his patient, root and branch.

But the good old-fashioned practitioner is dying out and my jeremiad would be incomplete if it did not bemoan the passing of the family doctor, and, in the day of automobiles, that other noble and useful animal, the doctor's horse.

On the other branch of my subject—the Decadence of Scholarship in the Profession—I have but scant time to speak.

That the literary side of the preliminary preparation for a medical education is nowadays too much neglected and that a low level of scholarship obtains and is accepted, is abundantly evidenced by the characters of the answers given to examination questions, and by the questions themselves, by the applications and petitions of medical students to the various governing bodies, and by the formal announcements and kalendars of the Medical Colleges themselves.

A comparison of the literary style of the medical text-books of to-day with that of the past generation, enforces the same conclusion.

Now this defect of scholarship is associated with, and to my mind, too oft begets defect of manners; and the courtesy and old-time courtliness of professional intercourse is rapidly disappearing.

The pupil no longer greets his master with the outward evidences of profound respect, but commonly meets him on terms of equality. The practitioners of our art no longer manifest in their public intercourse and private conversation that deference which characterized the gentlemen of the old school. Nor is this decline of manners restricted to the lower walks of the profession—the student and the practitioner—but it has invaded with no less subtlety and certainty the higher ranks of the consultant. The time was when the consultant did not seek to glorify himself at the expense of the Family Doctor, and when the welfare of the patient was their united, single aim. Then, *after* consultation, the Family Doctor expressed to the patient and his friends the result of the

deliberations and the plan of campaign jointly proposed. Nothing was said of differences, for these had been talked over and effaced, and no statements or suggestions were offered tending to exaggerate the lay estimate of the importance of the wide experience and profound learning of the Consultant or so-called Specialist. *During* the consultation in the endeavour to arrive at a unanimous conclusion, sight was never lost of the deference due to the Family Physician who had a special knowledge of the patient and his heredity, widely cultivated powers of observation, and a mind well-practised in the weighing of evidence. In the case of palpable or established error on the part of the practitioner, the educated consultant, quickly responsive to the dictates of the instincts of a gentleman, remembered the adage so well expressed by Pope :—

"Men must be taught as though you taught them not,
And things unknown proposed as things forgot."

In brief the golden rule was the rule of conduct in consultations.

In those good old days the crowning disgrace of latter day consultations was utterly impossible. A man who then proposed in consultation, as has been openly advocated in a journal published in St. Louis, Mo., in the interest of the most absurd and irrational of all so-called specialties, Abdominal Surgery and Gynæcology, and, as has been done, I am told by at least two practitioners in our midst, that an operation should be performed by the consultant and a commission be extracted from the patient for the benefit of the practitioner referring the patient, would undoubtedly have been arraigned before a competent tribunal on a charge of conduct infamous in a professional respect ; yet this line of conduct is now openly urged on the plea of equity and justice to the family physician. Truly the commercial spirit, the instinct of the tradesman has infected a once noble and honourable profession with a destructive, nay, a fatal virus.

Now I venture to group these two crying evils of our time—the overcrowding of the profession and its decadence in Scholarship—together, because I believe the remedy for both is one and the same. Hear again what Mitchell Banks says upon the subject.

After referring to the failure of attempts to suppress quackery and illicit practice by legal process owing to technical quibbles and the sympathy of juries stimulated by the cry of oppression, and the inability of the General Medical Council to put down all the rascals in the profession, even if they sat all year round, he urged upon the attention of his hearers the expensiveness of the process citing one case in which the attempt to secure legal conviction cost the profession £600 and accomplished nothing. He then directs his attention to the suggestion that the severity of the professional examinations should be increased, and on

this point he says :—"I can confidently affirm (from my experience in the General Medical Council and in the College of Surgeons) that it is not possible at present to add to the burden of examinations which the medical student has to bear without doing more harm than good. . . .

You can go on, no doubt, adding subject to subject, and examination to examination, but by so doing you only drive the student into further and further cramming. His serious defect at present is that, owing to the eternal cramming to which he is compelled to have recourse in order to master his subjects, he loses all power of thinking or reasoning for himself. He is being reduced to a mere grinding machine, which has to be stoked up with scientific pabulum. . . .

"Well then, you ask, what is my remedy ? My remedy consists simply in stiffening up the entrance examination. I hold that there ought to be a rough sieve applied at the very beginning and that all who cannot get through this sieve should be cast on one side. As things stand at present any man who gets through an entrance examination will ultimately get a qualification of some kind which will enable him to put "Doctor" on his door plate, with just as much effect as a graduate in honours of the London University. You cannot hinder him from this by any amount of scientific or professional examinations. He will rub through these bit by bit. Any teacher will tell you how futile it is to attempt to turn back a man who has once passed an entrance examination, if that man is determined to go on. Besides, it seems to me unfair to allow an inferior man to enter upon a course of professional studies for which he is obviously unfitted. He ought not to be allowed to get so far. He should be turned back at the very commencement, and not encouraged to throw away years on unavailing work. It has been said that if only those who have had a really good preliminary education are to be allowed to enter the profession, you may keep back many poor but struggling geniuses, who might afterward make great names for themselves. Well, there would be reason in this argument if we were in want of men to join our ranks, but when our object is to keep out applicants, the persons to be kept out are the badly educated, underbred ones. They will be far happier as decent tradesmen, in positions where their manners and their ways of thinking will not be out of place. When admitted among us they simply hold us down and the few heaven-born geniuses among them would never be missed." To secure uniformity Mr. Banks thinks the entrance examination should be under the control or inspection of the General Medical Council.

And if we are to have a General Medical Council of education, examination and registration for the Dominion—a consummation devoutly to be wished, and which your deliberations and endeavours at this session may almost make an accomplished fact—which Dr. Roddick's

strenuous efforts and untiring zeal have brought so nearly to an accomplishment, an achievement upon which I now offer both you and him my warmest and most sincere congratulations—if such a body, I say, be now happily about to be constituted, then, following the suggestion offered by Sir Wm. Banks, this most important duty of regulating the standard of entrance might well be entrusted to it.

But it is upon the character and quality of this entrance examination that I feel most strongly, and the strength of my feelings forces me to the imprudence of trespassing further upon your patience.

Dr. MacNeill, of Stanleybridge, P.E.I., presented this matter most forcefully and skilfully to the Maritime Medical Association at its meeting last month, and I heartily commend his address to your perusal as a most powerful argument in support of my position. (Maritime Med. News, Aug., '99.)

I am not of those who think that a degree in science alone is the proper and essential precursor of entrance upon medical studies, but I hold strongly to my ancient faith in the literae humaniores—the basis of what was called in my younger days "the education of an English gentleman"—as the proper substratum and foundation work upon which to build the superstructure of a professional education. Such a course is particularly suited for the medical practitioner, doing away largely with the evils above complained of, exacting a higher degree of culture and refinement—thus diminishing the internal pressure of numbers, and by the establishment of a higher sense of professional character and conduct, effacing many of the crudities and barbarities which now obtain, for as Ovid long ago averred, "Emollit mores nec sinit esse feros."

That nothing short of the highest and best preparation will do for the medical profession you, of course, will all readily admit, but it is a peculiar source of gratification, and encouragement of high ideals, to find a man of so much eminence, of such genuine refinement and of such a wide experience of men and manners as Lord Rosebery, affirming, as he did on last Prize Day at Epsom College (July 29th), the association of which with the profession is peculiarly close, that "the medical profession in its science contained perhaps the most supreme elements of manhood of all the professions" and in the development of this "manhood" the headmaster (the Rev. T. N. Hart-Smith) on the same occasion said :—"Their aim at Epsom College was to train the boys on sound principles so that they might have a good general education—and by sound principles he meant classics and mathematics—and to turn out, not necessarily scholars and prize winners, but boys of the right stamp who were able to set an example in whatever situation they might be placed." Such boys are doubtless the fathers of the right stamp of men.

But not only for the vocation of medicine amongst scientific pursuits

is literary culture valued, for we find Sir J. Norman Lockyer in the address which he delivered a year ago at the Royal College of Science, on the History of Scientific Instruction, concluding thus :—"I have referred previously to the questions of secondary education and of a true London University, soon, let us hope, to be realized. Our college will be the first institution to gain from a proper system of secondary education, for the reason that scientific studies gain enormously by the results of literary culture without which we can neither learn so thoroughly, nor teach so effectively as one could wish."

Let me not be misunderstood, however. I have no desire to force all our students to become "Grammarians," to be able to "settle *hoti's* business, properly base *oun* or give us the doctrine of the enclitic *de*," but I would have them realize to the full the truth of the remark made by Dr. John Brown in the Post Preface to his "Horae Subsecivae" now forty years ago :—

"Latin and Greek are not dead—in one sense they are happily immortal, but the present age is doing its worst to kill them, *and much of their own best good and pleasure.*"

I feel no keener sense of gratitude to any man than I owe to the memory of the late Dr. Morden, of Brockville, who gave me my first copy of Dr. Brown's "Spare Hours" a few years after they were published and from which I learned the wisdom which that quoted sentence inculcates.

The preparation, then, which I would require all candidates in the Medical Faculty to have undergone in their own best interest as well as in that of the Profession, would be such a literary training as is involved in what we call in the University of Toronto "the general course," and which comprises, *inter alia*, the subjects of Latin and Greek, French and German, Astronomy and Physics, Biology and Geology, Philosophy, History and Political Economy. Having graduated in this course after three or four years of study, I would have them then proceed to the Faculty of Medicine and devote the first two or three years therein to those branches of science which are immediately ancillary to Medical Knowledge, viz. :—Biology (including Physiology), Human and Comparative Anatomy, Chemistry and Materia Medica ; and the final three years should be spent in the clinical laboratory, the hospital and the post-mortem room, on the walls of which should always be inscribed, as it was over the door of the Mortuary of the old Hotel Dieu in Paris :—"Hic locus est quo mors gaudet succurrere vitae."

Having completed such a course with diligence and honesty, the new born physician would enter upon his career of honourable usefulness with commingled modesty and confidence, and the evils which I have bemoaned at such length would cease in the land.

One other, and a painful duty remains to me before I close. It is to make mention of the diminution of our numbers by the inevitable emigration to "the great majority." Were the roll to be called to-day of those who were active in the Association's work when I joined the ranks five-and-twenty years ago, scarce a corporal's guard would answer to their names. Of the rest it would have to be recorded "*abierunt ad plures*" or "*emigraverunt.*"

And of the Corporal himself, then Secretary of the mess (Osler), it would have to be told that though happily still present in the spirit the absent flesh had sought "fresh woods and pastures new." How well for us if he could only have deferred it until "to-morrow"!

My coranach to-day is "but an echo of the moan for these" and the names I mention, with averted head and the hand thrice filled with dust, are H. H. Wright, of Toronto, Charles Robinson, of Brampton, original members of the Association; and J. H. Mullin, of Hamilton, H. P. Wright, of Ottawa, and J. E. Graham, of Toronto, who were contemporaries with myself in 1874. Only three of these, Dr. Mullin, Dr. H. P. Wright and Dr. Graham took a continuously active part in the work of the Association, and the memory of their service demands a word of acknowledgment. Of these three Dr. Mullin alone had passed the meridian of life, and with him the shadows had scarcely begun perceptibly to lengthen until a year before his death. The last occasion on which I remember to have seen him in Toronto was at the meeting convened by Dr. Roddick to discuss the question of Interprovincial Registration. But then the shadow of the shadow that waits for men was creeping on apace.

Throughout his professional career of forty years Dr. Mullin wore in simplicity and modesty, "the white flower of a blameless life." Of his many private virtues I shall not speak. Of his professional character I may say in brief, that he was throughout, both to the Great Corporation which he served so long and faithfully and well, and to his private patients a most devoted and reliable "guide, philosopher and friend," to his brethren an "ever present help in time of trouble," and to us all a bright example to emulate and follow.

Of my late, lamented colleague, Dr. J. E. Graham, close association makes me speak with some reserve. I may, however, without impropriety say, what I think all will readily admit, that he was the father in this country of clinical teaching as we now have it; that he gave a great impetus to the study of Dermatology and of Pathology amongst us, and that from start to finish he held high aloft, unflickering and undimmed, the lamp of science to guide our footsteps and his own. He was himself a beacon for our steering, and setting an example of assiduous applica-

tion, patient perseverance, indomitable energy and pluck, personal probity and large *esprit de corps*, combined with ability and common sense, he showed the way, in spite of enervating influences within, to scale the rugged rocks of opposing difficulties and reach the heights of professional recognition and reward.

To refer to Harry Wright of Ottawa, as he was always affectionately called, in terms of moderation is no easy task. Save Osler alone, I know of no man ever in this Association who became in the same degree the personal friend of every one of us. His personal magnetism knew no bounds nor obstacles. Peculiarly situated in that he enjoyed the largest practice in the Capital, he became through the members of both Houses of Parliament intimately known throughout the length and breadth of the Dominion, and from the highest to the lowest in the land, he was everywhere regarded as a true personal friend, a tried and trusted counsellor.

That without notice of his sailing, and free from "the sadness of farewell," he crossed the bar, was a great shock and grief to his innumerable friends, for Harry Wright was manifestly a favourite of the Gods,

> "And him on whom, at the end
> Of toil and dolour untold,
> The Gods have said that repose
> At last shall descend undisturb'd—
> Him you expect to behold
> In an easy old age, in a happy home;
> No end but this you praise.
> But him on whom in the prime
> Of life, with vigour undimmed,
> With unspent mind, and a soul,
> Unworn, undebased, undecayed,
> Mournfully grating the gates
> Of the City of Death have forever closed—
> Him, I count him, well starr'd."

The last time the Association met in the City of Toronto (1889), H. P. Wright was President. But it was only a business meeting here, and the Association immediately adjourned to Banff. There it was his grievous task, very lovingly performed, to speak to the Association on the loss it had sustained through the premature death of his uncle, Dr. Robert Palmer Howard, of Montreal, one of the strongest minds ever associated with us, and *facile princeps* in Montreal's always strong contingent. That I am called upon to-day to do a similar office for himself fills me with grief, for "I owe more tears to this dead man than you shall see me pay."

While memory holds her seat in our distracted globes, Harry Wright will never be forgotten; and the recollection of him will linger longer still, when our haunts of memory echo not, in the records of the hospital which he did so much to found and to foster, thanks to the munificence of that dear wife who was indeed "a helpmeet for him."

Of all these dead friends alike I take my leave in the time-honoured words:—

"Fratres, avete atque valete!"

"Si quis piorum manibus locus, si, ut sapientibus placet, non cum corpore extinguuntur animae magnae, placide quiescatis!"

One word of cheer and I have done. Amongst the recipients of the last "birthday honours," men noted with applause the names of Sir John Burdon Sanderson, Sir Michael Foster, and Sir William Mitchell Banks. These honours were not bestowed for political reasons, for special service to the Sovereign, or to the State as such, but simply in recognition of scientific labours conducted in the laboratory, the dissecting-room, and the ward. That two physiologists and a surgeon-anatomist should be selected for this distinction bodes well for the future of our art, the hope of whose progress and development is wholly based upon our science.

As your mouthpiece on this occasion, let me offer to these gentlemen, our masters and teachers of old, our warmest and sincerest congratulations upon the recognition by the Fountain of Honour of their great merit, worthiness and deserts. Let us wish them long life and happiness to enjoy these honours which were never won more worthily, and which none will wear more "lightly as a flower." Floreat Res Medica!

THE ADDRESS IN MEDICINE.

BY

J. T. FOTHERINGHAM, M.D.

Delivered before the Canadian Medical Association, Toronto Meeting, 1899.

INFANT FEEDING AND INFANTILE DIARRHŒA.

Mr. President and Gentlemen of the Canadian Medical Association :—

My first duty, as it is a pleasure, is to express my high appreciation of the compliment paid me by yourself Sir and your Committee, in inviting me to read the Address in Medicine before our National Association, an Association which exercises the hegemony among all the Medical Societies of the country, as the country does among the Colonies of the Empire. Permit me to suggest in passing that in my opinion our Association has borne no insignificant part, and will bear yet a much greater part, in the forging more closely of the chains that bind into one the once disunited portions of the Canadian unit in Britain's congeries of nations. For you notice that I refer to it as a National Association. I think, too, that I may safely prophesy, though neither a prophet nor the son of a prophet, that we shall from this date gain greatly as an Association by the rising tide of national sentiment, a tide which has risen, I rejoice to say, only more slowly than that greater, more beneficent tide, like the tide of our Mother Land's own uinversal Ocean, the tide of Imperial sentiment and of quickened love for the Greater Britain, the wide world over, of which we as a nation form only a part—indeed I need only point to the unprecedented success of the present meeting as a proof of the upgrowth of the sentiment of Canadian solidarity, for without that sentiment even the skilful and energetic management of the Committees of the Association would have been much less fruitful of results—but I must ask your pardon for a digression so far removed from the subject of my paper, and come back to the sober fact that I have undertaken a task which I feel is too much for me. I can pretend to no very special knowledge of the subject beyond that which careful reading and conscientious clinical observation can produce, and cast myself upon your indulgence with the request that the discussion to follow may be free, and with the hope it may be helpful both to myself and to us all. The selection of a subject was difficult, and I was influenced in my choice mainly by the fact that it is at this time the one specially prominent in practice. I can assure you that I feel my own limitations, and that, as may seem right and proper in the

discussion of this particular subject, I have the mind "even of a weaned child."

The importance of the subject need scarcely be insisted upon before an audience like this, to whom the preventability of the "Slaughter of the Innocents" caused by diarrhœal disorders is coming to be known —I have pleasure in presenting to you the following tables kindly prepared for me by Dr. D. McGillivray from statistics placed at my disposal by Dr. P. H. Bryce, of the Provincial Board of Health, to both of whom my thanks are due. These tables have reference to the city of Toronto and the Province of Ontario—and constitute a powerful argument for an educational campaign by this Association against public ignorance in the matter of Infant Feeding. Yet even among ourselves it may be well to look for the beam in our own eyes. I was struck recently by the forceful character of some of the remarks of Mr. Marmaduke Shield in a lecture given in St. George's Hospital, in London, "On the Management of Some Cases of So-Called Simple Fracture." After expressing surprise and regret at the little importance attached by students and "especially," he says, "junior practitioners" to the study of these common accidents, he goes on, with, I fear we must admit, great truth, to single out this very disorder, as follows :—

"It is the same in medicine ; obscure maladies, which usually terminate in pathological investigation and speculative methods of treatment, fascinate the modern student more than the treatment of pneumonia and *Infantile Diarrhœa.* All must fly before they can swim. I regret to say that one cannot excuse teachers and examiners from complicity in fostering this hollow and foolish tendency in modern clinical education. It is most detrimental to after success in practice and reputation."

After undertaking the preparation of a tabulated statement of the incidence of Infantile Diarrhœas I found that only for the past two years has a satisfactory method been in vogue in the Registrar General's Office. The Bertillon classification of diseases now adopted is very satisfactory, but previously to 1897 Cholera Infantum, Diarrhœa Acuta and Dysenteria Acuta were so mixed up that absolutely accurate statistics cannot be compiled for my purpose. The accompanying tables will clearly show, however, (1) The incidence of the disease by months, July and August, having an especially bad pre-eminence ; (2) The enormous preponderance of deaths from Infantile Diarrhœa before the end of the first year, the remarkable falling off in the second year, and the still more marked "zone of safety" upon which the child enters with the third year, so far as diarrhœas are concerned.

Taking the figures for 1897 for Toronto, as a basis—it will be seen that 31.23 per cent. of all deaths in Toronto occur under one year, and

that 5.15 per cent. of all deaths are due to diarrhœas under one year. Of the total deaths under one year (977) diarrhœa causes 161, or 16.48 per cent. These figures compare distinctly favourably as regards Infant Mortality with those given for the larger American continental centres.

Further calculations show that there are more than three times as many deaths from all causes in the first year than in the next four years of life put together.

As regards the season of greatest incidence the figures show with the greatest monotony the decided beginning of the epidemic in June, its worse incidence in July, though during August it remains almost as severe, a drop to about one-half in September and its disappearnce in October.

TABLE I.—TORONTO.

Showing infant mortality under five years, from diarrhœa. (For 1897 and 1898, figures are for three years and under.) It shows also incidence by months, and incidence by years of age.

	1898.	1897.	1896.	1895.	1894.	Totals.
January	0	0	0	1	0	1
February	3	1	2	1	1	8
March	2	0	1	0	1	4
April	2	2	1	1	2	8
May	1	1	4	5	0	11
June	3	13	16	10	3	45
July	53	22	65	77	61	278
August	48	64	48	53	60	273
September	38	46	17	34	21	156
October	25	14	2	12	8	61
November	4	5	1	1	2	13
December	4	5	2	1	3	15
Totals	183	172	159	196	162	
1st year	173	161	150	178	136	
2nd year	9	10	..	..	..	
3rd year	1	1	9	18	26	

TABLE II.

SIMILAR TABLE FOR PROVINCE OF ONTARIO, 1897.

Total death 25,307; total death from cholera infantum and infant diarrhœa, 1,082, that is about one in every twenty-five deaths in the Province was due to this disease.

January	13	July	166
February	18	August	338
March	14	September	263
April	13	October	103
May	12	November	25
June	52	December	18

1st year	925
2nd year	121
3rd year	11
4th year	25
Total	1,082

TABLE III.—TORONTO.

	1898.	1897.
Total deaths from all causes	2,871	3,122
Under one year from all causes	875	977
Under two years from all causes	85	91
Under three years from all causes	41	62
Under one year from diarrhœa	173	161
Under two years from diarrhœa	9	10
Under three years from diarrhœa	1	1

Investigation from these figures shows that 36.2 per cent. of the total mortality occurred under three years in 1897, and 34.86 in 1898, also that 31.23 per cent of the total mortality occurred under one year in 1897, and 30.47 per cent. in 1898. We find, too, that 5.15 per cent. of all deaths occurred from diarrhœa under one year of age in 1897, and 6.02 per cent. in 1898—and that of all deaths under one year in 1897, 16.48 per cent. were due to diarrhœa, and no less than 19.77 per cent. (one in five practically) in 1898.

TABLE IV.—TORONTO.

	1898.	1897.	1896.	1895.	1894.
1st year	875	977	935	979	933
2nd to 5th year	192	271	243	303	268

TABLE V.—TORONTO.

Number of deaths from diarrhœa per 1,000 infant deaths occurring under five years and under one year.

	1898.	1897.	1896.	1895.	1894.
Under 5 years	171.5	137.8	135.	152.9	134.8
Under 1 year	197.7	164.7	160.4	171.6	145.7

Seibert's interesting investigations show that the temperature curve corresponds identically with the mortality curve of diarrhœa. He says that an average minimum temperature of about 60° F. is needed to start the epidemic, and that it must continue about a week before any marked increase in the number of cases is noted. Holt suggests that the very sudden rise in July is due to the debilitating influence upon susceptible infants of the heat of June—not to any special malignity of the "Dog Days" of July, for the average temperature of July is only 4° F. or 5° F. higher than that of June and August. The figures for Toronto show much greater persistence during August than in New York, where the mortality *over* three years is just about half as great

as in July. The total deaths from diarrhœa in Toronto for the five years, 1894-98 inclusive, being 278 for July, 273 for August, 156 for September, and only 44 for June and 61 for October.

