The BULLETIN

OF THE

VANCOUVER MEDICAL ASSOCIATION

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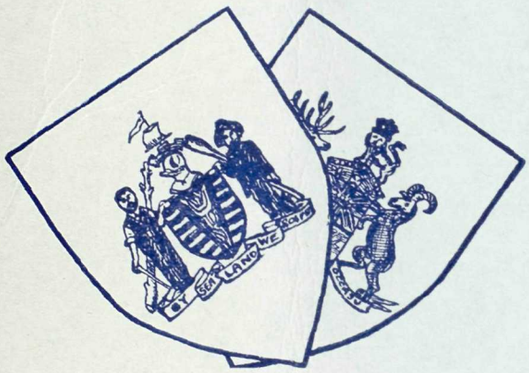

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THE VANCOUVER MEDICAL ASSOCIATION

BULLETIN

Published Monthly under the Auspices of the Vancouver Medical Association in the Interests of the Medical Profession.

Offices:
203 Medical Dental Building, Georgia Street, Vancouver, B. C.

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VANCOUVER HEALTH DEPARTMENT

STATISTICS—MARCH, 1935

Total Population (Estimated)	244,329
Japanese Population (Estimated)	8,037
Chinese Population (Estimated)	7,803
Hindu Population (Estimated)	276

	Number	Rate per 1,000 Population
Total Deaths	207	10.0
Japanese Deaths	8	11.7
Chinese Deaths	8	12.1
Deaths—Residents only	184	8.9
Birth Registrations— Male, 131; Female, 133	264	12.7

INFANTILE MORTALITY—	March, 1935	March, 1934
Deaths under one year of age	13	7
Death rate—per 1,000 births	49.2	24.2
Stillbirths (not included in above)	13	7

CASES OF COMMUNICABLE DISEASES REPORTED IN THE CITY

	February, 1935		March, 1935		April 1st to 15th, 1935	
	Cases	Deaths	Cases	Deaths	Cases	Deaths
Smallpox	0	0	0	0	0	0
Scarlet Fever	57	0	37	0	28	0
Diphtheria	0	0	0	0	5	0
Chicken Pox	72	0	60	0	48	0
Measles	4	0	13	0	20	0
Rubella	4	0	4	0	3	0
Mumps	23	0	33	0	12	0
Whooping-cough	44	0	63	0	30	0
Typhoid Fever	0	0	5	0	0	0
Undulant Fever	0	0	0	0	0	0
Poliomyelitis	0	0	0	0	0	0
Tuberculosis	46	18	46	7	16	--
Meningitis (Epidemic)	0	0	0	0	0	0
Erysipelas	1	0	2	0	1	0
Encephalitis Lethargica	0	0	0	0	0	0
Paratyphoid	0	0	0	0	0	0

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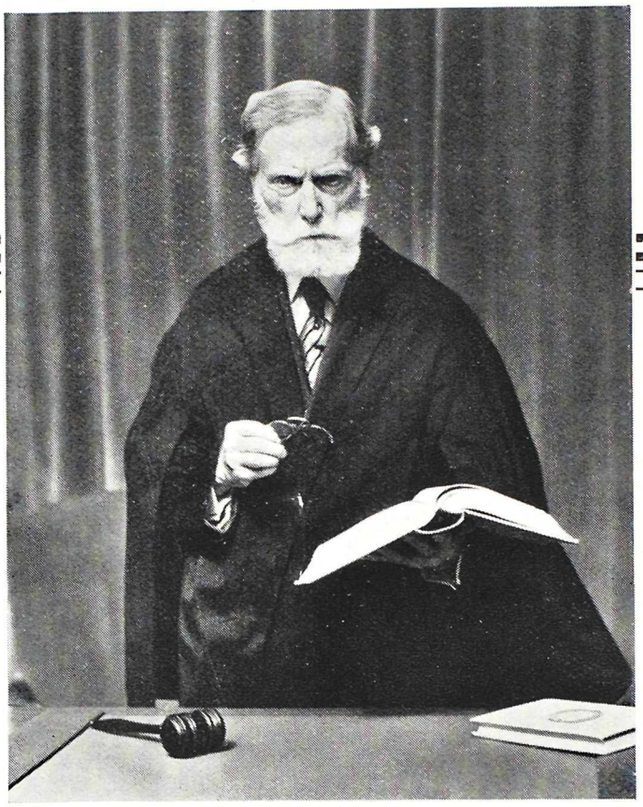

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EDITOR'S PAGE

The Draft Act dealing with Health Insurance has been completed, and distributed to various organisations and individuals who will be especially interested. There is no doubt that at an early date an opportunity will be given to the medical profession to discuss it.

It is largely a skeleton Act: i.e., it consists chiefly of broad enunciation of principles. Details of administration and application will, we understand, be left to be formulated later in the form of regulations; so that if the Act appears to be sketchy, it is not really so. But it is easier to alter and amend regulations than to amend the provisions laid down in the Act, and as this legislation is in many respects quite in the experimental stage, this is, we feel, a wise method to follow.