TABLE VI.

SHOWING TEMPERATURE DETAILS FOR YEARS 1894-1898 (INCLUSIVE.)

	JUNE.			JULY.			AUGUST.			SEPTEMBER.		
	Average Temp. for month.	Difference from average for 58 years.	Highest daily Temp. during month.	Average Temp. for month.	Difference from average for 58 years.	Highest daily Temp. during month.	Average Temp. for month.	Difference from average for 58 years.	Highest daily Temp. during month.	Average Temp. for month.	Difference from average for 58 years.	Highest daily Temp. during month.
1894.....	66.45	+4.24	90.7	69.10	+1.48	89.19	65.29	—0.09	85.1	62.25	+3.72	84.1
1895.....	67.90	+5.61	93.1	66.23	—1.41	90.00	65.09	—1.17	84.0	60.63	+2.03	93.1
1896.....	54.75	+2.36	86.3	68.72	+1.10	91.3	67.49	+1.28	89.9	57.41	—1.22	86.3
1897.....	61.3	—1.12	84.4	72.11	+4.49	93.3	64.75	—1.54	82.8	60.84	+2.23	93.2
1898.....	65.42	+3.01	90.5	70.5	+2.79	95.5	69.72	+3.48	96.0	62.8	+4.15	97.1

You will have noticed that in 1897 the mortality for July was only 22, while in the other four years of the series it was 53, 65, 77 and 61. So remarkable a difference called for some explanation, which lies ready to hand in the accompanying Table No. VI., showing among other particulars, the average temperature for June, July, August and September for the five years to which the mortality tables apply. The exceedingly interesting fact is thus elicited that the July for which the mortality was so low, was preceded by a June in which the average temperature was only 61.3° F., nearly 4° F. lower than the lowest June in the series, and nearly 7° F. lower than the highest June of the series. This July of low diarrhœal mortality, however, was itself much the hottest July of the series, 4.49° F. hotter than the average July in 58 years. We find consequently that the August following had a mortality of 64, much the highest August in the series, and was followed by a September of exceptionally high mortality, 46. In other words, the epidemic of 1897 was delayed a whole month by the low temperature of June. The months of greatest mortality were August and September instead of July and August, and the net result was the same as in an average year.

Seibert's view as to the correspondence of the heat-curve with the mortality-curve is thus amply borne out by the data for Toronto, as is also his statement that an average of at least 50° F. is necessary for the development of the epidemic. And Holt's theory that the heat of June is the cause of the July mortality is strongly confirmed.

Jennings, of Detroit, in the Address in Medicine before the Michigan State Medical Society this year, tells us that "In Detroit, for the year ending July 1, 1898, thirty-five per cent. of the total deaths were under

the age of five years, and twenty-five per cent. under the age of one year. Most of the deaths under one year are due to nutritive disorders directly or indirectly the result of improper feeding."

If further argument were needed, one might quote Emmett Holt in his address of last year to the American Pediatric Association, in which he states that during the past eight years, of 151 children left under his care during their entire infancy not one had died, though only thirty of the number were breast fed during most of the first year and ninety were entirely bottle fed. From enquiry among physicians in New York in the same field of practice, Dr. Holt further concludes that "in the well-to-do classes, with the best care, the mortality from all causes during infancy does not exceed two or three per cent., as against a general mortality for this period among all classes of about twenty per cent. These are most healthful signs and show the possibility of a very great reduction in infant mortality everywhere with a better understanding of all conditions, but especially of infant feeding."

As regards the title of my paper I wish to say beforehand that I intend referring to Infant Feeding only in so far as it is a cause of Infantile Diarrhœa, and of course, also in so far as it bears upon treatment. The feeding of the normal infant I do not intend to take up, more particularly as the programme includes a paper upon this subject from my friend Dr. A. R. Gordon, of this city.

After a resumé as concise as possible of our present knowledge of the Physiology of Infant Digestion it would seem logical to proceed to the discussion of the Bacteriology and Pathology of Infantile Diarrhœas, and, therefore, endeavour to classify them in various ways, upon basis clinical, anatomical and bacteriological in hopes of clarifying our thinking and rendering our diagnostic habits more orderly and exact. The main part of the paper will then follow, a discussion of the treatment of these affections, dietetic, hygienic and medicinal. The drugs recommended I think it better to treat by themselves, in groups, as Stimulants, Digestives, Purgatives, Astringents, Antiseptics, Sedatives, and so on.

With regard to the Physiology of Infant Digestion, it differs as is well known now in certain important respects from that of Adult Digestion. Rotch divides the life of a child as regards nutrition into three periods, first, the first year; then the second and third years; and third the remainder of childhood. The natural aliment for the first of these periods is, of course, breast milk. First, as regards digestion in the mouth. During the first year at any rate till the teeth appear, the mouth bears little relation to digestion, less than in adult life, its function being merely the mechanical one of suckling. The saliva is

practically absent, being unneeded, till the tenth or twelfth week, and with the advent of the teeth and the possibility therefore of a less fluid dietary, the saliva becomes more abundant, and much more actively diastatic.

Then as to the stomach, first as to its capacity, the interesting measurements given by Rotch and others may be boiled down for all necessary purposes to the following :—

1 oz. at birth.
2 ozs. at two weeks.
6 ozs. at six months.
9 ozs. at twelve months.
12 ozs. at eighteen months.

The position of the organ in the baby is more vertical than in the adult, mainly because of the undeveloped condition of the fundus, which practically does not exist till the teeth begin to come and the diet to be altered, a very interesting point if we remember the physiology and functions of the adult fundus.

The secretions of the stomach are three, pepsin, hydrochloric acid and the rennet ferment, Hammarsten's lab-ferment. The latter is much the most important of the three, as it is the precipitating agent, causing coagulation of the proteids.

The functions of the stomach then are mainly two-fold, first, it is a reservoir, and second, it coagulates the proteids and sends them on for intestinal digestion. To these two duties of course must be added the partial digestion of proteids (usually only very partial), and the absorption of fluids, peptone and crystalloid material, *e.g.*, sugar.

The stomach of the nursing baby under one month is usually empty one hour or a little more after feeding. This period slowly lengthens until at eight months or so it takes two or three hours to empty its contents into the duodenum. This is very interesting when considered in connection with the normal physiological interval for feeding, the child up to two or three months usually insisting upon being fed every two hours, and the interval gradually lengthening to three or three and a half hours. So that the infant if left to itself will, by the promptings of animal instinct, give the stomach quite the same proportion of physiological rest as the adult does, indeed probably much more punctiliously than most adults do. The duration of stomach digestion is much prolonged if cow's milk is the food, or if disease exist.

Third, as to the Intestine. This is much the most important portion of the Alimentary Canal. It is less closely tethered up by the mesentery than in the adult—the duodenum is much smoother and freer from folding and pouching than in the adult, a circumstance connected as

Rotch points out with the fact that there is less need for delay of its contents in the infant than in the adult.

It is interesting, too, to note that while in the adult a ratio in length between the large and small intestine is respectively about as five to one or one and a half, in the infant it is as nine to one and a half, a fact suggestive of the great importance of the small intestine in the child, and portentious as to the ill-results in the infant of derangement of its functions as in cholera infantum.

The most active secretion in the small intestine, as in the adult, is the pancreatic juice which is active in the digestion of fats from the very first, and which digests the larger proportion of the casein from the stomach. The large size of the liver at birth bespeaks the importance of the bile as a peristaltic stimulant, and as an assistant in the digestion and absorption of the fat which the nursing infant gets in such large proportions. The bile doubtless assists in preventing in the infant the constipation which would prevail in the adult upon a similar diet.

The colon, as in the adult, is a reservoir for fæces, digestive power being absent and absorptive power slight.

We turn now to the Bacteriology and Pathology of the Alimentary Canal.

Normally at birth the whole canal is sterile, but in a few hours bacteria are found throughout its whole length. The stomach, as a rule, is practically free, except in disease, but in the intestine there are two obligatory or constant forms. Escherichs was one of the original investigators in this direction, and Krus, Biedert, Baginsky, Lesage and many others have added to his work. On this side of the water, Booker's exhaustive investigations are indispensable to any one wishing to study the subject, especially his communication in the Johns Hopkins Hospital Reports, Vol. 6, 1897. It has been found that the two obligatory bacteria in healthy nurslings are *B. lactis aerogenes and B. coli communis.* The first form thrives in the presence of milk sugar, and is, therefore, most abundant in the upper parts of the small intestine—the *B. coli communis*, as its name implies, prefers the lower small intestine and the colon. In diseased conditions these normal relations are disturbed and the bacteria are formed in enormously increased numbers in other than their own portion of the canal, with new-formed and greatly increased toxicity, and in company with others of upwards of thirty different varieties in different cases as studied by Booker, and including various micro- and strepto- cocci and bacilli the exact bacteriological condition cannot of course be clinically determined in each case, but it may vary from the simple non-inflammatory dyspeptic diarrhœa with no bacterial abnormality, to the severest streptococcus gastroenteritis, with all sorts

of bacterial combinations and grades of clinical severity between, which of course makes classification very difficult, as we shall see. Various forms of *Proteus vulgaris* are common, and usually in severe cases.

As regards the Pathology of Infantile Diarrhœa, it is not necessary that I should occupy your time with any discussion of the lesions of the alimentary canal. I prefer to pass on to a brief statement of the lesions found secondarily in other viscera. Suffice it to remind you that the most fulminant cases may be those in which death is due to toxins which leave behind but little trace of damage to the alimentary mucosa anywhere ; while in other cases, the mucosa is found in any stage of destruction, from mere hyperæmia and superficial loss of continuity to severe inflammation with infiltration by leucocytes, erosion, necrosis and sloughing right through to the serous coat, luxuriant bacillary invasion of the tissues of the bowels and chronic ulceration of the bowel if life be sufficiently prolonged.

From the classical investigations of Booker we gather information which I have summarized as follows :—as to the morbid anatomy of the other viscera.

(1) In acute cases :—

1. The spleen—always hæmorrhagic, large and juicy, with distended vessels and extravasations, and often focal necrosis in the lymph nodules like that in the solitary glands in the intestine—is frequently infiltrated with the same bacteria as found in the intestine.

2. The liver—nearly always engorged with blood, the cells separated by widely distended capillaries and showing fatty degeneration or becoming necrotic.

3. The kidneys—some cases show presence in kidney tissue of the intestinal bacteria, *B. coli comm. and B. lactis aerog.* Every case shows necrosis of epithelium in convoluted tubules—the capsules of the glomeruli sometimes show signs of inflammation or are plugged with coagulated albumen, and the tubules sometimes contain hyaline casts, especially if the case is somewhat chronic—the kidney as a whole is usually enlarged, congested, with marked striations, and capsule stripping off easily.

4. The lungs—give cultures of bacteria more frequently and with greater luxuriance than any of the other viscera, *B. lactis aerog. and B. coli communis* most commonly, Booker saying expressly that "the gastro-enteric canal is the starting-point of the general infection," and that "the same bacteria found in cultures from the stomach and intestines appear in cultures from the other organs."

Lobular hæmorrhages of greater or less extent are often seen ; the bronchial tubes are more or less filled with mucous and broncho-pneu-

monia of more or less severity exists, always recognized as an almost necessarily fatal complication.

(2) In chronic cases, meaning either those which begin without great acuteness or which have survived an acute attack of say three weeks (Holt says six weeks), the prevailing lesions are much the same as detailed in acute cases, with differences due to longer duration of the lesion, for instance the kidneys contain hyaline casts, and show more markedly necrotic condition of epithelium especially of convoluted tubules. In one case Booker noted that "the brain surface was covered with a thick layer of bacteria."

1. The spleen—of twelve examined, ten showed hæmorrhage, sometimes very extensive—six showed focal necrosis in the lymph nodules.

2. The liver—of ten examined all showed great capillary distention, and all showed cell necrosis, often of the entire lobule, and, if less severe, limited to the centre of the lobule. Miliary abscesses may occur if life be sustained for a sufficient time.

3. The kidneys—of eleven cases only one seemed normal. All the rest showed as the most constant lesion necrosis of the epithelium of the convoluted tubules. Hyaline casts were common. Intracapsular inflammation, though rare, was noted.

4. The lungs—only one case seemed normal out of twelve. Almost constantly, lobular pneumonia of more or less severe grade was seen, with bacterial invasion of lung tissues often very luxuriant and hæmorrhage, and sometimes consecutive atelectasis.

As regards relative importance, Booker finds, as clinical experience would lead us to expect, that lesions of the lung are the most serious. Next in importance are those of the kidney, while those of the liver and spleen are neither so constant nor so disabling. Booker states also that "a direct relation between the bacteria and the lesions in the solid organs is seldom demonstrable, except in the lungs. . . . In other organs the lesions resemble those resulting from the absorption of the toxalbumen products of bacteria," such as necrosis of kidney or liver epithelium.

It is accepted as proved that there is no specific organism of the disease and a very important point is the fact now generally admitted, that the normal bacteria, particularly the *B. coli comm.* may develop varieties of great toxicity. What the conditions are that produce this variant growth is not yet known. But one proof of the truth of this view lies in the report made by Lesage on his attempts at the serum treatment of infantile diarrhœa, in *Rev. de Therap, Med. Chir.*, No. 24, 1896. His serum was obtained from asses after injection with colon bacilli from virulent milk or stools. Twenty-six out of fifty-two children treated with this serum (exactly fifty per cent.) lost all marked

symptoms in less than forty-eight hours, fourteen were improved, and twelve unimproved. In all cases where the stools were green the color disappeared after the injections, and what is singular, unless the theory of variation in toxicity of colon bacilli be wrong, he found that the serum obtained from asses after treatment with the colon bacilli of normal stools did not give these results. (*Blackader*, in Sajous' Cyclop. Pract. Med., Vol. 4.)

As regards the third main head in the plan of this paper, namely, classification, I beg you to bear with me if I first of all lay what may seem to be undue stress upon the importance of it. Diagnosis, oftentimes sufficiently difficult in concrete cases, is manifestly impossible unless we carry in our heads clear conceptions of the varieties of the disorder. Of course we assume that typhoid fever, the acute specific fevers, particularly scarlet fever and pneumonia, and intussusception, are all excluded.

A clinical classification may first be attempted, based upon the symptoms. Thus cases may be :—

(1) *Acute.* (a) Acute intestinal inflammation from the first, with little constitutional poisoning thus corresponding to the adult type.

(b) Virulent toxæmia or even general infection with little evidence of intestinal lesion.

Or(2) *Chronic*, in which :—

(a) Intestine shows severe and obstinate ulcerative inflammation, or

(b) Persistent malnutrition and loss of assimilative power with little or no inflammatory process.

Again, while the primary trouble in all cases is the gastroenteric infection, in some cases the outstanding symptoms soon cease to be those due to lesions of alimentary canal, and come to be those due to lesion in other organs, especially the lungs and the kidneys.

Blackader, of Montreal, in a very helpful and exhaustive article in Sajous' Cyclopedia of Practical Medicine, Vol. 4, adopts Booker's bacteriological classification, with a little modification as follows :—

1. Dyspeptic non-inflammatory diarrhœas, functional due to ingestion of irritants, usually food, and most frequently milk.

2. Inflammatory diarrhœas in which the symptoms of a toxic systemic infection are predominant.

3. Inflammatory diarrhœas, in which in addition to the systemic infection the local inflammatory conditions produce marked symptoms.

4. Chronic diarrhœas, in which the acute inflammatory symptoms have more or less subsided, but in which the stools remain abnormal both in character and in frequency, and nutrition is apt to be much impaired.

This latter class is in our opinion a very useful addition of Black-

ader's to the more purely bacteriological classification of Booker, which is shortly as follows:—

(1) Non-inflammatory dyspeptic diarrhœas.
(2) Streptococcus gastro-enteritis.
(3) Bacillary gastro-enteritis.
(4) Mixed cases.

The latter class of course includes by far the larger number of cases seen in practice.

Still another classification, and I think the most useful of all, is based on anatomical considerations—and it becomes a duty to decide at once whether a case is one of enteritis, colitis, or enter-colitis, since radical differences exist in the treatment to be adopted in each case. For instance, neither opium nor irrigation of the bowel can be said to be so necessary in enteritis as in colitis with small frequent slimy and blood-stained stools, tenesmus, and often prolapse of the rectal mucosa. Nor would bismuth be nearly so useful in colitis as in enteritis, with its large watery, often foul-smelling dejections.

Coming now to the last and most important subject of treatment, permit me to say first, that the necessity for explicit detailed directions in writing is very urgent in all these cases. Only in this way can you impress upon the lay mind the absolute essentiality of what seems to them unimportant details. Particularly in regard to feeding should orders be written out as to composition of food, and quantity and frequency of feeding. I am accustomed, in my attempt to bring the mother's mind around with a wrench to my way of thinking, to tell her that if I were compelled to choose between medicine and food in the treatment of a case, I should not hesitate to throw medicine away and trust to proper feeding. Yet of course, as we all know, we must usually give some medicine, both for its own sake and as a matter of policy, especially in those chronic cases, which for our sins do sometimes afflict us, unless we actually maliciously wish to encourage our patients to leave us for some practitioner who will give them a small sugar pill every fifteen minutes, an experience through which those of us at any rate who practice in urban communities do sometimes pass.

As regards feeding, I should almost apologize for saying first, that an entire and absolute change of diet is a *sine qua non*, and in acute cases the diet has been of course usually milk. The very great value of prompt intervention in acute cases, and of the giving for twenty-four hours, at least, of nothing but from one to two ounces, every two hours or oftener, of sterilized water, to which a pinch of salt and a taste of sugar, preferably milk sugar, has been added, cannot be disputed. It is borne out both clinically and by the fact noted by Booker that "none of the bacteria isolated (from the stools) were found to be capable of multi-

plying in ordinary hydrant water forty eight hours after it had been inoculated; in all such cases negative results were obtained." After the first twenty-four hours or so are passed it may be well to attempt the use of some nutritive fluid—and at the outset one must decide whether to use albuminous or farinaceous materials. If the stools are not specially foul albumens may be given and the best one is probably egg-water. White of egg contain about ten per cent. albumen and should be diluted with about ten times the bulk of sterilized water, with a little salt and a taste of sugar, as it is stated by Biedert that a solution of albumen stronger than one per cent. cannot be digested as a rule by even the healthy stomach, and it is found in practice that a "3-6-1 mixture" as it is called (three per cent. fat, six per cent. carbohydrates and one per cent. proteids) is a very generally useful form of modified milk, approximating closely an average breast-milk. Another good albuminous food is the red meat juice in drachm doses added to the water or other fluids that may be in use. Liquid peptonoids, panopepton, and so forth, may be mentioned in this class. As to the farinaceous fluids, they are all of the same type, and may be equally well made from barley, rice, oatmeal, sago, tapioca, corn starch, or arrow-root, so long as one bears certain points in mind. One point is that the more vegetable albuminoids there are the better and that, other things being equal, the husk and the layers of the grain next it should be boiled as well as the starchy contents of the grain.

Another point is that very thorough boiling is necessary, three to four hours at least, to cause diastatic change and prevent trouble from the indigestible starch. Thorough straining, too, is important. The consistency of a farinaceous fluid should be that of thin to medium cream, such as will pass easily through an ordinary rubber nipple. And now that the nipple is mentioned it is worth while remarking that if the stomach is irritable it is very often due to the fact that the hole in the nipple is too large and the child swallows too rapidly.

One of the most useful of all the starchy preparations is likewise the oldest, the good old bag of flour the size of the lower half of the forearm boiled steadily for ten hours. The outer shell is thereafter removed and the firm central part, like a piece of soft white, bathbrick, grated down and slowly reboiled as required with water to make a gruel of a consistency varying wth the age of the child. For children over six months at any rate this is a most useful food in diarrhœal conditions.

One will often find whey very useful, made either with sherry, or what I think is better, essence of pepsin or junket-powder. It makes an excellent vehicle for liquid peptonoids or red meat juice.

Fischer, in a recent number of the N. Y. Med. Record, speaks highly of very weak cold tea, especially when stimulation is desired, and of

an acidulated drink made by adding to a tumblerful of plain boiled and cooled water five to ten drops of dilute hydrochloric or phosphoric acid, and sweetening with a little glycerine (a powerful antizymotic) or saccharin.

It is well on inaugurating the change of diet to try to lengthen the interval of feeding—always bearing in mind the urgent need of water to replace the fluids drained from the tissues by the diarrhœal loss. Thus, if a child has been getting four ounces, two of milk and two of barley water every two and one-half hours, one should try to give instead say four ounces of barley water with a drachm of red meat juice every three to three and one-half hours. As regards temperature, either extreme seems to me bad, particularly in young infants. Some say that the food should always be cold. This may apply to children of ten to twenty months, but in infants of say three months it aggravates pain and has no counterbalancing advantage.

The return to milk should be very tentative. Casein should be allowed last, and fat first in the shape of small quantities of cream, say half to one teaspoonful at each time of feeding, added to the barley water or other farinaceous fluid, and slowly increased. The cream should never be bought as such, but obtained by removing the top two inches from the jar which has been left five or six hours on the ice.

Rachford goes so far as to say that "cream is theoretically never contraindicated, and can do no harm in any form of a disease, but will be found to serve the best purpose in chronic cases and after the third or fourth day in acute cases." My own clinical experience will hardly tally with the statement that "cream can do no harm in any form of the disease." The same writer goes on to say that "meat broths contain so little albumin and carbohydrates that . . . they may be given at any time, in either acute or chronic cases, but they are specially indicated in a few cases after the first twelve or twenty-four hours treatment." One danger in their use lies in the fact that they are very apt to be kept far too long after making, for they very promptly turn stale. A contraindication to their use would be foulness of stools or great frequency and copiousness. If the morbid process be mainly a colitis they can be given more freely.

As regards Hygienic measures—one of the very first importance is coolness. During the febrile stages one often sees the little sufferers wrapped up so warmly as to add decidedly to the rate of their exhaustion. The room should be quite cool and airy, and not too bright, for the nervous sensitiveness of the patient is sometimes excessive. Cool sponging, with alcohol or some toilet water is very beneficial. On the other hand, if the febrile stage is over, many babies are very much the better of the warm water bag in the cradle. Cold feet and hands call

for this measure. And it is often most relieving and soothing to the child, especially in that type of extreme fretfulness and restlessness which usually accompanies nephritis when it occurs, to put him in a hot pack. I have been most gratified with the result of this expedient whenever adopted. And even in feverish cases when fits of abdominal pain come on, the soothing effect of a hot compress over the abdomen is often most marked.