It is too soon yet to comment on this bill. It will be carefully scrutinized by the Committee appointed by the Council of the College of Physicians and Surgeons, and it will be laid open for the examination and consideration of all concerned; but in the meantime, there are certain things that we feel should be kept in mind. First, there will be a natural tendency, especially with as individualistic a creature as the medical man, to feel that our own corns are the tenderest, and are in especial danger of injury. So one section of the profession may feel that some other is receiving undue consideration, and that its own members are suffering unduly. We do not think there is any danger of this. At first, it will be impossible to avoid some difficulties, and there may be some inequalities—but if we are all together, and unselfishly considering the good of the whole, we shall have no trouble in meeting and solving the problems that may arise. And secondly, we must keep an open mind, and not be too much influenced by the traditions under which medicine has been labouring (we use the word advisedly) for so long. Times are changing, says the Latin poet, and we change with them—and a reactionary attitude will help us not a whit, while it will delay, but only for a while, the inevitable social changes which are even now overdue. A flexible attitude need not be lacking in firmness—ask any competent physical-culturist—and rigidity invites fracture and irreparable damage, where flexibility would lead to a good result. It is not a case, we think, of resignedly accepting the change while reserving the right to harbour secretly a feeling of resentment. The medical profession should lead in this matter, should recognise the need for radical change, and the injustice and social menace of the present state of affairs; and should welcome reform, and throw its whole weight behind it. By so doing, we shall gain immeasurably. We shall convince society of our honesty and sincerity; we shall assume the position of leadership to which our qualifications as a profession entitle us, and we shall maintain and enhance our dignity, and the respect in which we are held by the community. We believe that the profession will accept this position of responsibility, and be true to its greater and more worthy traditions of service: a word much exploited and much abused, but still one of the greatest words in the language.

And lastly, we must remember that there is really only one consideration, and it is the consideration that animates our profession at bottom: the truest welfare of the sick. We know better than anyone in what the real welfare of the sick man consists; we know what constitutes real medical care; and we should be ready, not only to insist on good medical care, but to detect any tendency to failure, and to a compromise which, while apparently more economical and more immediately expedient, it yet unwise and ultimately injurious. Given sincerely and honestly, and without self-

seeking, we cannot doubt that those who are sponsoring this Act will gladly and willingly listen to our advice and suggestions, since it is their earnest desire to frame an Act which will do the most good possible, and the least harm, to all concerned in its operation.

THE BULLETIN takes this opportunity of congratulating District No. 3's new members of Council, Drs. W. E. Ainley and L. H. Appleby. One's only regret, and we are sure it is shared by these two gentlemen, is that all the candidates could not have been elected. Dr. J. A. Gillespie, the third candidate for election, has deserved well of the Vancouver medical profession. We think it is safe to say that Dr. Gillespie enjoys the respect and esteem of every medical man who knows him, and their gratitude as well. Perhaps only those who have worked with him on the various committees on which he has served know just how much his work has meant to his brethren. Now that he has got rid of this particular burden of work, he will be available for something else—gratitude having been defined as "a lively sense of favours to come."

Another man that will not be a member this year is Dr. J. G. McKay of New Westminster, and we hereby acknowledge, on behalf of the whole profession, the debt we owe to Dr. McKay, who has been a member for a long time, and has well earned a rest. Dr. McKay has done invaluable work for his profession. Well-known in every circle, *persona grata* with the leaders of all political parties, shrewd and sagacious, he has, year in and year out, made his influence felt at all times; and with the wisdom born of long experience, he has done much to guide and direct our destinies. In the long years during which we resisted the onslaught of quackery and the untrained practitioners of various healing cults, his leadership was of inestimable value—and it was never possible to stampede "Jim" McKay. Undoubtedly, his advice and counsel will still be available if needed—and meantime we think him for all he has done.

NEWS AND NOTES

That members of the medical profession are regarded as "easy marks" is an old story. Salesmen of stocks and bonds of the variety which have to seek a market among individual speculators, and beggars of all descriptions, put doctors in the first column of their "sucker list." The "boiler-room racket"—to the uninitiated, selling tickets by telephone to "charity" concerts, dances, etc.—is one of those which has been worked most successfully in the last two or three years, and as usual the doctors have been prominent among those whose charitable instincts have thus been exploited.

The following suggestion is made to our readers: when you are called up and asked to buy tickets for a dance, concert or other such affair in the interests of some charity or other, or to pay from one to ten dollars for space in an advertising booklet to be placed in churches of all denominations at Easter or Christmas, in which the church may have printed its special order of service—it *may* be all right, but make a note of the name, address and telephone number of the person calling, the time and place of the charity function and the organization to be benefitted. Then call up the Welfare Federation Headquarters (Bay. 3531) and ask for information as to whether this is a genuine appeal or not. After that, you can decide for yourself what to do. Not only will you protect yourself against exploitation, but you will help to hasten the time when this type of "racket" is ended in Vancouver. Do not be deceived if the person telephoning you assures you that you do

not need to investigate, and that a license has been granted from City Hall. On at least one occasion the writer found by investigation that this statement was false.

* * * *

Dr. J. R. Neilson is the proud, very proud, father of an 8½-pound red-headed son, born during the Annual Meeting on Tuesday, April 23rd, 1935.

* * * *

EDITOR V. M. A. BULLETIN:

Dear Sir,—At the annual meeting you expressed a wish for some froth to balance the weighty contents of the BULLETIN. The chairman of the Library Committee indicated his inability to select a suitable crest for the Association. These two circumstances suggest something.

Why not open a competition (limited to one paragraph) and offering a prize of a half dozen golf balls (new, not hammered out of shape by G. Seldon) for the most suitable design.

In the hope that this may meet with your approval, I hasten to submit my own conception, which, owing to my inability to draw, I must perforce describe in mere words as:

An open book (Bible) *gules* on a field *argent* surmounted by a skull *couchant* and supported by an obstetric forceps *rampant,* with the motto "*Ab ovo, per vitam, ad mortem.*"

This is sufficiently indicative of the life of a medical practitioner, and so far as I know is not registered at the College of Heralds and would not expose the Association to danger of a lawsuit.