Of course a child acutely ill should not be mauled or handled, nor taken out in the carriage, and so on, but when convalescence has begun the revivifying effect of pure fresh air as by a sail of a few hours, or an afternoon at say Centre Island here, is remarkable. I was never so struck by this as in the case of an American child brought here very ill from Old Point Comfort, Virginia. I saw him, after the warm season was well on, the day he arrived in Toronto, and he was very sick, emaciated and languid. The next day his mother brought him to my house and I took for granted at first sight that this was another of her children so different was the brisk, active and actually comparatively plump child from the feeble sufferer of the day before. I am certain that it was not food or medicine mainly that produced in twenty-four hours so astonishing a change.

Another hygienic measure worth noting is the careful disinfection of the diapers by boiling. And the nurse should be instructed always to keep the last diaper till another one is soiled for the inspection of the physician when he comes.

As regards medicinal treatment, the first drug group to be mentioned, because it is the one first employed, should be *Purgatives*. The best of these is usually castor oil, unless forbidden by marked gastric irritability. I usually employ a sweet castor oil, the composition of which I know, containing ninety-nine per cent. oil, with a little Saccharin, essential oil of almonds and an aromatic ether or two. Castor oil has a great advantage of being speedy and painless unless too large a dose is given, and of having a subsequent constipating effect. It has also a mechanical lubricating effect, making it specially good in the early dyspeptic stages of the disorder for the sweeping out of curds, seeds and other offending matter.

The only other purgative of repute is calomel. Lesage prefers calomel if the stomach is suitable. He has two ways of giving it, first, small repeated doses, say one-tenth to one-fifth grain every one-half hour till bowels move, if there be slight fever, soft abdomen, little tympanites and copious stools; and, second, one large dose where the case shows high fever, much distention and foul smelling and scanty stools. The dose he considers should be for an infant under three months one grain, under one year two grains and under three years three grains.

Other purgatives such as senna, rhubarb, salines and so forth, are all more or less bulky and unpalatable, or are objectionable in their mode of action.

As regards *Stimulants,* alcohol stands easily first. They are nearly always needed, especially after the acute stage is on. And even from the first, alcohol acts excellently as a carminative, relieving gastric flatulency. An infant does not need in the most extreme cases, say of broncho-pneumonia, more than two ounces in twenty-four hours, and in diarrhœal conditions two to four drachms is usually plenty. It is better to mix the daily portion at one time, say two drachms in three to four ounces of sterilized water and give as required. I prefer good brandy for babies, as when diluted it is sweeter than whiskey and they take it better. Wines are not usually good, being ether too sweet or too acid and more apt to disagree. Holt says that in the acute gastro-enteric diseases the depletion is often so great and there is so little absorption of food that the patients must, in certain cases, be sustained by alcohol for several days. We need scarcely, however, nowadays add the warning that the drug should not be used simply from routine.

Other stimulants are ammonia, especially as the aromatic spirit, and caffein, as cold tea or coffee.

Antipyretics as a class have but small place in the treatment of diarrhœal disorders.

Quinine I should not recommend at all, both for its unpalatability, and because it upsets the stomach. Besides I can see no therapeutic advantage in it.

Of the three coal tar products, phenacetine, antipyrine and antifebrine, the first is the least objectionable in all ways, and is often most useful, not as an antipyretic, though of course it acts so incidentally, but to control excessive nervous irritability, particularly in cases where a mild diarrhœa threatens to complicate dentition. In severe diarrhœas it should, I think, never be used, for depression will be quite severe enough without it, and water can control the temperature and the nervous symptoms as well.

Antiseptics should *a priori* be most useful, from what we have learned of the bacterial conditions in the alimentary canal. But in practice disappointingly small results are obtained. Foulness of stools is a special indication for their exhibition.

Salol is put first by some. I think it very risky as nephritis is an ever present danger in severe cases and the infantile kidney is peculiarly susceptible to the action of carbolic acid—I have ceased its use altogether.

My favorite is bismuth salicylate, from one-half to three grains according to age. It is sometimes ill-borne and irritating. Others are calomel,

bichloride of mercury, biniodide of mercury in one-fiftieth grain doses, usually with potassium iodide. "Of eighty cases, seventy-two cured in two days." (Luff, B. M. J., Nov. 16, 1898, quoted by Blackader, Sajous, Cyclo. Pract. Med., Vol. 4.)

Arsenite of copper, benzonaphthol, menthol and thymol in one form or another; creosote and carbolic acid, are all open to the objection given above; resorcin is very highly spoken of by Fenwick, in three or four grain doses every four hours even to very young infants. I have used it and find it, I think, useful and certainly very readily taken, in syrup and, say, elixir of lactopeptine. Endoxin is one of the new iodine and bismuth preparations, nontoxic, dose one grain every hour to a child a year old. I have no experience of it in this connection.

As a class antiseptics are depressant to the heart and are of doubtful utility. Plain sterile water in large quantity, ten or twelve ounces a day, will control an acute diarrhœa better (and meet other indications besides) by replacing the fuel on which the conflagration in the intestine feeds.

Astringents are theoretically most useful, but practically in the diarrhœas of infants are of very little value. They should be preceded by purgation. Bismuth salts come first, and of these best the subgallate unless one wishes the antiseptic effect of the salicylate. Two to four grains every two hours may be given to a child one year old. Holt declares his preference in the great majority of cases for the subnitrate, but says that at least two drachms a day should be given to a two years old child. Tannic acid, of course, in one form or another, usually a vegetable extract like tinct. of kino, catechu, and so forth, is a very old remedy, but modern practice relegates it to a secondary place. Properly used it is most valuable. The newer forms of it, tannigen and tannalbin do sometimes act very well. Tannigen acted like magic for me this year in doses of three or four grains every four hours in a little white sugar, with a child of ten months which had a persistent chronic diarrhœa mainly due to fermentation in the small intestine. The stools were at once reduced from eight to twelve daily, to two. But in acute cases, and indeed in the majority of cases, I think that experience is showing that recovery is not so rapid as when other treatment is adopted. Certainly when severe derangement of secretions exists I have seen tannalbin come through into the bed pan practically unchanged and without effect. As much as forty-five grains a day may be given to young babies, and excellent results are reported, chiefly from the continent.

Digestives are of great importance, for reasons that it is superfluous to detail. They may be used to predigest the food or be given as medicine. I find lactopeptin either as powder or elixir most useful. Ingluvin,

pepsin, pancreatin, &c., are only to be mentioned. As a class they are naturally of more service in chronic than in acute conditions, for in the latter, food is largely withheld as already seen.

Opiates—This class has been purposely left to the last, on account of its great importance. Opium will never lose its value in the treatment of Infantile Diarrhœa, though latterly it is perhaps more intelligently used, and one is struck on reading recent literature at the infrequency of any illusion to its use. The best form is I think paregoric, for many reasons, palatability, its other constituents, and the fact that it contains opium and not morphine alone. Dover's powder is most useful, but its taste is objectionable. Chlorodyne is too hot, and besides contains not opium but only morphine which has more marked constitutional and less local effect on the bowels. Codeine is too mild a narcotic and in young babies a too decidedly tetanizing agent, as I have seen. Chloral, belladonna, hyoscyamus and so on have no place in the treatment of this disease.

The very first rule to lay down about opium is that until a purgative has been given it should not be administered. The next rule is that the dose should not be repeated till the effect of the last one, if full, has passed off. And another, which would seem to lie fairly on the surface and yet is constantly neglected, is that opium should not be given in the same mixture with other medicines, but must be kept by itself and given as occasion requires only.

The chief indication for opium in acute cases is pain. In colitis, with tenesmus and its other characteristics, it is a necessity from the start, and I prefer to give it here in the form of laudanum in a very little, cool, thin, starch paste as an enema, repeated when expelled.

In chronic cases, and especially in cases, often seen, in which feeding brings on excessive peristalsis with pain and evacuation of the bowels, it is often quite indispensable. In the latter case I usually order two to ten drops of paregoric half an hour before feeding, according to the age of the child and the length of the interval between feedings. Holt remarks that nothing requires nicer discrimination than the use of opium in diarrhœa. Of course even with these little patients caution is needed and opium must be discontinued as early as possible, for they soon learn to give it up with a bad grace.

Irrigation—It will not do to close this paper without reference to the use of irrigations. First as to lavage of the stomach. I have never employed it, as the conditions upon which private practice is conducted here practically preclude it, and I cannot help thinking that the great majority of cases we see get along very well without it. Intestinal irrigation is quite another matter. It is undoubtedly most valuable, especially at the onset of any acute case, and throughout the course of a

colitis or enterocolitis as against a simple catarrhal enteritis. The cold irrigation is a valuable antipyretic measure, but one to be used with caution, as it may depress before one is aware. The hot irrigation is of value, especially if normal saline solution be used, in cases of great prostration and collapse, and ranks only second to interstitial injections as a stimulative and restorative measure. Irrigations to be effective should be done by the physician, or at least by a trained nurse. Parents cannot usually do it properly. Holt says that they are advisable in all cases, and should be done at once on seeing the child, two or three times the first day and once a day afterwards. As to the medium to be employed, the day of medicated water has passed, and very properly so far as antiseptics are concerned, unless it be boric acid. Sterilized water or normal saline solution is all that is advisable, except in cases of chronic ulcerative colitis where weak astringents, such as tannic acid ten to thirty grains, or extract of witch hazel, two drachms, or nitrate of silver five grains, to the quart may be of service. Some authorities disapprove of nitrate of silver in all cases and certainly with reason in acute cases. This kind of irrigation should be kept up for fifteen minutes or so each time, and it is sometimes of advantage to follow it by the injection of three or four ounces of a much stronger similar solution which is to be held in for a few minutes by pressing the buttocks together.

In conclusion, Mr. President and Gentlemen, speaking in the cold-blooded terms of the Malthusian brotherhood who love Political Economy, let us remind ourselves that no province of the *Ars Medendi* is so fraught with direct benefit to the State as that which saves to the State the lives of so many little citizens useful *in posse* to the Body Politic. And who can estimate just what they are *in esse* to the family, or calculate the lessening of human sorrow, the saving of pain to those who are so completely at the mercy of the careless and the ignorant, though they be usually well meaning? If it be true, as Cicero says, that "In no point do men come nearer to the Gods than in giving health to their fellow-men," it must be true that even this point is over passed when we can bring help to those little ones who "rule by the Right Divine of helplessness," as Longfellow says in the Hanging of the Crane, so redolent, like all his work, of that domesticity which is the crown and flower of the physician's relations with the public, and which attains its fullest growth in the treatment of infantile diseases.

We cannot expect sudden success in our educative efforts, for though Minerva, the Goddess of Knowledge, sprang full armed from the head of Olympian Jove when Vulcan did a craniotomy upon him with his axe, miracles of knowledge are not nowadays so performed; and if this effort of mine, and the discussion which may follow, accomplish some small share in the task I have outlined, I shall feel amply rewarded.

THE ADDRESS IN SURGERY.

BY

WILLIAM B. COLEY, M.D., of New York.

Delivered at the Canadian Medical Association, Toronto Meeting, 1899.

THE RADICAL CURE OF HERNIA.

To the Members of the Canadian Medical Association, Gentlemen :

I come before you to-day with mingled feelings of pleasure and anxiety, due on the one hand to a deep appreciation of the high honor conferred upon me by your invitation to deliver the "Address in Surgery" before such a distinguished gathering, and on the other to a fear that I shall fall far short of your expectations.

I am aware that time-honored custom and tradition call for a very general subject, such as the Art of Surgery, Advance in Surgery, and the like, but a somewhat careful study of recent addresses has convinced me that this ground has already been gone over so frequently and so well that I trust you will pardon me for choosing a subject, which though somewhat special in character is still one of universal interest and of rapidly increasing importance to the medical profession, viz., *The Radical Cure of Hernia.*

It is impossible to view the present methods and results of the operative treatment of hernia in the true perspective without a brief survey of the past, stopping here and there for a moment to note the more important landmarks.

The historical picture presented, shows that this evolution has not been a gradual and harmonious development, but rather a series of brilliant conceptions based on more or less sound anatomical principles.. At one time commanding the respect and confidence of the leading masters of surgery of the day, and at another relegated to quacks and travelling rupture curers, who alone kept them from falling into utter oblivion, until under the new stimulus caused by the great discoveries of anæsthesia and antisepsis, they were again revived and elaborated.

While we find occasional references to hernia and its treatment in the writings of the early Greeks, the first recorded description of an attempt to cure the condition by operation was made by Celsus, a Roman who lived during the first half of the 1st century, A.D., and to him must be given the honor of being the founder of the radical cure of non-strangulated hernia. Although we do not possess a careful description of his method, we know that he possessed a very good conception of the anato-

mical and pathological conditions present, and that he actually proposed and successfully executed many of the steps which even to-day form the most important features of our modern methods.

His operation consisted in a free open incision over the hernial tumor, exposure of the sac, and probably the removal of the whole or a part of the sac. If the omentum was present it was pushed back if possible; if not, a needle was passed through the middle, and it was then tied off in two portions. The wound was then closed by sutures. The testis was not removed, and care was taken not to injure the cord in the dissection of the sac. At that time this procedure must have been regarded as radical to the degree of rashness, and we are surprised to find in his rules for the selection of cases for operation evidence of such sound judgment and rational conservatism.

He operated only upon children between the ages of six and fourteen years of age, and, moreover, only on subjects in good health with comparatively small herniæ. He recognized the fact that these cases were the most likely to withstand the risks of operation; furthermore, that in them the chances of ultimate cure are greater than in any other class of cases. He advised against operating upon umbilical hernia in children, knowing, what many surgeons to-day have failed to learn, viz., that umbilical hernia in children is almost without exception cured by nature without operation. *Heliodorus*, who flourished under Trajan at the beginning of the 2nd century, has given us a description of a method of operation for hernia which actually surpasses many that are now offered to the profession as new and ideal.

He says, "We must cut off the hernial sac with great care, for if you take away less than is protruded, the result will be the production of a new hernia. In order, therefore, that we may not miss excising an amount that is precisely correct, it is necessary to draw the sac outward by catching the tip. So soon as the edges of the abdominal wound begin to be everted, enough of the peritoneum has been drawn out, and so much is to be excised. When just enough peritoneum has been drawn out the sac is to be twisted. Having been cut off along a straight line, the peritoneum becomes folded upon itself, and screwed up and closed so tight that not even the point of a probe can be introduced."

As Halsted, writing in 1893, has well said, "With the exception of torsion of the sac, which we replace with suture, the operation for the radical cure of hernia in the time of the Roman Emperors was quite on a par with the operation as usually performed in our day."

A few centuries later this operation had been abandoned and forgotten. Paul of Aegina, in the seventh century, following in many points the methods of Celsus, introduced a new and radical step, viz., castration. Without attempting to separate the cord from the sac, he transfixed the

sac with a "large-sized needle containing a double thread." This thread was then cut and the ends crossed like the great letter X, and tied. The portion below the ligature, with the testis and cord, were then cut away.

It seems difficult to understand how this method, so inferior to the methods of Celsus and Heliodorus, should have survived almost to modern times, while the former were so soon forgotten.

For bubonocele, Paulus devised a method of operation which necessitated neither the removal of the testis nor the opening of the peritoneum. He incised the canal, exposed the peritoneum, and then by pressing upon the peritoneum by means of a probe, he made a kind of reef by suturing the peritoneum on one side of the probe to that on the other.

Medieval Methods: *During the Middle Ages many new methods were introduced.* Castration was still performed, though, according to William of Salicetus, only by travelling rupture curers and foolish physicians. Of the other methods the principal ones were :—

1. Exposure of the sac and closure by various forms of ligature.
2. Inclusion of the sac and scrotum either by needles or by sutures.
3. Cauterization applied in various ways.

The cure by cautery was known by Paulus, and was much employed by the Arabians. It continued in vogue almost to modern times. Full details of the method are found in the writings of Pott (Vol. II., p. 177), who thus describes it—

"After a proper time spent in fasting and purging, the patient must be put into an erect posture, and by coughing or sneezing is to make the intestine project into the groin as much as possible, when the place and circumference of such projections are to be marked out in ink. Then the patient is placed on his back, the intestine is to be returned fairly into the belly, and a red hot cautery is applied according to the extent of the marked line. For this purpose cauteries of various sizes and shapes and figures have been devised."

Different writers differ widely as to the extent and depth of the cauterization, but, as Pott adds, "In all of these the exfoliation of the bone is made a necesary part of the process. Eschar and sloughs being separated and the exfoliation cast off, the patient is ordered to observe an extremely careful regimen, to lie on his back during the cure, and to wear a bandage for some time afterward, in order to prevent a new descent of the parts, which, notwithstanding all the pains and all the hazard the patient had undergone, he was still liable to."

Cauterization by means of strong acids, such as sulphuric nitric, were also employed.

It is not difficult to understand the dire results that not infrequently followed these methods, and which finally led to their abandonment.

Bordenhave (quoted by Lawrence) states that of three patients treated at one of the hospitals in Paris, one died, one relapsed and the third had a swelling of the spermatic cord. Peritonitis, gangrene of the scrotum and testis, and even perforation of the bowel, often formed part of the after history of these operations. During the eighteenth century, castration became so common, especially in France that finally stringent laws were passed condemning it. As an example, it is stated that the Bishop of St. Papoul found more than five hundred children had been castrated for hernia in his own diocese alone.

The celebrated "punctum aureum" was introduced by Geraldus of Metz. It consisted in exposing the sac and encircling it with a thread of gold in such a manner as not to include the cord.

Such, then, was the state of the radical cure of hernia at the beginning of the 19th century. We find an occasional return to ancient methods in the early part of the present century, notably by the Prussian surgeon, Schumaker, and the elder Langenbeck. They made an open incision and dissected the sac from the cord, then ligated it as high up as possible. Langenbeck stated that he had performed the operation twelve times with the most successful results. The method, however, did not meet with general approval, and does not seem to have been much employed.

With the introduction of subcutaneous surgery, Stromeyer, in 1835, there followed attempts to apply these principles to the cure of hernia. The most notable example of these operations were the method of Wutzer and Gerdy, and a little later the method of John Wood, of London, which was a combination of the open and subcutaneous methods. Woods' method was introduced in England in 1857, and even up to recent times was more generally employed than any other method, both in Europe and in America.

The best results were obtained by Wood himself, who claimed a large percentage of cures. The mortality of the method was about 7 per cent., though in his later series of cases this was reduced very considerably.

By modern methods we mean those that have been introduced, or, rather, reintroduced after the great discovery of Lister and Pasteur. It took some years for the principle of antisepsis to become sufficiently accepted and put into practice by the leading surgeons before serious attempts were made to apply them to the radical cure of hernia.

In the first place, a distinction should be made between operations for strangulated hernia and those deliberately undertaken for the purpose of effecting a radical cure. Strange as it may seem, the operation for strangulated hernia is of much more recent origin than that for non-strangulated hernia. Up to the seventh century taxis alone had been used for strangulation, and to Pierre Franco must be given the honor of

introducing herniotomy, 652 A.D. His minute description of the operation forms one of the bright spots in the surgery. Franco's method was later taken up by Ambroise Paré, and most strongly endorsed. Paré was the first surgeon, so far as we know, who advocated operation for all cases of strangulated hernia. His teaching, however, fell on barren ground, and it was not until two centuries later that herniotomy became generally adopted.

Up to the beginning of the nineteenth century it was practically unknown in America. In the life of J. C. Warren, Vol. I., p. 37, we find it stated that when he began to operate in Boston (about 1804) the operation for strangulated hernia was unknown. He had just returned from England, and attempted to put into practice what he had learned from his illustrious teacher, Sir Astley Cooper, but when he proposed to operate on a case of strangulated hernia, he was met with the greatest opposition both from the other physicians and from the friends of the patient. He finally gained consent to operate, but the long delay caused the death of the first two or three patients. Convinced that he was right, his genius and courage enabled him to go on, and the brilliant results of his later cases did much towards establishing the operation for strangulated herni in America upon the solid foundation that it has ever since enjoyed. It does not appear, however, that any serious attempts were made to effect a radical cure until after the introduction of Lister's method of antisepsis.

Henry O. Marcy, of Boston, who had enjoyed the privilege of personal instruction under Lister in 1870, appears to have been the first to operate upon strangulated hernia under antiseptic methods, and to close the canal by means of absorbable buried sutures of catgut. On the 19th of February, 1871, he operated upon a woman aged 50 years for strangulated inguinal hernia, and closed the canal by "two stitches of medium-sized catgut directly through the pillars of the ring."

On March 10th, 1871, he operated upon a second case of strangulated hernia, also in a woman, and closed the canal "by three large-sized catgut sutures passed deeply through the pillars of the ring, and the wound carefully dressed antiseptically with Lister's carbolic plaster." (Boston, *Medical and Surgical Journal*, Nov. 16, 1871.)

The sac was not opened in either of these cases.

Dr. Marcy's first attempt to cure non-strangulated hernia by operation was February 4th, 1878, or several years subsequent to the operations of Steele, Annandale and Czerny. *Richard Steele, of London,* deserves the honor of first attempting to cure non-strangulated and inguinal hernia after the introduction of antiseptic methods, though he very modestly states that it seems such a natural proceeding, he does not doubt that others did it before him.

In the *British Medical Journal*, November 7th, 1874, p. 584, Steele reports his most interesting case. The patient was a boy eight years of age. He cut down upon the canal, exposed the pillars of the ring, pared their edges and united them with catgut sutures. The hernia recurred in six months, became strangulated, but was reduced by taxis. Steele then did a second operation, and the patient was well one year later. This case does not seem to have received the attention it deserved, and to Czerny is usually given the credit of being the author of modern operations. His first report of seven cases was published in *Wien. Med. Woch.*, No. 22, 1877, p. 527. His first patient was operated upon Jan. 1st, 1877, more than three years later than Steele's. The neck of the sac was ligated with catgut, and the pillars of the ring were sutured with catgut. The skin was closed with catgut, two drainage tubes were used. the wound healing over in 47 days. In the second and third cases the pillars were closed with catgut, and in the fourth and fifth cases with silk sutures.

It will be seen that Czerny's operation shows a distinct advance over the operation of Marcy and Steele, viz., he dissected out the sac and ligated it before suturing the canal. From the limited experience derived from his early cases, Czerny concluded the thousand-year-old problem of surgery was nearing solution. Of his first five cases, four suppurated and one died. The rapid improvement in method and teaching during the past two decades have proved the correctness of Czerny's observation.

Time will permit but the briefest references to the more important of the numerous methods devised since Czerny's first report. As early as 1879, Tilanus of Amsterdam had collected and reported before the International Medical Congress 122 cases in which operation was performed by supposedly antiseptic methods, and 79 of these cases were non-strangulated and 43 were strangulated. Too few cases had been traced sufficiently long to justify conclusions as to the permanence of the cure, and the immediate mortality of 6 per cent. made many physicians hesitate to advise and surgeons to perform the operation. The subject, however, was so fascinating and the goal was of such inestimable importance, that the minds of the leading surgeons of the world were engaged in attempting to modify the old methods or to devise new, with a view of diminishing the dangers and improving the final results. The methods at present in vogue are the result of somewhat rapid evolution in accordance with the law of survival of the fittest. Not one, but many workers in the field deserve lasting honor for the part they have played in conferring a priceless boon upon humanity. Among these names should be mentioned Steele, Annandale, Czerny, Marcy, Banks, Championniére, Macewen, Barker, Ball, Socin, Bassini, Bull, Weir, Halsted, and Kocher.