ANONYMOUS.

* * * *

The Summer School Committee gave an interim report at the Annual Meeting, foreshadowing a course of lectures that we can none of us afford to miss. This is no figure of speech either; the calibre of the men who are coming, and the reports we have had on them, are of the first order.

Programmes of the meeting can be obtained from the Library, and the actual subjects to be spoken on will be found printed in these, but our readers will be interested possibly in a brief sketch of the speakers and the school as a whole.

Dr. William Dock, of San Francisco, is an authority on cardiovascular diseases and his four papers deal with this and renal and blood disorders.

Dr. Arthur Steindler, who deals with Diseases of Joints, Fasciæ and Fractures, was chosen after careful consultation with our orthopædists, who unanimously recommended him as their choice, so that we may be assured of his excellence.

Dr. Verne Hunt spent quite a while with the Mayo Clinic, is an authority on genito-urinary surgery, as well as general surgery, and is an outstanding speaker.

Dr. John Budd has been spoken of by many as the coming leader in pathology on the North American continent, and one of his papers looks particularly attractive, "The Relationship Between Pathologist and Clinician."

We come next to two men whom we know perhaps better from a personal point of view.

Dr. Charles Hunter of Winnipeg, Emeritus Professor of Medicine in Manitoba University, is an old and tried friend of ours; a man whose addresses here have been uniformly attractive and significant. Nobody who has heard Dr. Hunter talk needs any eulogy from us to make him want to

hear him again, and we feel that his name alone would make this programme worth while.

Lastly, Dr. Perry McCullagh. He was once an interne at the Vancouver General Hospital, and so is well known to many of us. He has been Crile's right-hand man for some years, and is an authority on endocrinology. There can hardly be any subject of more importance today.

A lay speaker is also a member of the team: Mr. H. N. Brocklesby, Chief Chemist at the Fisheries Experimental Station, Prince Rupert. This gentleman is an authority on the vitamin content of the Pacific fish, and has been doing outstanding work on this. He is giving two lectures.

Davis & Geck, the well-known surgical suture makers, are shewing some films that have never before been shewn in Vancouver.

And last, but not least, there will be a golf tournament, and it is rather significant that this is followed in the evening by a paper on Renal Failure, and another on Minor Ailments.

To all our friends in B. C., and in the States to the south of us, a most cordial invitation is extended to come to a meeting that we are confident will be one of the best ever held.

ANNUAL MEETING

The Annual Meeting of the Vancouver Medical Association, held on April 23rd, 1935, marked the end of another year of considerable activity for the Vancouver Medical Association. The attendance was unusually good for an annual meeting, but we suggest to members who miss these meetings that they also miss a good deal of valuable and interesting information. The present membership of the Association stands at 245, and as Dr. Ewing, the Secretary, remarked, it is very discreditable that our average attendance is only about one-quarter of this number.

An interesting feature was the presentation to the Association of the Doomsday Book, which will now record the salient facts regarding our lives and careers for the benefit of future generations of members. As far as possible, details of deceased members will also be included in this volume.

Our Honorary Treasurer, Dr. Lockhart, gave his report. Treasurers' reports are usually uninteresting and dull hearing to all except those few gifted souls who love to discuss figures, but Dr. Lockhart has succeeded year after year in winning the interest of members as he reads his report, since we cannot but feel that he himself has a genuine interest in his task and a devotion for which we must all be grateful. The financial statement was very satisfactory, showing the Society to be solvent and possessed of an adequate margin. Several items are of especial interest, for example, the maternity relief fund. From August, 1933, to April, 1935, some six hundred and eleven cases have been notified and about three hundred and forty of these have been paid for.

The affairs of the Summer School are in excellent order and a balance of $2,317.00 shows a good state of health.

Dr. E. Brodie reported for the Trustees. The Sickness and Benevolent Fund has been of great benefit, especially lately, and the money disbursed has helped greatly to avoid trouble and to give relief. The bond investments of the Association, as one might expect in this year of the depression, are not in a very happy condition, and Dr. Brodie gave full details of them. The interest on these bonds is largely in default, and we can only hope that as times improve the payments will be resumed. Dr. Brodie suggested on

behalf of the Trustees that there be a resumption of payments to the Sickness and Benevolent Fund.

Dr. G. E. Kidd then reported for the Library Committee, showing a satisfactory state of affairs excepting in so far as the perennial problem of conscienceless borrowers still harasses the Committee. The annual plea for better behaviour was made.

Dr. G. S. Gordon's collection of books, which had been loaned to the Library, has now been presented permanently, and the thanks of the Association are due to Dr. Gordon.

The Publications Committee presented a report showing a balance of $285.50 to the good.

Dr. R. A. Simpson, for the Credentials Committee, reported the acceptance by the Committee of fifteen new members during the year. Nine of these were admitted to membership by the members on regular ballot and six are waiting election in the Fall.

Dr. Lockhart then reported for the Relief Administration Committee, giving a brief history of the dealings carried on with the City since the inception of our arrangement with them for the payment of relief cases. He told us that the experience of the Committee has convinced them that a great majority of medical men are fair and play the game honestly, but that some ten per cent of the men definitely try to take advantage and require very strict censorship of their accounts. This is greatly to be deplored, especially in view of the fact that this inexcusable weakness on the part of a small minority of the profession is handicapping us in our dealings with compensation boards, civic committees, and will be one of the chief difficulties in negotiations concerning health insurance. Some $43,500.00 has been collected for relief cases from the City and Province in fifteen months. Of this amount $40,925 has been paid to medical men, showing a commendably small overhead charge. As a matter of fact, with salary, rent and expenses, the total overhead has amounted to some $1,421. The average payment to doctors is 26% of the amount rendered. The Committee does not regard this as satisfactory and is attempting to secure a higher rate of payment.

Dr. Isabel Day then reported for the Victorian Order of Nurses.

Dr. J. E. Walker gave an interim report on the 1935 Summer School and a brief summary of the speakers and programme appears elsewhere in this number. Dr. Wallace Wilson reported as delegate to the B. C. Medical Association. He referred to the steps being taken for a closer union with the Canadian Medical Association, also the advisability of an Executive Secretary who should be also connected with the College of Physicians and Surgeons of B. C.

Dr. Pedlow reported on the revision of by-laws and his report showed that an immense amount of work has been done on this. A copy of the revisions suggested is posted in the Library and all men are urged to read them and be prepared to discuss them at a later date.

The question of the appointment of a historian of the Association was brought up by Dr. Pedlow. Much of the history of our older men of intense interest has necessarily been lost. Without further delay steps should be taken to secure data for publication and record.

Dr. Pedlow gave notice of motion that the proposed revision of by-laws as posted be adopted by the Vancouver Medical Association.

The various sections reported activities for the past year.

Election of officers then ensued and the following officers appointed:

President—Dr. C. H. Vrooman.
Vice-President—Dr. W. T. Ewing.
Hon. Treasurer—Dr. W. T. Lockhart.
Hon. Secretary—Dr. G. H. Clement.
Editor—Dr. J. H. MacDermot.
Trustees—Dr. W. D. Brydone-Jack, Dr. J. A. Gillespie, Dr. F. Brodie.

We cannot but congratulate the Association on the choice of the new president, Dr. C. H. Vrooman, and feel that the affairs of the Association will be in excellent hands. The new president has more than earned this honour from the Association. For many years he has done yeoman service on various committees, notably on the Relief Committee, of which he is still a member. He has been President of the B. C. Medical Association and has had wide experience in administrative affairs. His views are sane and command the respect of all who know him.

Dr. Frost closed the meeting with a valedictory address, which we publish elsewhere in this issue.

RETIRING PRESIDENT'S ADDRESS

Members of the Vancouver Medical Association:

Tonight we have come to another milestone in the history of our Medical Association in Vancouver; and it makes us pause and consider whence we have come and whither we go?

It has been my great privilege to have been President of this Association during the past year, and I wish at this point to thank you for the honour thus conferred upon me.

What has been accomplished has been made possible by the splendid help and co-operation of the officers of the Executive, and the chairmen of the various committees, who have given me, at all times, their unfailing support and most helpful assistance, for which I proffer my most sincere thanks.

In looking back over the past year, I feel that we have made real progress along several lines.

One of these is Preventive Medicine. Dr. Vaughan and Dr. Gordon of Chicago and Detroit addressed our Association at a special meeting in the early summer on the subject, and outlined the progress being made in the larger cities of the East.

They stressed the fact that if Preventive Medicine is to be of any practical value to the community, there must be greater co-operation between the public health bodies and the medical profession. Something we can all do to assist in this work is for each of us to take an active interest in some form of public health service—such as the Health Bureau of the Board of Trade, which I think is deserving of our unqualified support; or the Greater Vancouver Health League; or any other branch of social service that promotes Preventive Medicine ideas.

A committee of Preventive Medicine was formed with Dr. Amyot as chairman, and under his able leadership there is being obtained a real co-operation between the medical practitioners and the public health bodies. Arrangements are being completed to give radio talks and illustrated lectures to educate the public in regard to diphtheria toxoid, vaccination, etc., and all matters pertaining to Preventive Medicine.

Cancer.—I am pleased to hear that the B. C. Medical Association is working in conjunction with the Vancouver Medical Association towards the establishment of a free Radium Cancer Clinic.

The world-wide cancer campaign of King George should be a great help in educating the public along these lines, especially in our own province, which is far behind the other provinces in the free treatment of cancer.

Tuberculosis.—I would, when speaking of these preventive measures in Medicine, like to congratulate the Vancouver Public Health Institute of Diseases of the Chest, for the splendid work they are doing in educating the public regarding tuberculosis, its prevention and treatment.

Relief Committee.—A Relief Committee, with Dr. Lockhart as Chairman, was appointed to interview the City Council regarding remuneration for relief cases, with the result that all doctors attending such cases have been paid. The fees, as you know, are not large, but it is interesting to note that, to date, $40,925 has been distributed; and I feel that the sincere thanks of the whole Association are due Dr. Lockhart and his committee for their untiring efforts in connection with this work.

Retail Credit Grantors Association.—Another thing I would like to refer to is the Retail Credit Grantors Association. You have all heard of this many times, and I believe about one-third of our Association are already members, so that it is unnecessary to review its merits again. However, I may state that a special medical division with an advisory medical committee has now been formed to deal with our business and accounts exclusively.

It has been of great assistance in the collection of accounts from patients who are able to pay but who, owing to other obligations, have neglected their medical bills.

Therefore to those of you who have not associated yourselves with this firm, I would strongly urge the advantage of so doing.

There is just one danger in this forced collection of bills, and that is the danger of making our profession too mercenary.

We, as medical men, owe a duty to humanity, and just because a person cannot pay does not excuse us from giving medical service.