While many of the earlier methods have been superseded by newer

and better, we must not forget that the experience derived from the older methods have made it possible to discover their shortcomings and to devise appropriate remedies; therefore, let us not refuse them a place of honor. It would be tedious to enter into anything like a full description of the various methods mentioned, nor is it necessary. Many of them are no longer in use, having fulfilled their part and given place to better. There are still a number of methods in vogue, each of which is represented by its advocate as the ideal operation, and it is clearly our duty to study these carefully and attempt to discover, if possible, the best.

Macewen's method, first performed by its author in 1879, and introduced to the public by a most able paper ("Annals of Surgery," August, 1886), was largely employed by English and American surgeons, and even to-day has its warm supporters. The results in the hands of Macewen were almost ideal, but whether due to difficulty in learning the details of its technique, or to other causes, the same brilliant results were not attained by other surgeons. The step of the operation upon which the most stress was laid, viz., the infolding of the sac so as to form a barrier at the internal ring, was in itself a source of danger and difficulty, in certain cases. Sloughing of the poorly nourished sac and prolonged suppuration, ending in speedy relapse, were some of the results in less skilled hands than those of the author. And with the introduction or other methods, notably those of Bassini, it has gradually been given up. Whether the infolded sac remains for any length of time, and plays a really important part in preventing relapse, may well be doubted. In one case, in which the patient died several years after operation by Macewen's method, Lauenstein found the sac still folded up into a firm pad, which apparently closed the canal and aided in preventing a return of the hernia. In another similar case, observed by Bassini, in which the autopsy was made 95 days after operation, no trace of the folded sac could be found. We prefer to believe the excellent results obtained by Macewen were due not so much to the peculiar treatment of the sac, but to the very careful closure of the canal by chromicized catgut.

The same would hold true of Kocher's method, in which the sac is brought out through a cleft in the aponeurosis of the external oblique. He has already so modified his method that only a small portion of the sac is now left, instead of the whole or the larger portion.

There has been considerable dispute among those of the profession inclined to lay stress upon matters of priority as to whether the idea of transplanting the cord originated with Bassini, with Halsted or with Marcy. A careful and an entirely unprejudiced study of the reported writings of all, would seem to show that the honor should rest with Bassini. Halsted, in March, 1893, in his most valuable paper describing his own method, and giving a report of 58 cases operated upon by

this method (Bull, *Johns Hopkins Bulletin*, Vol. IV., No. 22, p. 20), states that he had described his operation more than three years before (Bull, *Johns Hopkins Hosp. Bulletin*, Vol. I., No. 1), six or eight months before the publication of Bassini's paper (*Archiv.-Klin-Chir.*, 1890), containing his report of 251 cases. Halsted was evidently not familiar with Bassini's first report of 102 cases made before the Congress of Italian Surgeons, in March, 1888, or two years before the date of his later and more complete report. An abstract of this early report and a description of Bassini's method was also published by Marcy in his book on the "Radical Cure of Hernia," in 1889, which also contained a description of Marcy's own operation.

The method of Marcy which differs materially from that of Bassini in most of the details of technique, has one important point in common with it, viz., the restoration of the obliquity of the inguinal canal. All of these surgeons have apparently worked out their ideas independently, and each deserves credit proportionate to the value of his own method of operation.

I wish the time permitted a full description of these methods, because their technique is not always understood by surgeons who attempt to perform them.

I have frequently seen cases come to the hospital for Ruptured and Crippled, less than eight weeks after operation by a so-called Bassini method, with well-marked relapse. A glance at the scar alone was sufficient to prove that Bassini's operation could not have been performed. One cannot properly perform the operation with an inch and a half to a two-inch incision, the upper extremity of which extends scarcely above the external ring.

Were I called upon to give what I believe to be the most frequent errors of technique, and those most responsible for failure to obtain good results, I would place, first, an incision of insufficient length, both in skin and aponeurosis (it should be at least three inches long), and placed too low down. Second, failure to dissect back the aponeurosis of the external oblique well over to the edge of the rectus muscle. Third, careless or unskilful dissection of the sac from the cord and the surrounding tissues, thus prolonging the operation and bruising the tissues, thereby lessening the chance of primary union. Fourth, too great tension upon the buried sutures, or the use of non-absorbable sutures.

The question of sutures I will discuss later.

I do not need to tell you that the essential feature wherein Halsted's method differs from Bassini's lies in the treatment of the cord and the closure of the canal. In Bassini's method, the canal is closed by suturing the internal oblique and transversalis to the shelving portion of Poupart's ligament, (which must always be very clearly exposed), the

aponeurosis being carefully retracted on either side during this suturing. The rent in the aponeurosis is then closed from above, downward, as before, by means of a continuous suture; until at the lower angle, just enough space is left to permit the cord to pass without undue compression.

In Halsted's method, on the other hand, the cord is transplaced more externally, so that it lies just beneath the skin and superficial fascia. The aponeurosis with the underlying muscles and transversalis fascia, on the one side being united to the transversalis fascia, Poupart's ligament and the aponeurosis on the other, by means of a single row of five or six mattress sutures. One sees at once that if the cord were left in its normal proportions, there would be great danger of relapse at the point where it emerges. To lessen this danger it was ingeniously proposed to remove "all but one or two of the veins of the cord." Whether or not such a procedure might not cause atrophy of the testis was a matter that experience alone could determine. The subsequent history of Halsted's own case, as well as those of other observers, have proven that this result not infrequently occurs.

From a recent, and as yet unpublished, report of the results at the Johns Hopkins Hospital, Dr. Bloodgood has very kindly given me some very interesting and valuable statistics.

Of 109 cases operated upon by Halsted's typical method, with excision of the veins, there was no relapse, while in 86 cases operated upon by the same method, with the single exception that the veins were not excised, there were eight relapses, or 9 per cent.; 56 of these cases were observed from one to nine years. Bloodgood concludes that Halsted's operation with excision of the veins will give perfect results if primary union be secured, though he admits that excision of the veins is liable to be followed by atrophy of the testis, and is, therefore, not always to be recommended.

He would not excise the veins in children or in cases in which the cord had been subjected to traumatism during the dissection of the sac. The number of cases in which atrophy of the testis followed excision of the veins is not noted, but it is stated that it was only observed in those cases complicated by epididymitis. Bloodgood therefore reasons that as the probabilities of epididymitis would be much less after excision of the veins, if the vas and its immediate vessels are not displaced, it would be as well to leave the remainder of the cord undisturbed, and he goes on to say that "the cord reduced to such diminutive size will be as little likely to be the cause of a recurrence in the lower angle of the wound as in the upper angle when it is transplanted."

This is practically an admission that one of the leading features of the method, viz., the excision of the veins, is not always free from risk, and

that another, and perhaps the most important, the transplanting of the cord is unnecessary if the veins are excised.

There is another point in which Halsted's method differs from Bassini's, which, though seldom mentioned, is, I believe, one of great importance, and that is, the free division of the internal oblique muscle, transversalis muscles and transversalis fascia, or, in other words, the entire floor of the canal as well as the roof. The free division of the internal oblique has, I think, nothing to recommend it, and since gentle stretching of the fibres and pushing them upwards will always permit of the sac being excised well beyond the neck, it would seem unnecessary.

We are willing to grant that the union of divided muscular tissue should be firmer than the union of fascia, but undivided muscle should be firmer still.

In the event of failure to secure primary union the dangers of relapse are greatly increased, if these deep structures have been divided and the relapse, if it does occur will almost surely be more serious in character and more difficult to treat. After all, that may be said on either side in the way of theoretical considerations, the question of preference must be finally settled by practical results. If the results of several different methods are the same, that method which is the simpler in technique should have the preference.

While Halsted's method in his own hands and in the hands of his skilful colleagues at the Johns Hopkins Hospital has yielded most brilliant results, they are not equal to Bassini's personal results.

Looking at the results of other surgeons, we find a much greater difference in favor of Bassini's method. The technique is far simpler, and we believe the rapidly increasing favor with which it is regarded both in Europe and America shows that it is destined in the near future to supplant all other methods.

It is hard for us to realize that the radical cure of hernia has made such tremendous advances in a single decade. In 1890, Bull, who had faithfully tried the best of the methods then in vogue, and on a larger scale than any surgeon in America (in one hundred and thirty-four cases), was obliged to confess that his "observations go to strengthen the conviction that all methods of radical cure will be found unsatisfactory." He did not, however, discourage further efforts to improve upon these methods of operation, but merely wished to depict the situation as it actually was. He was one of the first to subject operations for radical cure to critical tests and to point out that the term "cure" could not rightly be applied to patients who had merely recovered from operations, and had not been observed for a considerable period afterwards. To show how rapidly advances have come in this field of surgery, the ink was scarcely dry upon the valuable but gloomy paper of Bull, when

Bassini's brilliant report of 251 cases, operated upon with but a single death, and all but four cases traced from a few months to four and a half years, with but seven relapses, appeared. Whether or not these same good results were possible in the hands of other surgeons remained for the succeeding years to tell. Nearly a decade has now passed, and few surgeons, and still fewer physicians, realize the tremendous revolution that has occurred in the operative treatment of hernia. Instead of an operation with a mortality of six per cent., alone sufficient to make the conservative surgeon hesitate to recommend it, except in cases of urgent need, and with at least a third, or more nearly, a half of the cases relapsing within a comparatively short time, what is the situation to-day? We find the mortality of leading operations reduced to less than one per cent., and the final results in large series of cases carefully traced, show almost entire freedom from relapse. Instead of 30 to 50 per cent. followed by suppuration, we find 5 to 10 per cent. If you will pardon a reference to personal work, which is given merely to show what any one may accomplish, provided he gives the proper attention to the technique of the operation, I will here give a very brief abstract of my most recent statistics. Since August, 1891, I have operated upon 639 cases of hernia, with but one death, due to pneumonia. Of these cases 585 were inguinal, 40 femoral, 14 umbilical and ventral. Of this number, all except 60 cases have been traced. 549 cases of inguinal hernia were operated upon by Bassini's method (with five relapses), with kangaroo tendon for the buried sutures. Of this number, 493 cases have been traced, as follows: 4 cases were sound upwards of 7 years; 4 cases, 6 to 7 years; 9 cases, 5 to 6 years; 19 cases, 4 to 5 years; 69 cases, 3 to 4 years; 91 cases, 2 to 3 years; 132 cases, 1 to 2 years; 101 cases, 6 months to one year; and the remainder less than 6 months. In regard to wound healing, 96 per cent. of the cases operated upon by Bassini's method healed by primary union. No truss is used after operation.

The only points in which I have departed from the original technique laid down by Bassini have been in: First, the substitution of chromicized kangaroo tendon for silk in the buried sutures. I have recently been told by a former assistant of Bassini's that Bassini himself has used chromicized catgut instead of silk since 1892. Second, the introduction of a suture just above the cord, and passing through the same structures as those below the cord, with a view of preventing any further separation of the tissues above the new internal ring, and keeping the cord restricted to narrower limits. That these slight changes, too trivial to be called modifications, have been of advantage, the results in my series of cases would seem to prove.

Among the many questions of importance in connection with the subject of radical cure of hernia that are still unsettled, is the question of the best suture material. Silk, silver wire, catgut, kangaroo tendon, silk

worm gut, each one has had its ardent supporters. Were the question of less importance, I should not attempt to discuss it at this time. Like the choice of operative methods, this question also must finally be settled by the carfeul observations based upon large experience and theoretical considerations must again be placed in the background. Silk was probably used by the ancients. Catgut, introduced by Lister, was probably also first used by Lister to close a hernial wound. In the address in surgery before the British Medical Association (*British Medical Journal*, August 26, 1871, Vol. II., p. 231), Lister reported two cases of irreducible ventral and umbilical hernia upon which he had operated by opening the sac, freeing the adhesion, reducing the contents, and finally closing the freshened edges by means of closely applied interrupted sutures of prepared catgut. The dates of the operations are not stated, hence it is possible that Marcy's cases of strangulated inguinal hernia, operated upon in February and March, 1871, and reported in Boston *Medical and Surgical Journal*, November 16th, 1871, were really the first cases of hernia in which the burned catgut suture was used.

Czerny used catgut in his earlier cases, but later, owing to the difficulty in rendering it completely sterile, substituted silk.

Mitchell Banks, whose name must always be mentioned foremost among the pioneers in operation for the cure of hernia, states (*British Medical Journal*, Nov. 18th, 1882) that the only point of novelty he could claim in the operation which he successfully performed was in the substitution of silver wire for catgut. He closed the external ring with two or three buried sutures of stout silver wire. Macewen modified the simple catgut suture by chromicizing the gut sufficiently to maintain it in the tissue three of four weeks before absorption took place.

This was a most important modification, and the suture of chromicized catgut is still to-day, we believe, with the possible exception of kangaroo tendon, the best suture for hernia operations. Shortly after 1890, silk worm gut was introduced as the ideal buried suture for hernia operation, and for a time it was largely used in operations for hernia, especially in the United States. Marcy, who used catgut in his early operations, later substituted kangaroo tendon, obtaining his first supply of tendon from Australia in 1882. The advantages of kangaroo tendon over catgut seems to have been first recognized by Dr. T. M. Girdlestone, Lecturer on Surgery, at the University of Melbourne. As early as 1877 he brought it to the notice of the Medical Society of Victoria, and in November, 1881, through Sir Thomas Smith, of London, he addressed a communication to the Medico-Chirurgical Society of London. In this paper (Transactions of Medico-Chirurgical Society, 1882) he states that the tendon suture resisted the softening influence of the tissues much longer than catgut. He prepared it according to Lister's method of preparing catgut, in carbolic oil, but also stated that, if desired, it could be further

hardened by putting it in chromic acid, one-half per cent. solution, for seven hours. It has been largely due to the writings of Marcy that it has come to be used so largely in operations for hernia. I have personally employed it in upwards of 600 operations for hernia, and I regard it as practically an ideal suture. The only difficulty has been in securing tendons of the proper size. If too large, they remain in the tissues too long for absorption, and thus are open to the same objections that hold true of non-absorbable sutures. Split tendons should never be used, as they are lacking in strength, and are of uneven calibre. Girdlestone himself in 1881 pointed out this fact. Some judgment is needed in selecting the proper size. I prefer for the deeper sutures a tendon equal in size to a number two or number three catgut, while a tendon the size of a number one catgut or even smaller will suffice for the closure of the aponeurosis. The cost of the tendons and the difficulty of obtaining tendons of suitable size and strength are objections of some weight. I am not sure that a carefully prepared and properly chromicized catgut will not prove nearly, if not quite, as good a suture for hernia as kangaroo tendon, and this is fortunate, inasmuch as the supply of tendons is likely to prove insufficient to meet a largely increased demand.

Halsted used silk in his earlier operations, but during the past three or four years has used only silver wire. We are somewhat surprised at this change, for in his first paper, 1893, describing his method of operation, he speaks of silver wire as follows: "The use of powerful sewing materials in surgery is, it seems to me, based upon a misapprehension of pathology. If, for example, the tension is so great that wire must be used to bring the parts together, one must not expect permanent assistance from the wire, for the stitches will eventually be cut through to the extent necessary to relieve the tension." This is a concise and admirable statement of the question, and we prefer to believe it still true. The real and important objection to silk, silver wire and the whole list of non-absorbable sutures remains to be noted, and this is their liability to cause sinuses long periods after operation. This objection is not theoretical but based upon personal observation of twenty-seven patients at the Hospital for Ruptured and Crippled, as well as upon numerous reports of other observers.

In every one of these cases a sinus developed at varying periods from a few months to three years and eight months after operation. This condition of sinus formation is a serious one, inasmuch as the healing of the sinuses often require many months, and seldom become permanent until the last of the offending sutures has been removed. This is not the end, for the prolonged suppuration has in most cases so weakened the canal that relapse usually follows. Thus what might have been a successful operation for the radical cure of a hernia has become a complete failure owing solely to the use of a non-absorbable suture. The

reasons formerly advanced by surgeons for using non-absorbable sutures were that catgut and tendon could not be satisfactorily sterilized, but with our improved methods of sterilization such reasons no longer obtain. A comparison of the statistics as regards wound healing of the surgeons who use catgut and those who use non-absorbable sutures will disprove the validity of such claims.

Primary wound healing was obtained in but 80 per cent. of Halsted's series of cases in which silk was used for the buried sutures, and his later statistics of 261 cases in which silk, silver wire and silk worm gut were used, 31 suppurated, or 11 per cent. These patients, we must remember, were operated upon at a hospital which enjoyed a reputation above all others for the perfection of its aseptic technique. Yet the statistics of other surgeons under much less favorable operative conditions, who have used absorbable buried sutures show better results as regards primary wound healing. I mention these facts simply to show that the claim, that non-absorbable sutures are necessary to obtain the best results in primary wound healing, is entirely unfounded; therefore, there is no logical reason why the final results of the operation should be jeopardized by their use.

With the vast improvement that has taken place during the past decade in methods and results of operations for radical cure, the indications for operation have markedly increased, though in some respects the present views as to selection of cases for operation differ materially from those held ten years ago. At that time operations were almost entirely confined to adults. This was due to the fact that some regarded the operation as more dangerous in children, and others believed that all ruptures in children could be cured by mechanical means. We now know that both these suppositions are erroneous. The results of large series of operations in children proving that the operation is less dangerous in children than in adults, and a careful study of the after history of a very large number of cases of hernia in children having proved that, at least one-third of all chidlren starting with hernia in childhood, pass on into adult life with the hernia uncured by mechanical means.

This does not warrant us in advising operation in all cases of hernia in children. At the Hospital for Ruptured and Crippled in New York, we have adopted the following rules in the selection of cases, and it will be seen at once that these are fairly conservative.

Operation is advised (1) in children over fours years of age in whom a truss has been given a fair trial without marked improvement.

(2) In cases complicated with fluid in the hernial sac (reducible hydrocele); in all cases of femoral hernia, since this form of hernia offers little or no hope of cure through mechanical treatment.

The practice of operating upon infants under one year of age or even two or three years is, I believe, open to serious criticism.

Umbilical hernia in infants and children should, with some exceptions, never be operated upon, for the reason that these are almost invariably cured by other means. With regard to adults, it is not longer considered advisable to operate upon the very large and long irreducible hernia in patients beyond middle life. The operation is attended with grave risks, and a speedy return of the hernia will almost certainly occur. The same is true of the large irreducible umbilical herniæ especially common in very stout women. While we cannot hope to cure such patients by operation, we should bear in mind that there was once a time when every one of these cases could have been operated on with a fair prospect of success, hence the importance of operating early.

Inasmuch as there is slight prospect of a cure being effected by a truss after the age of 20 years, we can now advise operation in such cases, especially since it is no longer attended with appreciable risk, and the prospect of a permanent cure is very great.

Operation would seldom be advised in patients over sixty years of age.

Inguinal hernia in the female has thus far received but little attention, and yet this variety of hernia yields the best results of all under operative treatment. Championiére was, I believe, the first to urge operation in these cases, and he has recently reported 49 cases. His method was to excise the round ligament along with the sac, but I believe this to be not without objection, and, moreover, entirely unnecessary. The case can in every case be dissected free from the ligament, with a little care and patience.

Kelly (Operative Gynæcology, Vol. II., p. 481), of Baltimore, transplants the round ligament exactly as Halsted transplants the cord as in inguinal hernia in the male, and closes the wound by Halsted's method. During the past eight years I have operated upon 100 cases of inguinal hernia in the female, and although the cases have been most carefully traced, not a single relapse has been observed. The method employed was precisely similar to Bassini's operation in the male, with the transplantation of the cord omitted, the sac, having been carefully dissected from the round ligament well beyond the internal ring, is then tied off and excised. The round ligament is then allowed to drop down into the lower angle of the wound, and the wound is then closed in two layers of buried sutures, according to Bassini's technique. The operation is much simpler than the one performed by Kelly, and the results thus far obtained have been perfect.

Time will permit of but the briefest reference to the radical cure of femoral hernia. It is not generally recognized by the profession that the results of operation for femoral hernia are even more successful than for inguinal. Although a great variety of methods, many of them complex in technique and difficult to perform, have been proposed, the simple methods have been found to give the most satisfactory results.

Bassini has reported fifty-four cases (*Archiv. fur Klin.*, 1894) operated upon by his own method without mortality, and 41 of these were traced from one to nine years without a single relapse. Of my own cases, 40 in number, Bassini's method was employed in sixteen and the method of high ligation and incision of the sac, with closure of the femoral canal by means of a purse string suture of kangaroo tendons, was used in the remainder.

The single relapse observed occurred in a patient operated upon by Bassini's method, and it is worthy of note that this was the only case in which there was failure to secure primary union.

It would not be right to close this brief and very imperfect sketch, without saying a few words upon the final results of operations for hernia, in other words, upon the permanency of the cure. Do operations, even according to the best methods, and skillfully performed, really cure the patient, or is he only temporarily relieved? The answer to the question must as yet be more or less tentative. If by a permanent cure we mean freedom from relapse, as long as the patient lives, then, of course, the time has as yet been too short for us to make dogmatic statements.

Fortunately, however, we already possess sufficient data to enable us to draw fairly accurate conclusions. The careful study of 361 cases of relapse following various operations for inguinal and femoral hernia observed at the Hospital for Ruptured and Crippled during the past ten years, shows the important fact that the great majority of relapses occur within the first few months after operation; 64.5 per cent. occurred during the first six months; and 80 per cent. during the first year; between one and two years after operation, 8.89 per cent. relapsed.

From these facts we are justified in concluding that in cases well beyond one year the chances of recurrence are very slight, though in some cases relapse has been noted twenty years after operation. Under the methods practised a decade ago the percentages of relapses, even during the first two years, ranged between 30 and 40 per cent. Under the improved method now in use, especially Bassini's, and even with a much more careful tracing of patients, this percentage has been reduced to a minimum.

Such, then, at the dawn of the twentieth century, is the present status of the radical cure of hernia. "The thousand-year-old problem of Surgery" has finally been solved in the last quarter of the nineteenth century by the happy combination of genius, rare skill, and unflagging perseverance on the part of many workers in many lands. We must not forget that this combination would have been of little avail without the brilliant discoveries of Morton and Lister. So that here again in the radical cure of hernia we find new cause to do them honor and to add to their laurels.

ENTEROPTOSIS AND ITS RELATION TO FUNCTIONAL DISTURBANCES.

BY

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The condition described by the term Enteroptosis has been attracting an increasing degree of attention during the past few years. Some years before Glénard's monograph appeared, Virchow, Leube and others described the anomalous downward displacement of different abdominal organs, but in 1885 Glénard formulated his views upon this subject, accurately describing the condition of the abdominal viscera and the nervous phenomena connected therewith. Among the features prominent in this symptom-group which Treves is pleased to call "that medley of symptoms," are, downward displacement of the stomach, a movable right kidney, various digestive disturbances and often very typical neurasthenic symptoms. So sanguine was the pioneer observer among the French, and indeed among all writers, that he had discovered a solution to the difficult problem of many cases of neurasthenia, that he says at the close of one of his very early monographs upon the subject in a free translation as follows :—"I can affirm that the physician who will follow my directions and strive to verify my statements in such cases will find in his practice the satisfaction which a positive diagnosis gives to both physician and patient from which alone a proper prognosis can be made, and that satisfaction, the greatest of all, which directs the treatment and avoids for the patient the trial upon him of so many remedies, while at the same time it secures him relief and prevents the physician himself from falling into therapeutic scepticism."