This is not the object of our association with the Retail Credit Grantors. To my way of thinking, the idea is to make those pay who can—not to demand the pound of flesh from those who are utterly unable to make payments of any kind.

A matter was brought to my notice the other day by one of our charitable institutions; a girl was taken suddenly ill and the secretary telephoned several physicians who, when they found it was a non-pay case, refused to go. It is my sincere hope that in trying to get our just dues we do not lose sight of the high ideals of service that have always been associated with the medical profession.

The Summer School Committee, with Dr. Spohn as Chairman and Dr. Mustard as secretary, ably carried through a very fine programme; and it was very gratifying to know that there were more attending physicians from outside points than ever before.

Our Library Committee, headed by Dr. Kidd, placed many new books on our shelves, and it is here that I would like to mention the very generous donation of Dr. F. J. Nicholson of $250.00 for library requirements. It is to be hoped that this will inspire others to do likewise. I have also the pleasure of announcing the gift to the Library of a portrait of Dr. Kocher by Dr. A. L. Lynch, for which I offer him our sincere thanks.

I feel that I cannot leave the subject of the Library without making mention of our very efficient librarian, Miss Firmin. Her knowledge of the library itself, her thorough understanding of all matters pertaining to the Association's affairs, and her unfailing willingness to co-operate and assist one and all members at all times, is well known by every member of our

Society and I feel that I am expressing the sentiments of the entire organization when I extend to her our sincerest thanks and appreciation.

Health Insurance.—Many issues will have to be faced in the coming year, one of which, and a very important one, will be Health Insurance.

It is still a very much disputed subject, and there is certain to be a great deal of discussion and argument on the matter.

Personally, I feel that it is very desirable, and if the details can be adjusted to be fair to both the doctors and the laity, it is to be hoped that it will be a step in the right direction in this time of depression and economic chaos.

It is only by each and every one of us giving thought to the subject and bringing in any helpful suggestions that may occur to us, that we shall be able to aid our incoming officers and ourselves in this matter.

Clinical Section.—Our Clinical Section this year has done splendid work under the able chairmanship of Dr. Wilfred Graham, with Dr. Neilson as secretary, and the meetings have been extremely interesting, instructive and well attended.

It is along this clinical line that I would like to see specialized study groups formed in our Association. There are many young men, and old ones too, who, I am sure, would gladly attend these classes, and deeply appreciate any opportunity to listen to the special subject in which he might be particularly interested. Most men hope at some time to specialize in some branch of the profession. If they knew that at a study group some specialist was giving a clinic, a lecture or just an informal talk along his special line, I am sure that they would be eager to attend.

To many of us, in these times of depression, who are unable to get away to brush up on our work, it would be a great boon; and to all of us it would act as an incentive and inspiration to acquire by study and reading all the new ideas and methods that are continually being developed by our rapidly growing profession.

I feel that it would raise the standard of the profession in the city, and tend towards a more closely knit bond of friendship and fraternity between members of our Association.

In closing, I wish to thank you all for your tolerance of my shortcomings (and they have been many), and for your kindly commendation of any small part I have had in the year's work.

I again thank the officers of the Executive for the staunch support they have accorded me throughout the year.

May I beg of the incoming Executive the same sterling allegiance to the new President, Dr. Vrooman.

It is my sincere hope that our Association shall be a power in our city for the promotion not only of health but of all the higher ideals of life—*Honour* and *Charity* and *Sincerity*—and that, first and foremost, we practice these among ourselves.

THE SURGERY OF THE PRESACRAL NERVE

By W. F. Emmons, M.D., Ph.D.

The presacral nerve in the nomenclature of today is the name applied to a mass of nerve fibres and ganglion cells lying immediately anterior and in juxtaposition to the terminal portion of the abdominal aorta. It extends downwards for several centimetres in the fork of the bifurcation of this

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great vessel into the two common iliac arteries. As certain critical writers have pointed out, the term "presacral nerve" as applied to this structure is merely of topographical significance. It also carries an erroneous connotation, in that many nerves and anastomosing branches as well as ganglion cells go to form the components of this structure as a whole. Such an anatomical arrangement elsewhere in the body would be known as a plexus. Therefore it has been argued that a more suitable name would be that suggested by Hovelacque, the "superior hypogastric plexus," in contradistinction to the two inferior hypogastric plexuses still farther down on its course. However, for the sake of the older terminology which is now so familiar, this structure will be referred to here as the presacral nerve.

From the historical point of view clinical attention was first directed toward the sympathetic supply of the pelvic contents as early as 1898 when Jaboulay in France attempted to relieve pain in the pelvic viscera, particularly of vesical origin, by section of the sacral sympathetic chain. A year later Ruggi in Italy suggested paralysing the utero-ovarian plexus to relieve pain of gynæcological origin. Both these investigators, in spite of several attempts, were only moderately successful with their cases, and their operations fell by the wayside, and remained there for some years before the subject was again taken up. In 1925 Leriche applied his technique of periarterial sympathectomy to the internal iliac arteries for the purpose of relieving the pain of dysmenorrhœa. From this time onwards the interference with the sympathetic supply to the pelvis has been accepted as having a definite place in the therapeutics of certain painful gynæcological conditions and it remained only for the technique of the procedure to be improved. Cotte, after using Leriche's method for a time, soon found that equally satisfactory results were obtainable by section of the much more accessible structure, the superior hypogastric plexus or presacral nerve. The advantage of Cotte's operation was quickly realized and its popularity rapidly grew so that cases of its use have mounted to considerable numbers from which critical conclusions may now be drawn.