The next step of importance in the advancement of our knowledge on this subject is marked by the appearance of Ewald's writings in 1890, and those of Pick, Boas, Kumpf, and Hufschmidt in 1892. With Ewald many of the Germans took sides against the French school on several points to which we may refer later. The German school claims that Glénard had reference but to the intestines in his descriptions, while, associated with ptosis of these parts, displacement of other organs was common. By the German school, the application of this term is broadened and more comprehensive. Schwerdt believes he is justified in speaking of enteroptosis when at least two organs are found prolapsed.

It may be mentioned here, however, that Ewald's methods of investi gation were more accurate than those of Glénard—for while it appears the latter did not employ any means of inflating the stomach or intestines, Ewald claimed that such was a necessity and thus by Glénard's method of diagnosis, mistakes were likely to creep in.

Treves, in England, has contributed to the study of the symptomatology and treatment of this disease, while Osler was the first in America to include this subject in a text-book in 1892.

Glénard's disease or Enteroptosis or Splanchnoptosis, as it may be called, according to Stiller's suggestion, should be considered independently of those conditions of visceral displacement resulting from former inflammatory process, such as frequently occur about the genital organs, of females and result in pulling down portions of intestine or an isolated organ. This view, however, is open to the criticism, that, upon the normal position of any one organ the position of the others largely depends, and it is possible to have very general ptosis result from such a cause associated with all those signs incident to the true disease. It is acknowledged, however, that in a large number of such instances the signs of the true disease are not prominent in the clinical picture and may be absent entirely.

Meinert urges that the prominent pendulous abdomen resulting from numerous pregnancies "has nothing whatever to do with Glénard's disease. Such an abdomen holds a dilated stomach, not a dislocated one." However conflicting these views may be concerning the classification of cases under this head, it may be accepted as safe teaching, at least for the present, that (I.) Enteroptosis may exist without subjective signs, that (II.) the Enteroptosis of Glénard is associated with the most pronounced subjective signs, chiefly of a neurasthenic type, that (III.) in those cases where a pendulous abdomen is present the nervous features of the case are less pronounced than in thin subjects with greatly flattened belly walls, and that (IV.) Enteroptosis arising from inflammatory processes in the abdomen may be typically characteristic.—(Treves).

The view of Mathieu is thus expressed, that Enteroptosis is of two varieties, (I.) the form which shows itself plainly from without by a pendulous abdomen and is rarely found associated with nervous manifestations. The second form (II.) is that in which the abdomen is thin and flat and where the neurotic element is very prominent,—the internal variety.

The organs displaced in this disease may be all those found below the diaphragm. Most frequently, however, the colon and small intestines, the stomach, the right kidney and the liver are found in altered relations. It is not rare to find the left kidney also displaced; the spleen

very rarely is found away from its normal position while the pancreas has been once recorded as dragged down (Rokitansky, Treves).

About the subject of the Etiology of Enteroptosis much interest centres and numerous theories have been advanced to account for its occurrence. Kuttner and Dyer affirm that no cases of congential gastroptosis have been observed. Stiller (1896) says that Enteroptosis is a congenital anomaly. It occurs in those whose muscles are soft, whose bony organisation is delicate and upon them but a small deposit of fat may be found. There is usually found in such patients a floating tenth rib.

Enteroptosis is found in men as well as in women, although much less frequently. Two of the cases herewith reported were male patients, although the percentage of men is much smaller in a large series of cases as shewn by Glénard, Meinert, Schwerdt and indeed by all observers. The French writer reports 404 cases, 306 of which were among women; in Meinert's series, 88—90 per cent. were females, while in Schwerdt's series of 95 observations, 89 were in women. Pregnancies and tight lacing are the chief causes, according to Manges, for this great difference between the sexes.

In answering the question as to the etiology of the condition, Dr. Schwerdt, of Gotha, states that the essence of this disease is to be sought for in an atony of the whole nervous system which affects the muscles of the whole body. As active causes of such a condition he enumerates heredity, unhealthful methods of living and working, all chronic diseases, the wearing of corsets and lack of care in the pregnant state and in childbed. He regards this disease as a *constitutional ailment.*

The abdominal organs are kept in place very largely by a certain degree of intra-abdominal pressure, and when this is greatly diminished, ptosis is the result. The corset contributes to this condition, among other ways (I.) by diminishing the tone of the body walls and suspensory ligaments of the organs, and (II.) by interfering with the mechanical and chemical functions of digestion thus impairing nutrition. The teaching of Schwerdt upon this point is more theoretical than that of Meinert, who regards the corset as a means of altering the relation of the parts chiefly by direct pressure.

There is doubtless no one cause or group of causes which will suffice to explain the occurrence of this disease or condition. We may conclude then that:—

1. The intra-abdominal pressure is altered.
2. Many causes contribute to this end.
3. The organs may be displaced by being pulled down.
4. In all probability a congenital predisposition exists in the con-

formity of thorax and the character of fibre entering into the supporting tissues of the organs.

The *diagnosis* of Enteroptosis, since the adoption of the method recommended by Ewald and others, is a matter of comparative simplicity. On the inspection, the contour of the abdomen may suggest a condition of Splanchnoptosis. The epigastrium is hollowed, the two lower quadrants of the abdomen, even with the patient in a recumbent position, are often quite prominent—while, as pointed out by Dr. J. C. Webster in a personal observation, the recti abdominis may be seen widely separated in thin subjects when attempting to assume an erect position. In a few cases I have seen the position of a displaced stomach indicated by the peristaltic waves extending from left to right. It is necessary, however, to distinguish between a displaced and dilated stomach. In brief, we may say that it is all important to determine :—

1st. the position of the lesser curvature of the stomach.

2nd. the relation of the greater curvature to the lesser.

In all cases where one can demonstrate the lesser curvature some degree of displacement exists, and in proportion as the lesser curvature approaches the umbilicus or falls below it, so is the degree of displacement. Dilatation, as the result of atony, is a usual accompaniment of gastroptosis and a transverse measurement of from four to five and a half inches might still be within normal limits, and would not indicate dilatation.

The hypogastrium may present a dull note from the close prolapse of the small intestine. A point upon which Glénard laid great stress is termed by him "la corde colique transverse,"—by this he described a small band which ran horizontally across the abdomen about two inches or so above the umbilicus. He regarded this transverse band as the "colon transversum." Upon this point there is much diversity of opinion. The German teachers, led by Ewald, claim that the French teaching is wrong and that the "corde colique transverse" was the pancreas. According to Frickhinger, who saw the intestine of a patient with Enteroptosis inflated by Ziemsen, it is regarded as the transverse colon, the hard cord, during the process, becoming changed into a cushion-like and elastic body. On the other hand Ewald cites a case reported by Krez in which an autopsy was done and the "corde colique transverse" was apparently the pancreas. In Case No. 3 (Mrs. M.), the "corde colique transverse" was plainly felt and during a laparotomy done upon this patient, it was shown to be the pancreas.

Palpation of the abdomen usually reveals movable kidney, methods of examination for which are known to all. The liver, when displaced, is usually more prominent in the epigastrium and may be rotated upon its longest axis, the upper line of dulness falling much below normal.

Another point upon which Glénard laid special stress, as one of diagnostic worth, and which is to be applied in all cases of Enteroptosis he described under the phrase "*l'epreuve de sangle.*" This test is applied by the examiner, standing behind the patient who also is in the erect position, and with both hands laid flatly over the lower zone of the abdomen, a firm but gentle pressure is made upwards. In the great majority of cases this affords considerable relief to the distressing dragging pain which is felt in the epigastrium and abdomen and which is one of the patient's chief complaints. At the same time the result of this test is an index to treatment.

As illustrative of many of the above points in diagnosis, the following cases may be briefly described. With two exceptions they are from personal observation, and for these two I am greatly indebted to Dr. James Bell and Dr. C. F. Martin.

Case No. 1. C., male, æt. 25, admitted June, 1899. Complaints were of pain in right side of abdomen, loss of weight, jaundice and of recurrent attacks of indigestion. In February, 1898, the patient had his first attack of severe colic, which was referred to the liver—and regarded as hepatic colic. During the past ten years he had frequent pain in the region of stomach, especially marked after walking, standing or riding. These attacks were brief and on two occasions were followed by jaundice. After the attack above referred to (February, 1898), the patient was comparatively well for about a year with the exception of slight "indigestion" and a dull heavy feeling at times.

In January, 1899, another attack similar to the first occurred and since then, every two or three weeks, this has been repeated, although each attack was of a much milder type. The jaundice was associated with clay-colored or colorless stools and high colored urine and he remarked that on several occasions when the attack of abdominal pain was passing off the urine, which had been scanty, became more copious and light colored. The loss of weight was about thirty-three pounds. The patient was of a constipated habit. Quietness in bed relieved both constipation and abdominal distress.

The patient is tall and slender, somewhat nervous in temperament; the abdomen is flat, the right kidney is freely movable and the stomach is displaced as shown in the drawing made from the gastrodiaphane; the corde colique transverse is faintly palpable. (See Fig. 1.)

Case No. 2. Mrs. G., æt. 66 (Hospital No. . .). Complaint of pain in stomach. The patient says that during the past twelve years she has been subject to abdominal pain coming on about two hours after food and lasting for three or four hours. These attacks have recurred at intervals varying from three or four months to one or two weeks. Great care has been necessary with her diet in order to avoid an attack. She

is the subject of flatulence and constipation during these attacks. The pain has been felt chiefly in the epigastrium but extends around the back on the right side. She had never been jaundiced before coming under observation and there is no history of over-indulgence in food or drink or past stomach disorder, but she has partaken freely of condiments.

Her condition was one of emaciation, muscles, small and flabby; mental state was irritable; the circulatory and respiratory systems were negative. On examination of the abdomen one observed that it was thin-walled and very lax. There was the epigastric depression extending down to the umbilical level, below which fulness was manifest. The spleen and liver were not palpable, while both kidneys might be readily felt. Inflation of the stomach and illumination of the same were confirmatory and showed marked displacement downwards and to the right with no dilatation as shewn by the diagram (Fig. 2). The lesser curvature was just above the umbilicus. A test breakfast showed no hydrochloric acid and no lactic acid. The patient was under treatment for some days in the hospital upon a fairly liberal diet of gruel, sweetbreads, fish, toast and tea, somatose, and koumiss. Faradism was also applied to the stomach. While under observation a severe attack of abdominal pain supervened and on the following day the patient was markedly jaundiced with bile in the urine. The degree of jaundice diminished to deepen again only after another attack of pain.

This case illustrates the following points :—(I.) Marked digestive disturbances for years ; (II.) Nervous irritability ; (III.) Constipation ; (IV.) Epigastric pain followed by jaundice.

Case No. 3. Mrs. M. A. M., æt. 36. (Hospital Nos. 1,024, 4,029.) This patient complained of "disease of the liver, kidney and bladder." For years she had suffered with pain in right hypochondrium; she had had no acute illness; she had borne two children, both of whom died in infancy; one year previous to her admission to the hospital she suffered from severe abdominal pain which was referred to the right flank and was attended by "swelling and tenderness over the part." This attack was but temporary and fully subsided. Since that time, however, she has had occasional vomiting and felt chilly sensations.

Present condition :—One was struck with the expression constantly present on this patient's face. It was one of anxiety and distress; she was of a dark complexion, thin and hollow-eyed, and I remember well when going about the wards for the first time after she came into the o pital. She presented the striking picture of a neuasthenic patient. Discovering neurasthenia written so plainly on the face of this patient, I immediately examined the digestive system and abdomen with the gratifying result herewith given in detail. Her tongue was

flabby, teeth poor and appetite capricious. She was often troubled with flatulence, the bowels were constipated, the abdomen was flat and flaccid. Some general hyperæsthesia was present, but especially manifest over the right hypochondrium and hypogastrium; the epigastrium was flat and hollowed, the lower abdominal zone, if anything different, was comparatively prominent; on deep inspiratory movements one noticed in the epigastrium and extending across this area, a wave passing from above downward to a point about two inches above the umbilicus and one could feel a rounded body quite superficially. The right kidney was readily palpable and moved freely on inspiration and could be pushed up under the ribs.

The usual method of locating the stomach was resorted to and it was found, as in the diagram (Fig. 3) markedly displaced. The pelvic organs were normal.

Case No. 4. Mrs. L. C., æt. 38. (Hospital No. 6,515.) Admitted June, 1897. Patient complained of gastric distress constantly present, constipation, aching back and palpitation of heart. The patient believes her present illness began three years before and during the past few months it had been greatly aggravated. Although always of a highly neurotic nature, she had been specially so during the past three years. In March, 1897, her menstruation ceased. Gastric distress, flatulence, pyrosis and constipation describe her digestive disturbances.

Present condition:—The patient's nutrition was only fair as she showed signs of emaciation; her facial expression was troubled and she was decidedly neurotic. Anxious introspection characterised her mental state. Vasomotor instability manifested in visible flushing of her face and body, was a feature of her case. There were no stigmata of hysteria. The respiratory and circulatory organs showed no signs of disease. The generative organs were not diseased; she had a left inguinal hernia. The abdomen was very lax with tenderness on pressure about two inches below ensiform cartliage; the liver and spleen were not displaced. The right kidney was palpable and movable to a slight extent. The chief interest centres upon the stomach. A test breakfast was given but no contents could be gained thereafter. Gastric inflation revealed downward displacement of the stomach, the greater curvature presented three inches above the symphysis pubis, the lesser curvature was seven inches above this point, thus showing a transverse measurement of the stomach of four inches (Fig. 4).

Remarks :—These two cases, Nos. 3 and 4, illustrate in the most striking manner the neurasthenic symptoms associated with this condition of the abdominal organs ; the facial aspect, the complaints, the introspection, the self-observation and the results of treatment were typical. In No. 3 treatment consisted first in nephrorraphy which

availed nothing. The "corde colique transverse" was well marked in this case and was misleading, inasmuch as it was movable and associated with loss of flesh and the absence of free hydrochloric acid in the stomach contents after the test breakfast. It was strongly suggestive of malignant disease of the stomach, but an exploratory incision showed it to be the pancreas. The wound healed but the patient was not improved.

The treatment in Case No. 4 was more satisfactory, although no operation was done, under massage (general and local), suggestion and reassurance, tonics and mild aperients and the wearing of a bandage, much improvement was made and though she has not continued as well as ever, yet she is leading a fairly active life in comparative comfort.

Case No. 5. Mde. St. D., æt. 48. (Hospital No. 6,504.) Complaints were of pain in loins and a feeling of weight and distress in upper abdominal zone which was worse on the *left* side. The patient had borne thirteen children, and at the second pregnancy twins were born. Ever since this event the abdomen has been prominent and flabby. During the past twelve years flatulence had frequently troubled her; during the past five or six years vertical headaches and distress in upper part of abdomen were complained of. While always nervous she has become much more so during the past few years.

Examination of the abdomen showed it to be one of "*hängebauch*," the walls were very flaccid and pendulous, the recti abdominis were widely separated and between these muscles one could readily feel the prolapsed contents of the abdomen. On examination of the different organs of the abdomen one found the normal area of liver dulness a resonant one. This organ was movable and could, at times, be easily felt between the recti; again it was with difficulty made out, possibly becoming rotated upon its transverse and longest axis. The left kidney was felt on deep inspiration, while the spleen and the right kidney could not be felt. The stomach, on inflation, was dislocated downwards, while the measurement of the organ when distended with gas indicated some degree of dilation as well. The lesser curvature was three inches above the umbilicus, the greater four inches below this, giving the transverse measurement of the stomach as seven inches. (Fig. 5.)

This case illustrates a ptosis of the liver with gastroptosis occuring in a woman with a multiple of pregnancies and in whom the recti were widely separated, the stomach dilated and nervous symptoms manifestly exaggerated.

Case No. 6. Mrs. K., æt. 40. (Out patient.) Showed displaced stomach, freely movable and tender right kidney, with occasional vomiting; epigastric pain and tenderness with pulsating area on the left of the middle line; some frequency of micturition. *L'Epreuve de Sangle* was most satisfactory in her case, and the wearing of an abdominal support was found very helpful. (Fig. 6.)

Returning now to the second part of our subject, we may say that the chief functional disturbances to which Enteroptosis is related are :—

1. Neurasthenia, including digestive disturbances.
2. Anæmia.
3. Constipation.
4. Jaundice.
5. Gastric dilatation.
6. Myxœdema, Scleroderma and Exophthalmic Goitre.

The theories concerning the symptoms associated in most instances with the altered position of the abdominal organs are numerous, but for convenience of consideration we may classify them under three headings :—

1st. There is the mechanical theory from Glénard.

2nd. What may be termed the neuro-mechanical theory of Meinert.

3rd. The neuro-intoxication theory of Schwerdt.

The first theory, although not purely a mechanical one, is chiefly such. It does not ask for any antecedent nervous cause, but it implies a weakness of the suspensory ligaments of the transverse colon, especially the colico-hepatic ligament. The descent, Glénard claims, begins at the hepatic flexure and the other events incident to the disease follow, viz. :—The entero-stenosis due to a kinking of the colon at the point of prolapse, the *corde colique transverse*, the gastroptosis, the constipation, the auto-intoxication, the neurotic manifestations, etc.

The second theory, which we may characterise as the neuro-mechanical one, is advanced by Meinert ; in short, Meinert attributes the symptoms associated with "dropping of the viscera" to the constant stimulation and irritation of the sympathetic nerves, as a result of pulling and stretching of these nerve fibres. This has its deteriorating effect upon the blood, through the blood-forming organs, and the general nervous system, and hence chlorosis, neurosis and all sorts of vasomotor disturbances.

The third theory is that of Schwerdt already alluded to in speaking of the etiology of the disease. The nervous system is primarily at fault—the fibre of the individual is *toneless* ; the functions of the abdominal muscles, both parietal and visceral are not normal, intra-abdominal pressure is lessened—ptosis takes place. There is stasis in the blood and lymph vessels, the bowel contents decompose, the excretions are not carried off, absorption of poisonous products goes on and auto-intoxication results—dyspeptic manifestations, neurasthenia, headache, anæmia, lack of energy, palpitation, etc., etc. Polyuria follows as a consequence, while Graves' disease, scleroderma and myxœdema, are theoretically possible as results of visceral irritation and intoxica-

tion. However obscure the causes of the three diseases may be, few are ready to accept this as an explanation of their etiology.

When we consider the altered relation of the abdominal viscera in a condition of ptosis, the interference with the motor function of the intestine, the great tendency to constipation, the resulting distress and pain, it is not difficult to understand how a state of mental depression or nervousness and of general nerve weakness may result. In whatever relation these two conditions may really be, it is not hard to understand that enteroptosis may be a direct cause of the neurasthenia.

Chlorosis and enteroptosis are doubtless related in both respects.

Chlorosis on the one hand has been regarded as due to a neurosis, on the other as an intoxication, and it would seem that in the teaching of Meinert some ground for both these theories existed. The left-sided pain is common in chloro-anæmia, and Taylor refers this pain to distention of the colon in an organ displaced downwards. In one of our cases of marked enteroptosis the pain was constantly referred to the left side of the abdomen in the upper quadrant.

Jaundice in such cases may be due to :—

1. Passive congestion of a displaced liver and its results upon the bile passages.
2. To obstruction in the duodenum.
3. To direct pressure upon the bile ducts exerted by a floating kidney.
4. Other causes.

Constipation has already been explained.

Gastric dilatation was at one time thought to be due to obstruction to the duodenum and pylorus, caused by the floating kidney so commonly found associated with it ; it is doubtful if such can be the cause. The position of the stomach and the lack of tone so common in such cases doubtless extends to the muscular wall of the stomach, and in these conditions one finds sufficient explanation for the dilated condition which is rarely pronouced.

The indications for the treatment of enteroptosis as originally recommended by Glénard, are as follows :—

1. The intestines must be elevated and kept in their new position.
2. The abdominal pressure must be increased.
3. The bowels must be regulated.
4. The secretions of the intestinal glands must be increased.
5. The digestion and nutrition must be regulated and stimulated.
6. The whole organism must be strengthened.

These indications, in many instances, are met by the *body binder* so applied as to exert upward pressure and thus support the prolapsed organs while it increases the intra-abdominal pressure. It may be made by ordinary grey cotton pinned firmly about the body.

Then mild purgatives are needed. Massage of the abdomen often does good in stimulating the movements of the bowel and giving tone to the abdominal muscles. The same may be said of electrical (Faradic) applications.

Then the use of alkalies and the choice of such a diet as is most nourishing and easily digested are of importance.

Recently both hot and cold baths have come into favor as giving general tone to the circulation, and Buxbaum recommended the cold Sitz bath as inducing favorable results, especially by reason of its action upon the intestinal circulation and secretion. He advises that they be taken daily for two—five minutes.

The chief advance in the treatment of the condition since 1886 has been in surgery, by which some brilliant results have been brought about. Recently reported cases have come from Treves, in England, who sutured the liver to the abdominal wall; Bernhardt, Ferrari, Terrier and Hartmann, in Europe, and Byron B. Davis, Stengel and Beyea, in America. Gastropexy and gastrorrhaphy have, in different cases, given good results; while in Stengel's case, operated on by Dr. Beyea, the gastro-hepatic omentum and gastro phrenic ligament were shortened by a tuck made with multiple sutures, thus bringing the stomach up towards its normal place.

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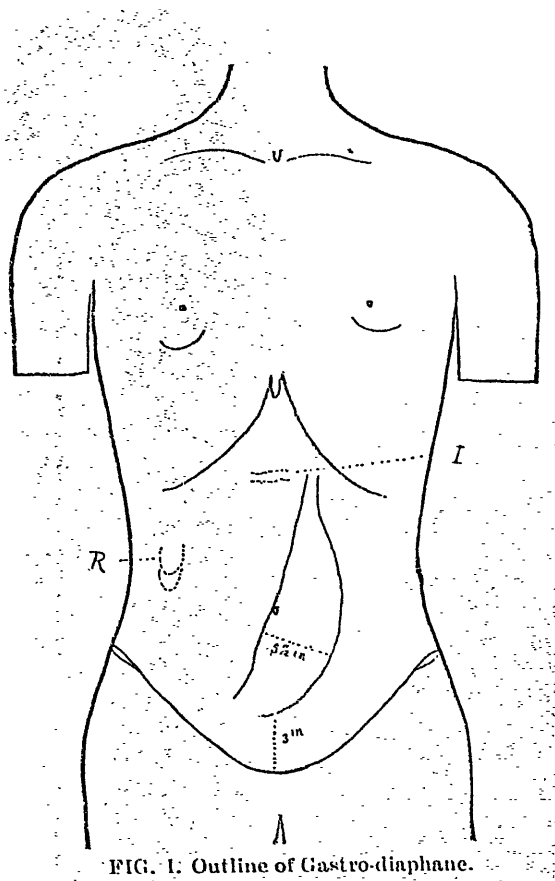

FIG. I. Outline of Gastro-diaphane.

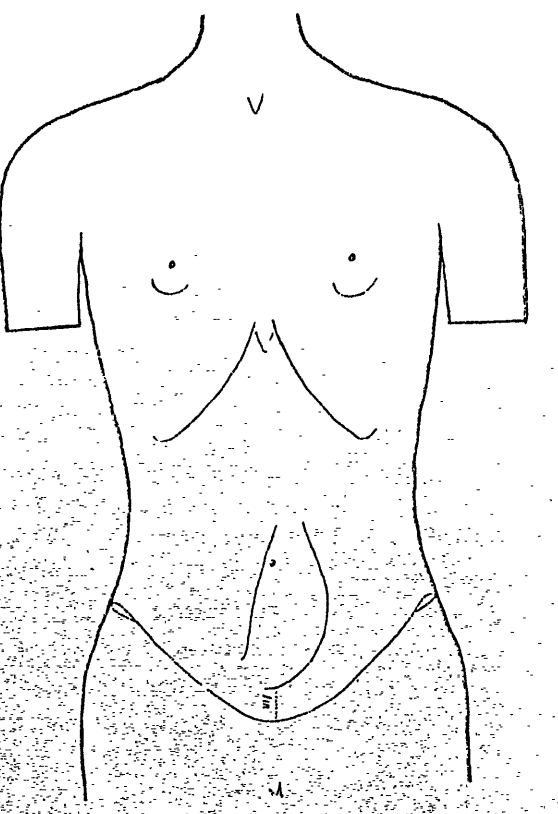

FIG. II. By Gastro-diaphane.

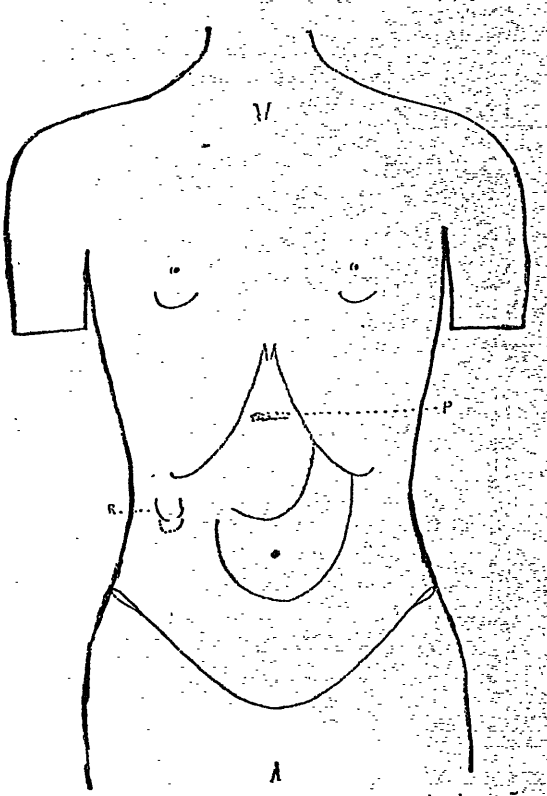

FIG. III. Gaseous Inflation. Stomach about 5 inches wide.

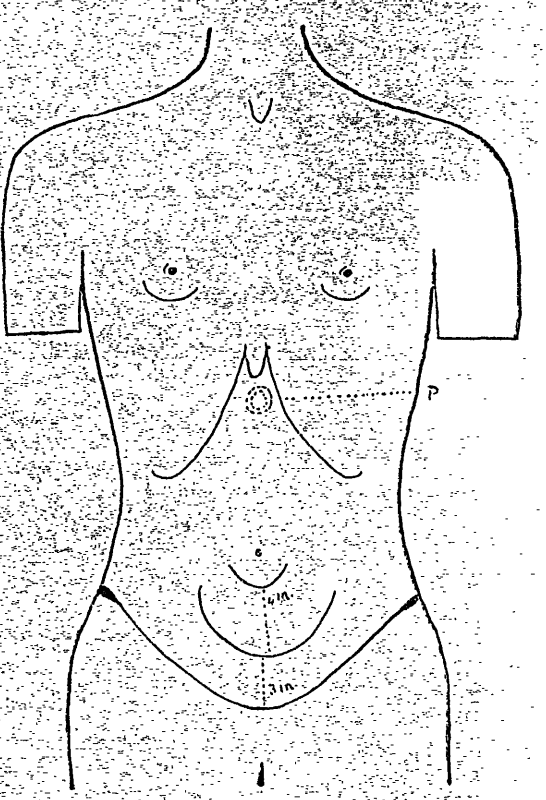

FIG. IV. Gaseous Inflation.

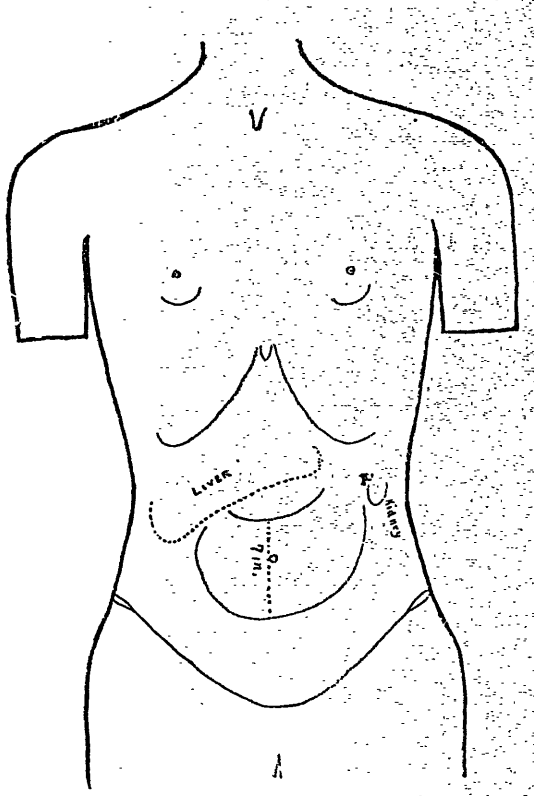

FIG. V. Gaseous Inflation.

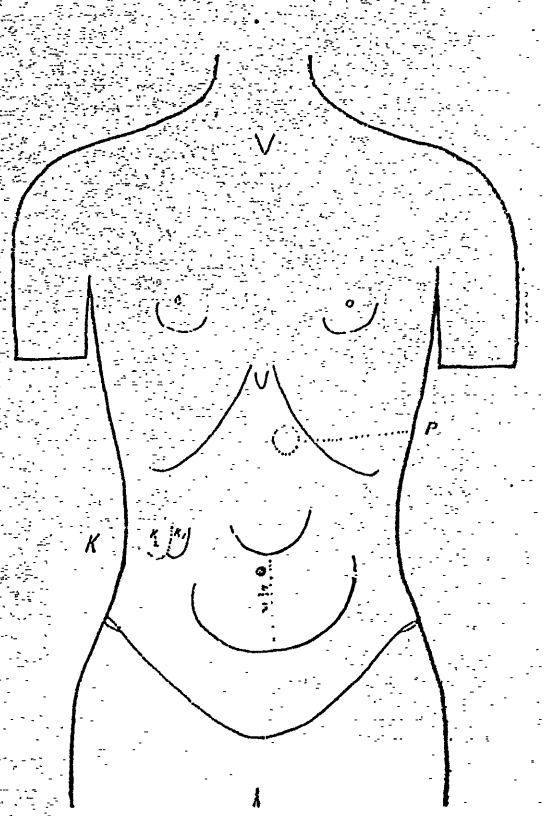

FIG. VI. Gaseous Inflation.

RETROSPECT

OF

CURRENT LITERATURE.

Medicine.

UNDER THE CHARGE OF JAMES STEWART.

Koplik's Sign in Measles.

HENRY KOPLIK, M.D. "The New Diagnostic Sign of Measles on the Buccal and Labial Mucous Membrances." *Medical News, 1899, 22.*

Koplik presents a third paper, accompanied by a coloured plate of a new diagnostic sign of measles. After years of observation Koplik states that this sign appears in measles only and in no other condition of health or disease. It appears from as long as twenty-four or forty-eight hours, and even three to five days before the skin exanthem. It is present before the signs of conjuctivitis appear, and when little or no fever is present.

Of fifty-two consecutive cases, comprising only a small part of the material examined, the diagnosis of measles was made in thirty-two cases before any sign of eruption appeared on the skin. In three of the thirty-two the diagnosis was made three days before any exanthem appeared. In nine cases the sign appeared forty-eight hours before the appearance of the exanthem. In the remaining twenty cases fully forty-eight hours elapsed before any eruption appeared on the skin, and in none of the fifty-two cases was the diagnosis wrong.

The sign appears pre-eminently on the mucous membrane lining the cheeks and lips. It can also be seen on the mucous membrane lining the cheeks opposite the last molar teeth. It appears only on the buccal and labial mucous membranes and not on that of the hard or soft palate, nor on the mucous membrane covering the fauces. The eruption appears twenty-four hours, forty-eight hours, or three to five days before the eruption on the skin. It is at first discrete and then becomes numerous and confluent, and when the skin exanthem appears and is spreading, it is at its height. It then begins to fade and disappear. If one looks into the mouth in a case of measles before the exanthem has appeared, he sees the usually described redness of the fauces and

in some cases a few indefinite spots of red on the soft palate. In a strong glaring daylight one sees at this period on the mucous membrane lining the cheeks and lips a distinct pathogomonic eruption. It consists of small irregular spots of a bright red colour and in the centre of each spot is the sign referred to, a minute bluish-white speck. There may at first be only two or three or six such rose-red spots with the bluish-white speck in the centre. Sometimes the bluish-white centre is so small and delicately coloured that only in a very direct and strong daylight is it possible to bring out the above effect. Ordinary manipulation, such as passing the finger over these spots does not remove them, but brushing sometimes does. The spots are at first discrete, but as the rose-red spots increase in number they coalesce, presenting large areas of rose-red studded over with minute raised bluish-white specks, relieved here and there by normal mucous membrane. Finally the whole buccal and labial mucous membrane becomes of a uniform rose-red colour, studded with myriads of bluish-white specks. At this time the skin exanthem has appeared and is spreading. When the skin exanthem is fully developed, the buccal eruption begins to fade and lose its characteristics.

The writer points out the great value of this sign in making an early diagnosis of measles, and also as an aid in differentiating measles from other affections. The claims of the writer upon the value of his sign seem to be fully confirmed by reports from foreign and American clinics.

Etiology of Glandular Fever.

J. H. Hainebach. "On the Etiology of Pfeiffer's Glandular Fever." *Deut. Med. Woch. 1899, 26.*

Pfeiffer, in 1889, first called attention to a condition which he termed glandular fever. Although chiefly a disease of childhood, several writers have described cases in adults.

The disease usually begins with tolerably high fever, headache, pains in the neck on swallowing, and especially in movements of the head. Constipation is usually present, seldom diarrhœa. Swelling of the glands of the neck, frequently visible, and usually starting on the left and later involving the right side sets in about the same time as the general symptoms. The glands, both in front and behind the sterno-mastoid, are involved. They are moderately hard and very tender, and each gland is separate. The head is kept fixed and sometimes slightly drawn towards the more affected side. The throat is normal or only slightly reddened. Abnominal pains are complained of in many cases, and there is sometimes tenderness about the umbilicus. After one to several days the temperature falls to normal, the painful swelling dis-

appears, and there is a return to health. Eventually perfect recovery ensues, although in weakly children the disease has proved fatal, whilst suppuration of the gland and middle ear disease occur in exceptional instances. Acute hæmorrhagic nephritis is a more frequent complication, fifteen instances having been collected from the literature by the writer.

That the disease is an infectious process is proved by its general features, by its frequent endemic occurence, its contagious character, as well as the relatively frequent complication of nephritis. The origin of the disease is, however, somewhat obscure. Most writers regard it not as an affection *sui generis*, but as an abortive form of some known infectious disease. The writer records a case of a rather severe type occurring in a boy of eight. The condition was marked by glandular swelling of the neck, a normal throat, enlargement of liver and spleen and nephritis. On the twelfth day renewed swelling of the glands and fever set in and ultimately recovery.

Bearing on the etiology of the case the writer points out that a brother and sister of the child had a few days previously suffered from a typical follicular angina, and he considers that the same infectious agent (strepto- or staphylo-cocci) was at work in all three instances. Charlotte West has reported a similar instance in which a child suffered from glandular fever, his two nurses having just previously had attacks of angina.

Whether other micro-organisms are capable of inducing glandular fever is uncertain. Cyajkowski found bacilli in the blood and glands of three cases which were probably identical with the influenza bacillus.

Pneumococcal Empyema.

VIERORDT. "On the Nature and Treatment of Pneumococcal Empyema." *Deut. Arch. Klin. Med., Bd. 6.*

Vierordt discusses the nature and treatment of pneumococcal empyema in an interesting manner. Numerous reference to the literature of the subject shows a great divergence of opinion on the prognosis and treatment of this condition. Certain writers, especially Netter, regard the outcome as favorable in many instances, either from rupture through a bronchus or from absorption. On the other hand many are inclined to regard the affection in question as quite as serious as a strepto- or staphylo-coccus infection, and believe that no difference should be made in the treatment of an empyema simply because one or other form of bacteria is found in the pus. It would certainly seem the safest rule to adopt to evacuate pus wherever it is found, rather than to temporise and jeopardise a patient's life in the hope of spontaneous cure.

Vierordt's personal experience is strongly in favour of prompt surgical interference. Even in children the malignant type of pneumococcus infection is too frequent to allow of any undue delay in resorting to active treatment. Small empyemata, often difficult to recognize, are sometimes the cause of a fatal termination, whilst incision and the escape of a few centimetres of pus may relieve at once high temperature and other symtoms of septic absorption. After quoting a number of case illustrating the virulence of pneumococcal empyema, the author concludes that there are always certain chances of an unfavorable issue when purulent collections are left alone, or when left too long. Although his observations are made on children, he believes that no difference should be made in treatment of an empyema, whether due to pneumococcus or other forms of infection.

Abortive Types of Pneumonia.

STEINER. "Der Kruntniss des Kurz Dauerded Crouposen Pneumonien."

Steiner defines pneumonias of short duration, as those which end before seven or nine days and yet present the same symptoms as ordinary croupous pneumonia. It is not, perhaps, very generally recognized that abortive types of pneumonia running a course of from one to three days are occasionally met with. This type was found in 27 of 1,157 cases observed in the Leipsic clinic.

The recognition of such cases is by no means always easy. In six cases recorded the affection of the lobe of the lung was evident on percussion and auscultation, in eleven cases the local affection was circumscribed and the physical signs were more or less distinct; and in six cases the diagnosis rested on symptoms, percussion being negative and auscultation only in some cases gave any evidence of the condition.

The onset is sudden and unexpected and the single symptoms seem to come on even more rapidly than is usual in ordinary pneumonia. The rapidity with which the symptoms disappear is also very striking, but the local evidences of infiltration often remain for periods varying from four days to six weeks.

The symptoms in these cases do not differ from the more usual types. Setting in with a rigor there is pain in the side, rusty sputum, high fever, herpes, alteration in the pulse-respiration ratio, and fall by crisis. Naturally one or more of these symptoms may be absent just as they are in cases running the ordinary course. The result of these cases is invariably favourable. Their short duration is to be attributed either to an attenuated virus or to increased resistance in the individual.

F. G. Finley.

Surgery.

UNDER THE CHARGE OF GEORGE E. ARMSTRONG.

Operation for Umbilical Hernia.

HOWARD MARSH. "On the Method of Operating for Umbilical Hernia, Whether for Radical Cure or When Strangulation has Occurred." *British Medical Journal, June 17, 1899.*

Marsh, in operating, recommends making an eliptical incision extending from the upper to the lower border of the tumour, at first through the skin, then through the subcutaneous tissues, keeping close to the sac until its neck is reached. Having thus rapidly isolated the sac, it is opened and omentum, when present, is traced to the neck, freed at once from its surroundings, ligated in strands and severed, and then the distal portion is rapidly unravelled and freed from the intestines.

By following this method instead of the one usually described in text-books, namely, freeing the omentum from the bowel preparatory to tying it, Marsh claims that he shortens the operation by one-half.

Infiltration Anæsthesia.

HEINZE. "Infiltration Anæsthesia." *Arch. für Path. Anat. und Phys., 1898, Bd. cliii., Heft 3.*

Heinze carried out a series of tests upon himself with the various anæsthetic solutions commonly employed, and showed that their anæsthetic properties depended upon the amount of cocaine they contained, and not upon any peculiar properties attributed to the combined action of their other constituents. He also showed that the anæsthetic effect of cocaine and of eucaine—β were equal, the latter having the following advantages :—less irritant, less toxic and capable of being repeatedly sterlised without interfering with its action. He recommends the following formula :—

Eucaine—β, gr. i. ss.
Sodium chloride, gr. xii.
Distilled water, ℥xxvi.

Braume (*Arch. für Klin. Chirur., Sept., 1898*), agrees with Heinze as regards eucaine—β, and notes the fact that it, like cocaine, cannot be employed when the actual cautery is used as the heat destroys the anæsthetic properties of the drug.

Operation for Gastroptosis.

STENGEL AND BEYEA. "Gastroptosis, Reports of a Case in which a New Operation was undertaken and the patient greatly improved." *American Journal of the Medical Sciences, June, 1899.*

The authors, after specifying in detail the clinical history of the patient and the temporary improvement following nephrorrhaphy, proceed to describe the operation performed as follows :—

The patient was so arranged on the operating table that the chest and upper part of the abdomen could be raised or lowered at will. A four-inch incision was made in the linea alba midway between the umbilicus and the xiphoid cartilage, which exposed a portion of the lesser curve and cardiac end of the stomach, the gastrohepatic omentum the gastrophrenic ligament, and the lower border of the liver. Elevation of the upper part of the table put the gastrohepatic ligament on the stretch and still further displaced the stomach downwards. A series of fine silk sutures, introduced by small round, pointed and curved needles, were so inserted that when tied they shortened the gastrohepatic omentum and the gastrophrenic ligament. The upper stitch was placed as close as possible to the upper border and the lower to the lower border of these peritoneal folds. Two series were employed ; in the first row some eight or ten stitches were placed, in the second, four. After this had been accomplished the stomach was seen to occupy what was thought to be a normal position.

The patient made a normal convalescence. She was given nothing but sips of hot water for forty-eight hours, then drachm doses of milk and lime water hourly, this being gradually increased until the fifth day, when she was allowed five drachms hourly. She was kept in a recumbent position from April 19th to June 28th. On November 10th the patient had gained ten pounds, and on the following March 14th, a still further gain of nine pounds had taken place. She reported herself free from gastric disturbance, had a better appetite and was able to do more work about the house. The stomach was inflated with air and it was found to have maintained the same position which it held at the preceeding examination.

The writers also record the methods which have been adopted by various operators in correcting displacements of the liver, stomach and intestines up to the time they operated.

The Technique of Laryngectomy.

W. W. KEEN. "The Technique of Laryngectomy." *Annals of Surgery, July, 1899.*

The method of operating which Keen proposes to employ in his next

larnygectomy, having gained valuable experience in his last, is briefly as follows:—The Trendelenburg position is to be preferred where the operator is about to open the trachea. The larynx and upper part of the trachea are to be freed in front and on each side, while the patient is still in the ordinary recumbent position. Traction of the trachea should be made below the beard line and the distal portion united to the skin by means of three sutures placed laterally and in the median line, these to be preferably of slightly chromatised catgut to prevent subsequent difficulty in their removal when drawn within the trachea. A large-sized tracheotomy tube is introduced and instead of its inner tube a Nahn canula is used, through which anæsthetization is continued. The upper wound is closed, the deep portion by catgut and the skin by silk-worm gut, a small gauze drain being left *in situ* for twenty-four hours. The open trachea is protected externally by a hollow wooden cylinder covered externally by gauze to act as a filter.

The Trendelenburg position is maintained for twenty-four hours, nutritive enemata being given for forty-eight hours, and the patient is allowed to swallow on the third day, and to go about on the fifth day.

Dr. Keen would advise a preliminary tracheotomy when the patient suffers much from dyspnœa as a means of preparing the patient for the main operation, not as a preliminary. While Keen does not claim priority for any one step the *tout ensemble* is original.

A. E. Garrow.

Reviews and Notices of Books.

PROGRESSIVE MEDICINE. A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by HOBART AMORY HARE, M.D. Vols. I. and II. Philadelphia, Lea Brothers & Co., 1899.

In the preface to the first volume of the series the editor briefly announces the scope of the work, which is intended to be an improvement on the various "annuals" and "year-books" already known to the profession, all of which contain, with some useful information, much also that is useless, necessitating the very process of sifting that they are supposed to obviate. In the present series this object is to be attained, not only by a careful selection of contributors, each specially qualified to deal with the subject allotted to him, but also by the presentation of the subject matter in a narrative form, expressing "not only the views of the authors cited, but the opinion of the contributors as well." Each contributor is consequently both a compiler and a judge, speaking *ex cathedra*, of the material presented to the reader. This plan, while no doubt of advantage to the reader, increases the responsibility of the writer to a corresponding degree. We are not sure that the majority of readers would not prefer to draw their own conclusions of the respective value of the material presented to them in the compilation. As regards the general arrangement of the work, there is no attempt at more than a rough grouping of the subjects treated. For example, the first volume contains sections on the surgery of the head, neck and chest, diseases of children, pathology, infectious diseases, laryngology and otology, while the second volume contains another surgical section, that of abdominal surgery, a section of gynæcology, and one on ophthalmology. At the end of each volume is an alphabetical index of the subjects treated, with occasional reference to authors cited.* In a work which is presumably intended as a book of reference, one misses a more orderly arrangement of material, indicated by some system of numbering or lettering to which subsequent issues would conform, and reproduced in a comprehensive index, rather more detailed than the one actually given.

The subject matter of each section certainly appears to have been carefully selected and is presented in an attractive and readable form, which is in marked contrast to the crude compilation of some of the older encyclopædic works. There are very few typographical errors

* Foot note references to authors and articles are given in both volumes.

and the printing is excellent, though for their size the volumes are rather heavy, which is due to the quality of the paper used.

It is impossible to notice more than a few of the principal topics discussed in these volumes. In the first volume the surgery of the head, neck and chest is fully treated by J. Chalmers DaCosta. As to operative treatment in exophthalmic goitre, a conservative view is taken both as regards thyroidectomy and operations on the sympathetic, and it is held that rest and medical treatment should be tried before operative interference is advised. The same rule applies to goitre unless there are cysts, or many large and separate tumours, a suspicion of malignancy, or, in any case, dyspnœa. A similar conservatism is advised for tubercular (more properly tuberculous) glands of the neck and the statement is made that incomplete removal may lead to general tuberculosis (and complete removal is not easily attained), with which opinion we thoroughly agree. The surgery of Abscess of the Lung receives adequate consideration; operations on Bronchiectatic Cavities are considered as a rule unsatisfactory.