Before going into the clinical aspects of the subject, it will be well to review for a moment the anatomical relations and physiological functions of the presacral nerve. Up till recently the anatomy of the nerve has been of academic interest only, and when discussed it was on purely theoretical grounds. With the advent of a practical application of this knowledge a renewed interest has been aroused in the details of the ramifications of the nerve, making them of a much more definite character. This recent work is largely due to the labours of Prof. Leriche of the school of Lyon. It began with the hope of relieving the pain of functional dysmenorrhœa, but has been extended in its scope to cases suffering from cancer of the uterus, the cystalgias, pruritus vulvæ, etc.

Elaut studied the anatomy of the nerve in 50 dissections. He describes it as being subject to wide variations but conforming in a general way to a fixed type. Thus it resembles in shape an elongated triangle whose apex points toward the diaphragm. The angles at the base lie between 1.0 to 3.5 cm. apart and represent the commencement of the hypogastric nerves which are the bilateral extension of the central structure above. The area enclosed by this triangle is traversed by the anastomosing branches of the plexus. Secondary connections enter the mass from other regions such as the inferior mesenteric plexus and the 4th and 5th lumbar ganglia bilaterally. For surgical purposes this area has been named the interiliac trigone. It is delimited above by a horizontal line at the level of the sacral promontory extending laterally to meet both common iliac arteries. Its other two sides

are formed by the arteries themselves as they converge at the apex. Its vertical diameter is approximately 6 cm. Attention is to be drawn to the presence of the middle sacral artery lying in the centre of the trigone bisecting it longitudinally. This has been mistaken for the nerve and utmost care must be exercised to avoid wounding the artery.

The hypogastric plexus as it descends upon the lower aorta lies in intimate contact with the wall of the latter, except for a thin layer of connective tissue interposed between the two. They can be easily separated at this point, but as the nerve leaves the aorta to cross the left common iliac vein the adhesions are still more easily freed, due to a more fragile form of connective tissue bed. The whole is covered by the posterior parietal peritoneum, which is found to come away easily without disturbing the setting of the nerve owing to an infiltration of the loose network with fatty tissue.

The origin of the nerve has been variously dealt with by different writers. According to Learmonth, who has epitomized these descriptions in conjunction with his own elaborate dissections, the nerve appears to arise from three roots. There is "a right lateral, left lateral and a middle root. On the right side the lateral root begins about 1.5 cm. below the right renal artery, by the union of three or four nerve bundles of constant origin. The most internal arises from a nervous loop which crosses the aorta below the origin of the superior mesenteric artery. The middle springs from the semi-lunar ganglion or cœliac plexus; the external from the right periarterial renal plexus. As this passes downwards it is joined on its outer side by two branches arising from the 1st and 2nd lumbar ganglia respectively. Most of the fibres of the original root pass to the intermesenteric and inferior mesenteric plexuses; the remainder, with the branches from the lumbar ganglia, continue their downward course to reach the interval between the common iliac arteries as the right lateral root of the presacral nerve. The left lateral root has a similar origin. The middle root is the prolongation downward of the intermesenteric plexuses, after they have supplied the roots of origin of the inferior mesenteric nerves; these mesenteric plexuses establish wide connections with the cœliac, semilunar and aortico-renal ganglia." The united nerve is stated to be a more or less solid structure in about 20% of cases and of plexiform arrangement in 80%. Learmonth's dissections proved that the nerve was plexiform in 20% and solid in the remainder. Such is a general survey of the sympathetic distribution as far as the hypogastric ganglia. At this point it is joined by fibres from the sacral or parasympathetic system. From these ganglia are distributed branches to the ureters, bladder and uterosacral ligaments. From the latter, according to Fontaine and Herrmann, there is a further cell station and plexus on each side of the body of the uterus and in the broad ligament. These nerve fibres are destined mainly for the uterine musculature. Adson describes the sympathetic supply of the ovary as derived from the ovarian plexus which arises from the intermesenteric and renal plexuses and follows the ovarian artery throughout its course. The Fallopian tube is also innervated from this source.

Kuntz as one of the most reliable authorities upon the subject describes the ovary as being innervated by the ovarian plexus which forms a meshwork of fibres around the ovarian artery and vein. This plexus receives fibres from the aortic and renal plexuses and superior mesenteric and cœliac ganglia. Its fibres are distributed to the ovary and Fallopian tube, and also communicate with the uterus through the uterine plexus. The uterus, however, derives its main supply from the uterine plexus and indirectly from the vaginal plexus. The Fallopian tube occupies a mid-position and receives

fibres from both the ovarian plexus and the utero-vaginal plexus. The vaginal plexus is composed chiefly of parasympathetic fibres derived from the sacral outflow but also contains sympathetic elements descending through the presacral nerve.

The physiological action of this sympathetic nervous supply is as elsewhere antagonistic to the parasympathetic supply to the respective pelvic organs. Too dogmatic statements as regards function are to be avoided as yet, for the reason that so much variation is found, not only between different species but in the same species depending on whether an organ is in a state of tone or flaccidity. For example, the sympathetic supply through the presacral nerve to the urinary bladder has been described for simplicity as the "filling system" of the bladder, while its parasympathetic supply in like manner as the "emptying system." Thus stimulation of the cut end of the presacral nerve, distally, would cause inhibition of tone in the bladder wall and an increased tone of the internal sphincter. Learmonth presents a detailed list of the actions of the presacral nerve on the bladder, on the human subject as follows:

1. Inhibition of the expulsive muscles of the bladder.
2. Motor to the muscle around the ureterovesical orifice.
3. Motor to the muscle of the trigone.
4. Motor to the internal sphincter.
5. Motor to the smooth muscle of the prostate gland.
6. Motor to the smooth muscle of the seminal vesicles and ejaculatory ducts.
7. Afferent, conveying impressions of distension of the bladder.
8. Afferent, conveying impressions of pain on spasmodic contractions.
9. Vaso-constrictor to the vessels of the bladder.