Considerable space is given Murphy's method of artificial pneumothorax for the cure of pulmonary tuberculosis, and a trial of the method is favored "in such a relentless (?) disease as phthisis." Among other interesting articles in this section are those on Suture of the Heart, Empyema and Cancer of the Mammary Gland, in which the most modern views are thoroughly discussed. The sub-section on Brain Surgery is very full and satisfactory. The statement that "the surgical treatment of iodicy is futile" is followed by a review of opinion chiefly favourable and some contrary to this view. With regard to brain tumours, the writer thinks that "practically every brain tumour, except a gumma, demands operation, and even a gumma may call for it." The Surgical Treatment of Epilepsy "is distinctly disappointing," though "cerebral operations for the treatment of epilepsy, employed in carefully selected cases, may cure a small number of them and may temporarily improve many." Abscess of the Brain, the Operative Treatment of Trigeminal Neuralgia and some minor topics conclude the surgical section.

In the section on Diseases of Children, A. D. Blackader gives a clear and concise account of the most recent opinions on the modifications of cows' milk for Infant Feeding and expresses his preference of Pasteurization to sterilization. In the treatment of the Diarrhœas of Infancy there is nothing specially new, but stress is laid upon the strict limitation of the dietary, lavage of the stomach and large bowel, and the avoidance of opium. Caution is advised in the use of intestinal antiseptics both in irrigation and internally. Bismuth and tannogen are recommended. The article on Bronchopneumonia contains much practical information, and that on Cardiac Complications in Rheumatism

once more draws attention to the often indefinite characters of the rheumatic attack and the great frequency of the cardiac complication, "in the acute rheumatism of adults it is arthritis, while in that of children it is carditis, which plays the most important part." Among other interesting articles are those on Meningitis, Lumbar Puncture, Glandular Fever and Diphtheria.

Recent Advances in Pathology are dealt with by Ludwig Hectoen under the headings of Pathology of Infection, Pathogenic Micro-organisms (some new species are described), Retrogressive and Progressive Changes, Tumours and Miscellaneous Topics in Pathological Anatomy. In the section on Infectious Diseases, by W. S. Thayer, the most interesting article is unquestionably that on Malarial Fever, in which the musquito hypothesis of infection and the vexed question of "black-water fever" are fully considered. Attention is also drawn to nephritis of malarial origin. Thirty-seven pages are devoted to Typhoid Fever. Some of the rarer sources of infection are cited, and cases without intestinal lesion recorded. A plea is made for a more generous diet throughout the course of the illness. This idea is not so new nor the practice so very infrequent as to justify the very voluminous quotations from a somewhat obscure Russian physician. The cold-bath treatment, of course, comes in for its usual quota of approbation and condemnation. The conclusion, in which all but fanatical hydrotherapeutists will agree, is that there must not be cast-iron rules for this any more than for any other form of treatment. A good summary of the Bubonic Plague, articles on Cerebro-Spinal Fever, Yellow Fever and Pneumonia (in which Pans's antitoxic serum comes in for a somewhat lengthy and favourable notice), conclude the section. The volume closes with a section on Laryngology and Rhinology.

Volume II. opens with Surgery of the Abdomen, by W. B. Coley, who does full justice to all the "live questions" with which this branch of surgery is so replete. The article is profusely illustrated and is distinctly more controversial (after the manner of surgeons) than most of the medical sections. In the gynæcology section, by J. G. Clark, the *pièce de résistance* is Retroflexion of the Uterus, to which thirty-five pages are devoted! To one who is not a specialist the most interesting part of this article is the sample of Professor Sänger's humorous poetical effusion entitled "Uterus quidam retroflexus," which begins, "Ach! liebe Leute, lass mich liegen!" and which one would wish had been quoted in full. Diseases of the Blood, Diathetic and Metabolic Diseases, Diseases of the Spleen, Thyroid Gland and Lymphatic System are dealt with satisfactorily by Alfred Stengel. There is nothing specially new in the section on blood diseases except the article on Acute Leukæmia. In the section on Diseases of Metabolism the chief interest centres on

Addison's Disease and Diabetes Mellitus. In the latter article the discussion on the relationship of diabetes to the various organic lesions underlying the syndrome is particularly good. A review of recent work in Ophthalmology by Edward Jackson concludes the volume.

It is difficult to form a just estimate of the value of the compilation. It is certainly more readable than most encyclopædic treatises and more attention has been paid to the form in which the subject matter is presented to the reader. The introduction of the personal element in the compilation is, no doubt, to be thanked for this. It is, however, impossible not to remark that here and there want of proportion exists in the space devoted to individual topics, which cannot be accounted for in all cases by the importance of the subject, or be justified by the amount of really new and interesting information afforded. Time and the subscription lists will, no doubt, show whether this work has adapted itself more fully to the wants of the general practitioner than is predecessors have done.

H. A. L.

International Clinics. A Quarterly of Clinical Lectures on Medicine, Neurology, Surgery, Gynæcology, Obstetrics, Ophthalmology, Laryngology, Pharyngology, Rhinology, Otology and Dermatology, and specially prepared articles on Treatment and Drugs. By Professors and Lecturers in the Leading Medical Colleges of the United States, Germany, Austria, France, Great Britain and Canada. Edited by Judson Daland, M.D. (Univ. of Penna.), Philadelphia. Vols. I. and II. Ninth Series, 1899. Philadelphia, J. B. Lippincott Company, 1899. Canadian Agent, Charles Roberts, Montreal.

Among the thirty-six contributors to the present volume, consisting as they do of many of the best-known men on two continents, one would be induced surprised if there was not something more than ordinarily worthy of note; and the book does not belie one's expectations.

With such a large number of articles to select from it is quite impossible to notice more than a few, and we shall, therefore, confine ourselves to giving a brief account of several which can be taken as typical of the character of the book.

Under the heading of *Drugs and Remedial Agents* is an article by Horatio C. Wood on "Cold as an Antipyretic," in which the use of cold water in the form of baths and packs, and of the cold air bath is described and the common-sense reasons for their employment given. The oft-forgotten fact, one that used to be emphasized by the late Dr. R. L. Macdonnell in his ward clinics, namely, that is is physiologically impossible that a cold can be taken while the body temperature is above normal, is an incontrovertible argument against the supposed danger

from exposure, and is rightly held by Wood to dispose of perhaps the most commonly advanced argument against cold baths. The author goes so far as to declare that cholera infantum can be prevented in the infant as readily as sunstroke in the adult by preventing exposure to heat!

Under *Treatment*, Dr. A. T. Davies, of London, advances strong arguments for the use of local applications of ipecacuanha, by means of a spray, in chronic bronchitis. Making use of the ordinary hand-ball-spray apparatus, the ipecacuanha wine is introduced into the mouth while the patient breathes as deeply as possible, as much as from one to four drachms being used at a sitting. The cases quoted all showed marked improvement.

The "Treatment of Brain-Fag and Insomnia by Static Electricity" as described by Dr. J. L. Howard, of Indiana, makes one question what part the electrization took in the cure, and what would be left were the psychical effect of the baths and the usual routine carried out at the springs (French Lick) eliminated.

Dr. G. Variot, of Paris, has contributed a valuable article on the treatment of "Acute Laryngitis in Children," while Professor Eulenburg writes on the present state of the treatment of Tabes, discussing the antiluetic, pharmaceutical, surgical and mechanico-orthopædic treatment, etc., in an able and critical manner.

Under the heading of *Medicine* we note an exhaustive lecture on "Laryngospasm, Eclampsia, and Tetany in Children and Their Connection with Rachitis and with One Another," by Professor Baginsky, of Berlin, and a clinical lecture by Dr. W. F. Hamilton, of Montreal, on a case of "Pyopneumothorax." The history of the case is given in full, and then the physical signs are discussed in detail and their value and mode of production pointed out. The etiology, prognosis and treatment also receive attention.

Dr. Alfred Fournier, of Paris, has written a very striking lecture on the "Frequency of Cases of Unsuspected Syphilis," and shows, mostly from his own experience, how the not unnatural habit in most patients of concealing the fact that they have suffered from this disease, often leads to mistaken diagnoses and consequent irreparable injury either to themselves or their children. Or, again, in the case of women, the disease is unsuspected, everything being done to keep the fact from their knowledge, and the unwisdom of such a course in view of the possibility of late tertiary manifestations being unrecognized, is plain. Fournier's advice, to look upon every unexplained disease as a possible case of syphilis, is good.

A plea for the Radical Cure of all cases of Hernia in Children, by Mr. R. W. Parker, of London, states the case very forcibly, if not conclusively.

The statement made by Dr. G. K. Frink, of San Francisco, in a lecture on the "Menopause," that it is a *disease* occurring in women, about middle life, will not, we venture to hope, be accepted by many; though, to his credit be it said, there is no mention of the value of ovarian extract.

Volume II. compares favourably with the one already noticed. The following may be alluded to as articles specially worthy of notice:—"Superheated Air as a Hæmostatic," by Professor Holländer, of Berlin, explains the technique and reports the results of this method of treatment in lupus of long standing. It is illustrated by plates showing the disease before and after the institution of treatment. "The Preventive Treatment of Parental Syphilitic Heredity During Pregnancy," by Dr. Fournier, of Paris, will be read with interest by everyone in general practice. "Stuttering, Its Causes and Treatment," by Dr. H. Gutzman, of Berlin, makes plain the cause and rational method of treatment in this most unfortunate defect from the experience of one who has made a speciality of dealing with the subject. A clinical lecture by Dr. H. A. Hare, of Philadelphia, deals with many interesting puzzles in diagnosis. "The Roentgen Ray Diagnosis of Renal and Vesical Calculous Conditions," by Dr. C. L. Leonard, of Philadelphia, makes the claim "that an absolute negative as well as a positive diagnosis can be made in every case." "Paranoia," by Dr. G. L. Sinclair, of Halifax, N.S., gives a history of two typical cases with a description of the disease. Two lectures, one by Dr. G. L. Walton, of Boston, and the other by Dr. J. E. Eskridge, of Denver, treating on different types of muscular atrophy, are, quite unintentionally, supplementary to one another. We also note some very interesting cases reported from the surgical clinic of Professor Keen, of Philadelphia, and Professor König, of Berlin. Lectures in the departments of Gynæcology, Obstetrics, Ophthalmology, etc., etc., are given a place in this very valuable volume.

The books are illustrated with plates and a considerable number of figures, are printed on good paper free from the gloss so irritating to the eyes which is used in many of the works of American publishers, and we predict will meet as ready a sale as former volumes of this quarterly.

SAUNDERS' MEDICAL HAND ATLASES. DISEASES OF THE SKIN, including an Epitome of Pathology and Treatment. By PROF. DR. FRANZ MRACEK, of Vienna. Authorized translation from the German. Edited by Henry W. Stelwagon, M.D., Ph.D. Philadelphia, W. B. Saunders, 1899.

This volume, by the same author as that on Syphilis and Venereal Diseases already noticed in these columns, is arranged much on the

same lines, a short epitome of the subject being furnished in the first 190 pages. The symptomatology and treatment alone are touched upon and this part of the book is intended only as a supplement to make the atlas more easily understood. The coloured plates are excellent and embrace most of the commoner forms of skin disease and would not be complete without the epitome already alluded to. As is the case with other atlases of this series, there is a short history of the case from which each plate was taken, on the opposite page, and this account includes the treatment adopted and its results. In translating the work, as was necessarily the case in a subject like dermatology in which the nomenclature is so confusing, the American editor has substituted or added in brackets in many cases the commonly accepted name of the disease on this continent for the German equivalent, and has thus rendered the book of more value to those who have not a special knowledge of dermatology. It is to be regretted that so few plates are devoted to the depiction of eczema, a disease which forms a very large proportion of all skin lesions. This is a fault, however, which is common to most atlases of dermatology. Here, there are nine plates of various forms of diseases styled eczema and not one of them is of the commonly met with varieties; indeed, five are of what we are accustomed to look upon as dermatitis, and the other four as parasitic varieties,—trychophyton and mycoticum. Of psoriasis, on the other hand, there are nine excellent plates representing all the various forms of this disease.

In colouring and drawing the plates are equal to any we have seen and with few exceptions convey a correct representation of the disease in the living subject. There are in all sixty-three coloured plates and thirty-nine full-page half-tone illustrations. The work will form a valuable addition to any practitioner's library.

G. G. C.

SAUNDERS' MEDICAL HAND ATLASSES.

ATLAS OF THE EXTERNAL DISEASES OF THE EYE, INCLUDING A BRIEF TREATISE ON THE PATHOLOGY AND TREATMENT. By DR. O. HAAB, Zurich. Authorized Translation From the German. Edited by G. E. DeSchweinitz, A.M., M.D. With 76 Colored Plates and Six Engravings, 228 Pages. W. B. Saunders & Co., Philadelphia.

This work is of an eminently practical character and will form a welcome addition to the library of every practising physician. The first sixty pages are devoted to examination of the eye in disease, and this subject is treated in a manner which makes it one of absorbing interest, and the attentive reader cannot fail to grasp the essential necessity of making a systematic examination of the visual organs in order to arrive at a complete diagnosis.

In ophthalmic practice it will not suffice to discover only one morbid

condition when there are others present, such an error can only be avoided by thoroughness in the method of examination, such as described in this chapter.

The clinical study of all the external diseases of the eye will be found much less difficult when prosecuted with the aid of the numerous and admirable illustrations in connection with the text of the work. The author has combined brevity with accurate description so deftly that the very presence of a clinic seems to pervade the work.

In the matter of treatment, nothing, of course, can make up for want of experience, and the book has yet to be written which will form an adequate guide to all cases; in fact it must ever remain impossible to describe the delicate shades of therapeutic necessity which the complexed and changing conditions of disease involve. A remedy which may be indicated to day might very well be contra-indicated to-morrow; it follows, therefore, that written instructions are only applicable in a general way; in this respect there is no fault to be found with this volume. The principles of treatment are clearly given and may be accepted as correct according to the present views of advanced ophthalmologists.

In reality nearly the whole range of Opthalmology is covered in this work, as in addition to the so-called "External Diseases," it includes injuries of the eye, diseases of the orbit, cataract and glaucoma, though the operative procedures are of course, not described.

For the practical work occurring in the every-day life of the general medical profession, this book will be found most useful and cannot be too highly recommended.

F. B.

CYCLOPŒDIA OF THE DISEASES OF CHILDREN, MEDICAL AND SURGICAL. Vol. 4. Supplementary. Edited by WM. A. EDWARDS, M.D. Illustrated. J. B. Lippincott Co., Philadelphia, 1899.

It is now ten years since the first four volumes of Keating's Cyclopœdia on the Diseases of Children appeared, and since then great advances have been made in all departments of Pediatrics. The present volume is an effort to carry on the work along very similar lines to the original volumes. The various subjects are treated by writers who are regarded as authorities upon the subjects of which they write. Each subject is brought up to date in an interesting and readable article more or less supplementary to the one in the original volumes. On many subjects additional articles have been introduced. To all those who have the previous volumes of this very excellent encyclopœdia we have pleasure in strongly recommending this supplementary volume. Yet not to these only; every physician who has to deal with children,

either from a medical or surgical standpoint, will find in the present volume an excellent *resumé* of all the advances made in pediatrics during the past few years.

AN AMERICAN TEXT-BOOK OF THE DISEASES OF CHILDREN : Including Special Chapters on Essential Surgical Subjects, Orthopædics, Diseases of the Eye, Ear, Nose and Throat, etc., and on the Dieting, Hygiene and General Management of Children. By American Teachers. Edited by LEWIS STARR, M.D., Assisted by T. S. WESCOTT, M.D. Second Edition. W. B. Saunders, 1898.

The first edition of this work was so favorably commented upon and obtained so large a circulation that it is scarcely necessary to more than mention this second edition and to say that in it the various articles have been carefully reviewed, new articles have been added, some of the original papers have been amended and a number have been entirely rewritten and brought up to date. The volume has been increased in size by fifty pages of fresh material. To all who are in need of an authoritative work representing the best American thought and practice in this department of medicine, we can cordially recommend this book.

THERAPEUTICS OF INFANCY AND CHILDHOOD. By A. JACOBI, M.D., Clinical Professor of Diseases of Children, College of Physicians and Surgeons, etc. Second Edition. J. P. Lippincott Co.

Everything that Jacobi writes is interesting ; in the volume before us he has given us an extremely practical work representing the result of his own personal experience. Dr. Jacobi is a firm believer in therapeutics. He says, "Advancing years and experience during a period of increasing exactness in medical methods, have rather strengthened my belief in drugs than otherwise. To employ them with benefit, however, requires skill and experience, both individual and collective, as also judgment and honesty." The work is written for physicians. In this edition some of the subjects have been entirely rewritten, a few new ones added, and an effort has been made to be still more explicit in discussing the doses of drugs and the conditions under which they should be used. We have much pleasure in strongly recommending the work ; every chapter contains information which should prove of the greatest service to the practicing physician.

SAUNDERS' QUESTION COMPENDS. ESSENTIALS OF MATERIA MEDICA, THERAPEUTICS AND PRESCRIPTION WRITING. By HENRY MORRIS, M.D. Fifth edition, revised and enlarged. Philadelphia, W. B. Saunders, 1898.

Although the value of such works as this may seem to many prob-

lematical, the large demand for them (the present volume having reached its fifth edition) shows that the plan of putting the information necessary for the proper understanding of a subject into the form of questions and answers, meets with the approval of many who are endeavouring to acquire it in the easiest possible way in order to pass their profession examinations. Possibly, familiarity in earlier years with the catechism method of imparting knowledge has ingrained this system into the minds of our youth, and they find it easier to follow the old, accustomed paths. To such as these, however, the possibility of understanding the answers must constitute a serious drawback. Certainly, as far as the information conveyed is concerned, the book before us is admirable; one can only object to it from the feeling, that it may, by being committed to memory, enable some men who have not the necessary understanding of the subject to pass their professional examinations, and who, in after years, will turn of necessity to the ready-made-prescription journals for this most important part of a physician's armamentarium.

THE PATHOLOGY AND TREATMENT OF SEXUAL IMPOTENCE. By VICTOR G. VECHI, M.D. From the Author's Second German Edition, Revised and Rewritten. Philadelphia, W. B. Saunders, 1899.

Books of this class have become considerably more numerous of late years, and one must conclude that there is a demand for them. Judged, too, by the amount of advance advertising many receive, the sales must justify the large amount of money spent in this way. This book contains 283 pages divided as follows:—The first twelve pages are devoted to an introduction—in other words, the author's apology for his production. Then follow fifty pages on the anatomy and physiology, eight on etiology, one hundred and twenty on the forms of impotence, five on diagnosis, four on prophylaxis and fifty on treatment. It is not too much to say that all that the volume contains of use to the practicing physician could be easily condensed into fifty pages, and the reader would be the gainer thereby. For instance, the forms of impotence are divided into physical, psychical, and those consecutive to some disease. A mere enumeration of the congenital defects and acquired malformations which produce physical impotence conveys to the professional reader quite as much information as a citation of cases, while as regards psychical impotence, the reports of many of the cases recorded can only be characterized as vile. It seems a pity that in a book, such as this, written for the purpose of supplying the practitioner with the requisite knowledge for treating an unfortunate class of patients, all unsavory details should not be omitted.

DISEASES OF THE STOMACH. By W. W. VAN VALZAH, M.D., Professor of General Medicine and Diseases of the Digestive System, N. Y. Polyclinic; and J. DOUGLAS NISBET, M.D., Adjunct Professor of General Medicine and Disease of the Digestive System, N. Y. Polyclinic. Philadelphia, W. B. Saunders, 1899.

A carefully written book on the subject of gastric diseases in which diagnosis and difficult diagnosis are dealt with in great detail—often, indeed, to the extent of vain repetition. The nomenclature differs from that usually employed, though this is comparatively unimportant as the pathological conditions are classified pretty much along the same line as in other authorities.

The diagnostic tests are dealt with in full and often elaborate methods are suggested which would indeed bid fair to aggravate the already existing dyspepsia which is to be treated. Such, for example, is the suggestion for testing the absorptive power of the stomach :—"The yolks of four eggs are thoroughly beaten and mixed with 200 cc. of distilled water, in which 25 grms. of dextrose have been dissolved and 30cc. of whiskey are added!" The practical value of this is, however, less to be considered than the scientific bearing on physiology. We are scarcely in the habit of making ether extractions of fats and quantitative tests for sugar with qualitative ones for alcohol when a patient is suffering from flatulence after meals!

The book, however, is unquestionably thorough and gives an admirable description of typical conditions in the various motor and secretory affections of the stomach. Alas! that such affections are so rarely typical and unmixed! The book is worthy of careful study and is of much practical value.

C. F. M.

PRACTICAL MATERIA MEDICA FOR NURSES, WITH AN APPENDIX. By EMILY A. STONEY, Graduate of the Training School for Nurses, Lawrence, Mass.; Late Head Nurse Mercy Hospital, Chicago, etc., etc. W. B. Saunders, Philadelphia, 1899.

The first part of this book, devoted to "General Considerations and the Classification of Drugs," is very clearly and concisely written, facilitating the memorizing of terms, which to beginners would otherwise be an erksome task. In the second part, that of Materia Medica proper, the author has briefly described in the same concise and easily understood manner the general physiological actions, therapeutical uses, toxicology and dosage of drugs. The appendix contains a list of poisons with their antidotes and treatment, information which may prove invaluable to any nurse when the life of a patient may hang upon a knowledge of what to do in a case of poisoning.

Taken as a whole, the book should prove far more servicable to nurses than many of the works on Materia Medica for students in medicine with which nurses are usually provided, as it gives a general knowledge of the subject without going into all the minute details which are of little or no value to nurses. The manner in which the drugs are classified in Part I., and then alphabetically arranged in Part II., makes it very convenient for reference.

H. E. H.

NEW MEDICAL POCKET FORMULARY FOR 1899. By E. QUINN THORNTON, M.D. Lea Brother & Co., Philadelphia and New York, 1899.

This handy little volume, which is of the size of an ordinary pocket-book and intended to be used as such, contains a collection of prescriptions for all the more important and more frequently met with diseases. As the author says, even the best informed practitioner may at times overlook an appropriate drug ; and a young physician will perform his duty better both to his patient and to himself, if he has at hand the collective experience of the profession. Diseases are arranged alphabetically, and under each are given efficacious prscriptions for simple cases, as well as for the various stages and complications. Quantities are expressed both in the ordinary and metric systems, while at the same time attention has been paid to the palatability and pharmaceutical elegance. We have much great pleasure in recommending the book, not only to younger physicians and students, but to all who wish to keep their therapeutic knowledge up to date.

Society Proceedings.

THE MEDICAL SOCIETY OF NOVA SCOTIA.

The thirty-first annual meeting of this society was held in the Normal School Building at Truro, on July 5th and 6th, 1899.

The officers for the year 1898-99 were :—John McMillan, M.D, of Pictou, President ; Andrew Halliday, M.B., of Shubenacadie, and M. A. Curry, First and Second Vice-Presidents ; and W. S. Muir, M.D., of Truro, Secretary-Treasurer.

The President, Dr. McMillan, presided at all the meetings.

At the first session, after the transaction of the usual routine business, Dr. Robinson Cox, of Upper Stewiacke, read a paper on Graves' Disease, which will be found at page 578 of the August number of the JOURNAL. In the discussion that followed the reading of the paper, considerable difference of opinion was expressed regarding the prevalence of the disease in Nova Scotia, Dr. W. S. Muir, of Truro, holding that it was relatively common as compared with other countries and citing quite a number of cases as occurring in the neighbourhood of Truro, several of which he had reported ; while others from various parts of the province had never met with a case. Dr. D. A. Campbell, of Halifax, in discussing the treatment, showed that the greatest benefit was to be obtained from placing the patient under the most favourable conditions for rest and quiet, combined with a carefully adjusted diet. Medicinally, he placed most reliance upon the long continued administration of very small doses of digitalis. The administration of either thyroid or thymus gland was deleterious, but more especially the former. Dr. G. Gordon Campbell referred to the remarkable antithesis between the symptoms of Graves' disease and myxœdema as pointed out by M. Allen Starr, and to the occurrence of a pseudo-Graves' disease in some cases of enlargement of the thyroid, a condition cured by the removal of the enlarged portion of the gland. He held that these facts proved that increase of thyroid tissue was at least one factor in the etiology of the disease and hence the administration of thyroids would only aggrevate the symptoms. Dr. W. S. Muir had had marked benefit in one case by combining belladonna with other drugs which were ineffectual alone.

Dr. F. W. Goodwin reported two cases of meningitis, both of which recovered. The first was a lad of seventeen who presented a group of

symptoms indicating meningitis, but from which he rapidly recovered. The second was his aunt, aged forty, who had watched with him one night, lying down on the bed beside his. Nine days later she developed similar symptoms to the first case, headache, vomiting and delirium, followed by unconsciousness.

Dr. M. S. Dickson, of Great Village, reported two cases of cerebro-spinal meningitis following la grippe. (See page 597 of the August number.)

At four o'clock the meeting adjourned for a drive around the town and five o'clock tea at Victoria Park.

At the evening session the President delivered the annual address, taking as his subject :—"Does Our Educational System Tend to Produce the Highest Type of Manhood in the Youth of the Country." He criticised the system which requires all children to be ranked as equal in facility for acquiring knowledge, and complained that the standard as at present arranged was suitable for the mentally strong and a source of continual dragging for the weaker ones, who were in the majority. The strain of examination should be done away with and the teacher left to judge whether the pupil be fit for an advance to a higher grade. The danger of producing permanent ill effects at the onset of puberty by this too rigid system was forcibly pointed out. A unanimous vote of thanks was tendered to the President for his address.

Dr. Roddick, then, in a very able manner addressed the meeting on the subject of Dominion registration, explaining the scheme which has already appeared in the April number of this journal. The very interesting discussion which followed, showed that the Nova Scotia Medical Society was unanimously in favour of the proposed legislation.

Dr. G. Carelton-Jones, of Halifax, discussing the subject of vaccination from the Provincial standpoint, showed that the Province was entirely unprotected and urged the necessity of a compulsory law.

Second Day.

The following were elected officers for the ensuing year :—

President—D. McIntosh, M.D., of Pugwash.

First Vice-President—C. A. Webster, M.D., of Yarmouth.

Second Vice-President—F. S. Yorston, M.D., of Truro.

Secretary-Treasurer—W. S. Muir, M.D., of Truro.

A discussion on the subject of Vaccination was taken part in by a large number of those present, and resulted in the following resolution being adopted :—

"That whereas it is advisable that legislation should be secured to establish a system of compulsory vaccination in Nova Scotia, and in order to carry out the same, a system of registration of births, the

obtaining of legislation on matters pertaining to the professional and public health; Therefore, Resolved, That a Standing Committee be appointed to secure such legislation; and that this committee shall report at each annual meeting."

The following were appointed a committee for this purpose :—Drs. G. Carleton-Jones, J. F. Black and D. A. Campbell, of Halifax; A. P. Reid, of Middleton; and A. S. Kendall, of Sydney.

The following resolution was passed, endorsing Dr. Roddick's scheme for the obtaining of Dominion registration :—"That, having heard Dr. Roddick's explanation as to the carrying out of Dominion registration, this society is fully in accord therewith, and will, as far as is in their power, assist in carrying out the scheme."

Dr. James Ross, of Halifax, read a paper on "Prostatic Affections in Young Men"; Dr. Webster, Dr. Graham Putnam's report of a case of "Sporadic Cretinism" (see August number, page 592); Dr. G. Gordon Campbell, of Montreal, "A Case of Sporadic Cretinism" (see August number, page 594); and Dr. W. H. Hattie, of Dartmouth, "Internal Secretion." The last three were discussed together. Dr. Webster of Yarmouth, referred to a case, a boy of ten years, who presented many of the symptoms of cretinism, yet a year's course of thyroid extract had failed to produce any improvement, and asked whether the age of the patient had any influence as regards prospect of improvement from this form of treatment. Dr. Eaton, of Truro, referred to a patient, aged 30, in whom marked benefit had ensued. Dr. Carleton-Jones, of Halifax, thought one ought to be very guarded in using thyroid in conditions other than cretinism and myxœdema, he alluded to its action in obesity and cited one case where prolonged use had enfeebled the mental powers, although recovery followed cessation of the drug Dr. W. S. Muir, of Truro, had had a case of myxœdema in which thyroid extract had proved useless until combined with phosphate of potassium. He considered it harmful in Graves' disease, and thought that whenever used it was imperative to watch carefully the pulse and respirations.

Dr. J. H. Mackay, of Truro, exhibited a girl of twelve years of age in whom the whole scalp had been torn off by being caught in the revolving shaft of a wind-mill. An attempt to replace the scalp had not been successful and he proposed to cover the granulating surface by grafting.

At the afternoon session a discussion on the subject of "Dyspepsia, Acute and Chronic," was opened by Dr. M. A. B. Smith, of Dartmouth, a demonstration of the exact methods of diagnosis by means of a test meal being given. The speaker dwelt strongly on the need of making accurate investigation as to the cause before venturing on any form of treatment. The discussion was continued by Dr. F. S. Yorston, of

Truro; Dr. G. Gordon Campbell, of Montreal, and Dr. Halliday, of Shubenacadie, who had made a number of experiments on gastric digestion of himself, having acquired the power of regurgitating his food at will.

The following papers were also read :—"A Case of Abscess of the Lung, Operation—Recovery," by Dr. J. W. McKay, of New Glasgow ; "A Case of Congenital Hernia With Peculiar Symptoms," by Dr. D. A. Murray, of River John ; "Notes of Two Obstetrical Cases," by Dr. W. Rockwell, of River Hibbert ; and "Typhoid, Tuberculosis, Pregnancy of the Primiparæ, Which ?" by Dr. W. S. Muir, of Truro.

In the evening after a short discussion in surgery on "Tetanus," the annual dinner was held in the Learment Hotel, and a very successful meeting was brought to a close.

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THE MEDICAL ALLIANCE OF AMERICA.

The physicians and general public of Montreal are at present being solicited to become members of a society styling itself *The Medical Alliance of America*, and claiming to be "a conclave of physicians and surgeons organized for the purpose of supplying medical attendance and medicines in sickness or accident for a small weekly investment." The inducements offered by the agent of the society to the physician are :—(1) That the physician shall receive at least $1.00 for every visit paid to members of the Alliance. (2) That the physician will still have the privilege of attending his own private patients (provided they, too, are willing to become members of the society), the members being allowed to select any doctor connected with the society to attend them. (3) That, as there are a large number of persons joining who have no regular physician, these individuals will become patients of the various doctors connected with the Alliance. (4) That the principle on which the physician is paid for his services is completely the opposite to that of the ordinary benefit society and free from the objections arising from that system.

To the public, on the other hand, the Alliance offers for the payment of a small sum (10 cents) weekly, that they will be "entitled to call in any of the physicians or surgeons of the Alliance at any time for the slightest cause" and that they will "supply the necessary medicines free of charge." At the end of ten years, moreover, the total amount paid in ($52.00) will be paid back to the member, the inference being that he has obtained his medical attendance during this period of ten years for nothing.

Let us, however, look into the matter a little more closely. The following is taken from the agreement made between the Alliance and the physician becoming a member :—

"For and in consideration of such services the first party (the Alliance) agrees to compensate the said second party (the physician), as follows :—

"To place in a fund to be known as the 'Medical Expense Fund' the sum of *twelve cents* (monthly) for each and every member entitled to the above-mentioned attendance and medicines as shown by the books of the Alliance, and to divide the sum total (monthly) by the total number of visits made and reported by the physicians of the district, which division will show the actual amount due each physician for each call made; but in no case shall any physician receive an amount in excess of two dollars ($2.00) for each house visit and one dollar ($1.00) for each office call (which amount will include the cost of medicines furnished), and the excess, if any, will be carried over to the succeeding month: and if, on the first day of January of each year there still remains a surplus, the same will be divided equally between all the physicians employed by the Alliance *pro rata* to the number of calls reported during the preceeding year."

As will be seen by carefully reading over this part of the contract, the physician is not guaranteed anything—he is to receive whatever remains of the twelve cents a month per member after the medicines have been paid for, and although this may amount to a dollar or more per visit, it may, on the other hand, only amount to twenty five cents or even less. Granting, however, that twelve cents a month per member is sufficient to pay the physician at least a dollar a visit, what becomes of the other thirty-one and one-third cents collected from each member? At the end of a year each member has paid to the society $3.76 cents over and above what goes to form the "medical expense fund," and the society guarantees (?) to return at the end of ten years the full amount of $52.00 paid in. Now, leaving out of consideration all expenses connected with the collection and investment of the money, $3.76 a year invested at five per cent. compound interest (a rate it is impossible to obtain at the present time) will only amount at the end of ten years to $47.28, so that for every member who faithfully lives up to the terms of the contract, the society at the termination of ten years will be $4.72 out, besides the expenses incurred in paying the promoters', agents', and collectors' salaries. How then, one asks, is it possible to do a paying business on this basis? For answer we turn to the agreement entered into between the Alliance and the member, in most cases a poor working man. This reads:—

"In consideration of the prompt payment of $0.10 weekly. ..... shall be entitled to medical attendance and medicines from any of the physicians of the Alliance in case of sickness or accident of any kind, except chronic or venereal diseases or diseases not common to both sexes. And in further consideration of the prompt payment of the amount above mentioned for a period of or exceeding ten years, the said member will upon surrender of this book at the office of the company be entitled to a sum in cash not exceeding the amount stated in the following '*table of values*' ($52.00 at the end of ten years) as his or her proportion of the profits of the Alliance."

Note, that here there is again no guarantee to pay any amount, the only definite point being that the amount is *not to exceed* $52.00. The secret of the whole scheme is, however, contained in one of the rules printed on the back of the member's contract, which reads:—

"Failure to make payments for thirty days will cause this agreement to be lapsed, void and of no effect."

How many men of the working class will be able to cotinue paying for each member of their families the sum of ten cents a week for ten years, even with the possible chance of some part of it being returned at the end of that time? Indeed, no one would go into it were it not for the inducement of free medical attendance and free medicine. Is it creditable, then, to the profession, even supposing that they are paid for their services at the rate of a dollar a visit, that they allow, by the use of their names and services, of the carrying on of a species of insurance which can be profitable only to the promoters, as by far the greater majority of members will be forced to drop out before they are in a position to reap any of the doubtful benefits accruing at the end of ten years. Then, again, how much better financially it is to the physician than the benefit society? If $1.44 a year is sufficient to pay at the rate of a dollar a visit for patients of all ages and both sexes, surely $1.00 (the amount usually received from the benefit society) will suffice to pay at the same rate, when the members are mostly young men in the prime of life and selected by the doctor whose patients they are to become?

But, it may be argued, even if an individual is unable to continue his payments for the full term of ten years and so receive back the amount of money paid in, he, at least, is receiving the benefit of free medical attendance and free medicine while he is a member. We have shown, however, that $1.44 a year is deemed sufficient by the society to pay for all medicines and the physician's fees at the rate of a dollar a visit. Who will be benefitted by the remaining $3.75 cents yearly paid to the society; the physician, the member or the promoter?

One other point we wish to allude to, namely, that in soliciting the physician to join the society, the agent states that, if not satisfied, the physician is at liberty to sever his connection with it at any time. Part of the agreement reads as follows:—

"This agreement will terminate January First. ...., or may at any time be terminated by the *mutual consent* of the parties hereto."

The italics are our own. What if the consent of the Alliance is withheld, most of the contracts that we have seen being for the term of ten years?

Dr. J. M. Martin, '89, was married on June 21st to Mrs. Starr-Keefer, the well-known temperance lecturer and author. Dr. Martin, since his graduation at McGill, has taken the degrees of L.R.C.P. Eng., and M.R.C.S. Lond., and intends to follow the practice of his profession in England.

The first holders of the newly founded Research Fellowships in Pathology of McGill University will be W. W. Ford, B.A., Adelbert College,

M.D., Johns Hopkins, and John McCrae, B.A., M.B., first class honour man in Natural Science and Arts and late Fellow in Biology in the University of Toronto, late house surgeon to the Toronto General Hospital.

The College of Physicians of Philadelphia announce that the fifth Triennial Prize of Five Hundred Dollars, known as the "William F. Jenks Memorial Prize," will be awarded to the author of the best essay on "The Various Manifestations of Lithæmia in Infancy and Childhood, with the Etiology and Treatment." The prize is open for competition to the whole world, but the essay must be the production of a single person.

The essay, which must be written in the English language, or if in a foreign language, accompanied by an English translation, must be sent to the College of Physicians of Philadelphia before January 1st, 1901, addressed to Richard C. Norris, M.D., Chairman of the William F. Jenks Prize Committee. Each essay must be typewritten, distinguished by a motto, and accompanied by a sealed envelope bearing the same motto and containing the name and address of the writer. No envelope will be opened except that which accompanies the successful essay.

It is a pleasure to note the continued and rapid advance of a Montreal student. Dr. Hamilton K. Wright, late Registrar at the Royal Victoria Hospital, after having successfully gained an Exhibition from the British Medical Association, a John Lucas Walker Research Exhibition at Cambridge and having for the last 18 months been pathologist in charge of the admirable laboratory at Claybury Asylum, which is said to be the largest institution of its kind in the world, has now been commissioned by the British Colonial office to spend the next three years in the Straits Settlements investigating Beri-beri and other tropical diseases.

We note with appreciation that the Governors of the Royal Victoria Hospital have installed an excellent English billiard table for the use of the Resident Staff. Such care for the recreation of the staff is worthy of the highest commendation and gratitude; for often in hospitals it is thought sufficient to provide the Resident with bed and board, and little or no care is taken to brighten those hours when the men are not supposed to be in the wards or outpatient department. And provided that regulations are made and enforced that such billiard room be only used during hours which can be legitimately devoted to recreation, that, for example, it be not open during daylight when the staff on leave should be in the open air, and provided, again, that it be closed at night at the hour when the residents make their evening rounds, and that it be not

too far removed from the call bell, so that they may easily and immediately respond to calls for their services, the billiard room should do nothing but good. It must add to the health, cheerfulness and general usefulness of the resident and afford a pleasant recollection for after life.

The Annual Meeting of Canadian Medical Association held at Toronto on August 30th and 31st and September 1st was, from a numerical point of view, the most successful in the history of the Association. There were upwards of 270 members and visitors registered, and a programme of 53 papers besides the President's address and addresses in medicine and surgery. Although six full sessions were held, it was impossible to overtake the whole of the papers on the programme, and a large number had to be "taken as read." In such large meetings in future a division of the work into sections, a plan which has been tried before and given up on account of the smallness of the attendance, will become a necessity. The pathological exhibit was exceptionally large and interesting, containing specimens and photographs from surgeons in Montreal, Winnipeg, etc., and from the pathological department of McGill University, as well as the large and valuable collections of Trinity Medical College and Toronto University. The exhibit of physicians' and surgeons' supplies, pharmaceuticals, etc., formed an attractive feature, better patronised than usual, perhaps on account of its being the smoking-room of the meeting.

The next meeting will be held in Ottawa, wth Dr. R. W. Powell as president.

DR. JAMES ELLIOTT GRAHAM.

Obituary

DR. JAMES ELLIOTT GRAHAM.

We doubt if the medical profession in Canada could have sustained a greater loss at the present moment than has come to it by the death of Dr. Graham, of Toronto, and this not merely from Graham's ability as a consultant and teacher, but because of his character and of what he represented. He was of the highest type of physician ; a man loving his profession for its own sake, a hard-working student throughout his career, one who approached each case that presented itself not as affording something to diagnose, treat and then dismiss, but as a special problem in itself the study whereof would surely yield additional information and would afford new light. Simple and unassuming in his manner and absolutely sincere, the mere force of his character influenced those around him and gained their full confidence. The existence of such a man in a community ennobles that community; his departure is a loss not merely to his colleagues but to the community at large.

In saying this we are indulging in no mere timely adulation. One has but to recall the condition of medicine in Toronto before Graham made his influence felt, to recognize what this influence accomplished. It is a delicate matter for us in Montreal to write concerning the profession in Toronto, but Torontonians have been themselves foremost in deploring the keenness and bitterness of the rivalry long existant there, a rivalry that seemed to forbid unity. There was required not merely a man of high professional attainments, but one of known disinterestedness, whose deep and prevading sense of honour was to be seen in his every action, one whose life was run upon the Scriptural rule of doing as he would be done by, to whom the perversion of the same, recently popularised across the border, of " doing first unto others as you know they would do unto you " was beneath contempt ; only such an one could rise above the rivalries and jealousies of an overcrowded profession, and rising, passively rather than actively bring together and harmonise all that was best. Such an one was Graham. By his example as by his capacity as a consultant, a writer and a teacher, medicine in Ontario was set upon a higher plane. And this, it may be added, without adventitious gifts beyond a kindly manner and a wide culture, nay, despite a ceaseless sapping of his strength during long years by chronic disease. For his bearing was that of a student rather than of a leader

of men, his address direct rather than ready, and until one knew him he seemed wanting in humour. But the humour was there and was discoverable upon better acquaintance. Quietude rather than seriousness was its dominant note. This in part was attributable to native reserve, and in part it was the abstraction of those who think deeply; but now that one knows the history of the last fifteen years one finds the explanation of a something which modified the rest,—that continent serenity of the strong man who, having for long gazed upon imminent death, has thereby gained strength of vision, and regarding life sees through its thin but baffling vestments the very lineaments.

Born at Brampton, Ont., Graham received his early education at Weston Grammar School and the Upper Canada College. Passing to the Toronto School of Medicine, in 1869, at the age of 22, he came out head of his year, receiving the University Gold Medal. The following year he became a resident physician at the Brooklyn City Hospital, and following upon this went to Germany, intending, we believe, to further continue his medical studies. But he arrived there at the time of the Prussian War, and on application was appointed and spent many months as surgeon without rank in the Prussian army. At the close of the war he went to Vienna where he more especially laid the foundations of his wide knowledge of dermatology; after this he studied for a time in London. At the close of 1872 he returned to Toronto and entered general practice. The following year he married, and herein laid one of the main foundations of his after success; for those who have been privileged to enter his household know how happy it was and have seen the unity which existed between husband, wife and children.

In 1875 he was appointed Physician to the Toronto General Hospital, and till the day of his death, although connected with other hospitals and charitable institutions, it was at the General that he did his best work as a clinician and as a teacher. About the same time he became attached to the staff of the Toronto School of Medicine as Demonstrator of Anatomy and Microscopy. Those who have read Osler's appreciative notice in the British Medical Journal of July 29 will recall the reference there to the Saturday mornings spent working with the microscope at Dr. Bovell's when he and Graham were students together. How much Osler valued those mornings is, I think, indicated by the fact that his Textbook is dedicated to Bovell along with Johnson, "Priest of the Parish of Weston, Ont." (where, as we have already indicated, Graham had his early education), and Palmer Howard, of McGill. These undergraduate studies in histology and morbid anatomy played no small part also in Graham's later success.

Gradually advancing from one position to another in the University, he was in 1887, at the reorganization of the Medical Faculty of the University of Toronto, appointed Professor of Clinical Medicine and Medical Pathology, as also Lecturer in Dermatology In 1892 he became full Professor of Medicine and Clinical Medicine.

Both in connection with the University and the Hospital, he made his mark as a teacher; indeed, he and Dr. Grasset were the pioneers of bedside teaching in the General Hospital. Until this period hospital education there had been conducted along the system of instruction which only now is going out of vogue in the chief schools in the United States. As his practice increased he gladly gave up the attendance upon surgical and obstetrical cases and when his work further increased, so that attending to medical cases only he could not cope with them and at the same time study the cases properly, he gladly gave over much of his work to his friends, becoming, as before stated, a pure consultant. His election as Member of the Royal College of Physicians of London in 1893 was the authoritative indication of his determination to be consultant and consultant only. In this again he was the pioneer in Ontario. His work in medicine was recognized by his appointment as President in succession to the Toronto Medical Society, Toronto Pathological Society and the Canadian Medical Association, while again in 1886, along with Palmer Howard, Ross and Wilkins, of this city, he became one of the four Canadians among the seventy-five original members of the Association of American Physicians.

Of his published writings in medicine we may state he was the first to report cases of Acromegaly in America, while more especially he has made a mark in connection with diseases of the liver. It can, with confidence, be said that his article upon this subject, published in the Loomis-Thompson System of Medicine, is the best and fullest work upon this subject by a single individual that has been published in English since the time of Murchison. In Dermatological subjects, also, he has written much and well, and his position and standing in this specialty is recognized by the fact that he was made President of the American Dermatological Association in 1887. How wide were Graham's interests and how much he has contributed to Canadian medicine is shown in the accompanying bibliography for which we would express our indebtedness to his nephew, Dr. Hamilton, of Toronto.

No less than fifteen years ago symptoms of diabetes showed themselves. Living very quietly and cautiously without ever becoming in any sense hypochondriacal, Graham kept the disease in check for very many years. Beyond the fact that they could not but notice that he had of late more frequently and more easily succumbed to slight ailments, few of those who knew Graham well recognized that he was the victim of

chronic disease, for even till this last year he seemed never to spare himself in his work. During the last winter his health definitely failed, and in February he went to the Southern States hoping to recuperate. But following upon an attack of influenza in Baltimore, there came a broncho-pneumonia and, following upon this, slight pulmonary tuberculosis was detected. These two feared attendants upon the diabetic led to rapid loss of strength. Still in April he was able to return home to Toronto, and in May went to Gravenhurst, Muskoka, to the Sanitarium, which he had been largely instrumental in founding. There, upon the evening of July 6th, weakness followed by diabetic coma set in, and upon the afternoon of the following day he died, at the relatively early age—for those not medical men—of fifty-two.

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