McCrea and MacDonald criticize the above tabulation in that it suggests a fixed and constant function which they have found is not always the case. They admit that there is some authority for every item but that modification of each statement is also required. Thus according to the experimental work of Elliott on animals of different species, stimulation of the presacral nerve in the ferret causes a generalized contraction of the bladder. However, in the cat, pig and monkey the same stimulation causes a general relaxation. In the dog and rabbit a contraction of a narrow portion of the base of the bladder was noted. Also in the dog, Griffiths found that a contracted bladder relaxed and that a flaccid bladder contracted when the sympathetic supply was stimulated. It is therefore evident that the function of this nerve is complex and the generally accepted conception that the sympathetics are inhibitory and the para-sympathetics excitor to the bladder may be only partially correct. However, Learmonth based his findings on more than hypothetical grounds, and what is more he performed his experiments on the "animal" with which he was most concerned, namely man. Not only did he secure the permission of his patients to stimulate the cut ends of their presacral nerves at time of operation but in order to check on the sensory effects of distension of the bladder, submitted himself to pressure variations and other experiments, thus gaining a first hand knowledge on the human subject which few others have been able to do. On account of the direct method he used, some of his experiments are worthy of recounting here. Under spinal anæsthesia and at open operation the presacral nerve was isolated. A competent urologist co-operated in the experiment by observing any changes in the appearance of the bladder through a cystoscope throughout the entire period of the operation. The patient was fully conscious and responding, and so was able to co-operate in the sensory tests

carried out. It is obvious, from the experimental point of view, what ideal conditions Learmonth had arranged for his work. It is also remarkable how co-operative most patients were in accepting spinal anæsthesia in order to have cerebration intact; also to permit the slight but definite delay in the operating time to allow scientific work of this nature to be done. Observations were carried out upon six cases. By the use of spinal anæsthesia the cord was paralysed only to the height of the 6th and 7th D. segments, and the anæsthesia was confined to the nerves and cells below this level, in contrast to a generalized anæsthesia such as ether where there is a general dulling of all nervous tissues throughout the body. On account of the pre- and post-ganglionic arrangement of the autonomic nerve fibres the pelvic viscera still retained their peripheral ganglionic control even under spinal anæsthesia, though the afferent impulses were of course nullified below the highest segment of the cord affected.

Learmonth set about definite experiments in order to trace the fibres causing specific effects. First there was stimulation of the whole or intact presacral nerve. The effects were found to be similar to those obtained by stimulating the peripheral cut end. The orifices of the ureters tightened to pin-point dimensions, lasting for a short time after the passing of the stimulus. Sometimes a spurt of urine would precede this closure. The internal sphincter contracted promptly on the cystoscope and the whole bladder floor tightened slightly. The musculature of the prostate and seminal vesicles contracted, as evidenced by the appearance of seminal and prostatic fluid in the posterior urethra. The vessels in the neighboring parts of the bladder wall blanched as elsewhere on stimulation of other sympathetic nerves. Upon stimulation of one hypogastric nerve similar effects were noted but these were confined to the ipsilateral side. There appeared to be no reflex effect upon the bladder, the co-called Sokownin reflex in animals. In two cases the partially filled bladder was connected to a manometer in order to determine the presence of a "filling" effect when the presacral nerve was stimulated, i.e., relaxation of musculature of the vesicle wall. Owing to the difficulties of such an experimental set-up in the operating room the results were somewhat indeterminate, though there was a slight dilation in both instances. Conversely I can remember another piece of research by the same experimenter (which is as yet unpublished). A contraction of the bladder took place as indicated on the manometer when the sacral nerves of the cauda equina were stimulated electrically at open operation on the sacral portion of the spinal cord. These experiments tend to confirm not only the presence of a filling but also of an emptying action in the sympathetic and parasympathetic supply of the bladder. One further point in corroboration of these findings was proved on a normal bladder by the injection of adrenalin after connecting the partially filled viscus to a manometer. This chemical stimulation was tantamount to a direct electrical stimulation of the presacral supply. A marked relaxation of the bladder wall occurred and was maintained for several minutes. Then a desire to void raised the intravesical pressure abruptly and terminated the experiment.

When this scientific data is used clinically it is found to be applicable in three types of bladder dysfunction: paresis of the bladder, vesical pain and in spasmodic conditions of the vesical neck. In paresis of the bladder it must be remembered that the trouble may be due to either one of the two controlling influences. A normally acting bladder represents a perfect balance between the filling nerves or sympathetic fibres and the emptying nerves in the sacral or parasympathetic outflow. The stimuli arriving through these

routes may be augmented or decreased *pari passu*, in which case there is no upset in the resulting balance between the two. But if for any reason either system varies in the intensity of its effect without a corresponding variation in its antagonist, an imbalance immediately results. Thus a frequency can be engendered in two distinct ways; a paresis of the sympathetic or a conceivable hyperexcitability of the parasympathetic. Conversely the so called "cord bladder" can be accounted for in the same manner. It is essential to determine the basal pathology in all such cases before subjecting them to sympathectomy alone as the panacea for all bladder troubles. This truth was forcibly demonstrated in a case referred to my care in which there was paresis of the bladder of such degree as to necessitate catheterization for periods of considerable duration at a time. Upon careful neurological examination a diminution in cutaneous sensitivity was discovered in the region of the penis, anus and scrotum, which coupled with the history of a fall in a sitting posture pointed to a lesion of the cauda. Since operation, when the caudal fibres were freed up from a condition of chronic cystic arachnoiditis, all symptoms have cleared up including the bladder paresis. Presacral neurectomy might have had considerable effect upon the bladder symptoms by restoring the balance above mentioned, but how much better it is to have restored the full power of the impaired parasympathetic pathways than to equalize the balance by paralysing a normal sympathetic supply which had been converted into a preponderating influence due to the paresis of its antagonist. The result would be expected to be more permanent, because of the operation being restorative rather than a deletion of a counteracting force. This operation was done two and one-half years ago with a perfect result to date. I wish to emphasize this point as a word of caution to those who may be tempted to regard the presacral operation as a cure-all for vesical trouble and perhaps be prone to blame the operation when it has been misapplied or too much has been expected from it.

Learmonth cites another similar case in point where the presacral technique was the operation of election, thus demonstrating the fine discrimination that must be exercised in the selection of these cases. As first assistant to Learmonth at that time, I well remember the brilliant result obtained, the more remarkable because of its early place in this type of work. It was a lad of 8 years who at the age of 3 had suffered from a form of paralysis offecting the bladder and his lower extremities. After a time the paralysis of the legs cleared up but that of the bladder persisted. At the time he came to the Mayo Clinic he had been catheterized three times every day for the previous five years. It was considered that a permanent degeneration had taken place in the parasympathetic supply and therefore there was no hope of augmenting the intensity of these stimuli. The only alternative under such conditions was to so weaken the sympathetic system that the desired balance would be restored. The result of presacral neurectomy was all that could be hoped for and the boy from then on could completely empty his bladder not only immediately after but when last heard from a year postoperatively.

The second type of case where the operation applies is where the vesical pain is the predominating factor, and involves chiefly the sympathetic fibres. It has been shown that the presacral nerve carries definite visceral sensations (afferent fibres). The parasympathetic also is responsible for a part of this function and it is a debatable question to what extent either plays a role. Quite apart from these afferent fibres and beyond all question of doubt is the function of the sympathetic in the control of the vaso-motor phenomena as elsewhere in the body. It is generally conceded that much of

the palliative effect of sympathectomy in dealing with the cystalgias is due to the vasodilatation produced. In chronic interstitial cystitis there is no doubt but that a combined effect takes place. Fewer painful stimuli caused by the spasmodic contractions are conveyed to the brain. These seem to travel by way of the sympathetic route especially. But the healing effect of the increased blood supply cannot be overlooked and may abort the painful irritation and contractions in their site of origin. Ordinary sensation from the bladder is not interfered with by the operation.

There are some significant features regarding the post-operative treatment in these bladder cases. The guiding principle is to avoid any stretching of the bladder wall in a viscus that is endeavouring to recover from just such a condition. A permanent catheter is therefore advisable so long as the patient is confined to bed, on account of the added difficulty in voiding while in the prone position. Again, since it is the object of the operation to tip the physiological balance in favour of the parasympathetic effect, the power of this system can be enhanced by the use of acetylcholine hydrobromide, a drug exhibiting a pressor effect on muscle fibres innervated by parasympathetic nerves just as adrenalin acts as the counterpart of the sympathetic system. Intramuscular injections of acetycholine twice daily should be continued for at least two weeks following the removal of the catheter. Occasional catheterization is advisable to check on any amounts of residual urine that might appear from time to time. In spite of all precautions, it has occasionally been necessary to weaken the internal sphincter by the punch operation in order to render its power compatible with the force in the detrusor muscle. In concluding this section dealing with the relationship of the presacral nerve to the urinary bladder it should be recalled that stimulation of the nerve causes contraction of the musculature of the prostate, seminal vesicles and ejaculatory ducts; conversely it would be expected that paralysis of the nerves would delete this action. Since the nerve by its section at operation is paralysed, the ejaculatory function in the male is also paralysed though there is found to be no interference in any way with the sexual act or the attainment of the orgasm.

Dysfunction of the large bowel.—The condition of megacolon is classified in two types. First, Hirschsprung's disease, which is synonymous with congenital megacolon of neurogenic origin; and second, acquired megacolon due to chronic obstructive causes, which are largely of mechanical nature. Hirschsprung's disease is chiefly met with in children. Its cause is unknown though sometimes explained by the phrase "constitutionally inferior types," in which there is some dysfunction of the neuromuscular mechanism resulting in an improper balance between the filling and emptying apparatus of the large bowel. The disease was first described by Hirschsprung in 1886, as a congenital, severe dilation of the colon with thickening of the tunica muscularis. The acquired type resembles the congenital form in many ways, such as the thickening of the muscle layers, etc., but differs in that it is not present from birth. It is always associated with a demonstrable mechanical obstruction of a chronic nature. For this reason there is hypertrophy of the muscular tunics as opposed to thinning of these layers in more acute forms of obstruction. The symptoms in either condition vary from severe constipation to complete obstruction. The secondary symptoms range from a toxic condition of general malaise and emaciation to marked abdominal distention with even cardiac and respiratory embarrassment at times. The less severe cases are relatively well controlled by medical measures, mild cathartics and mineral oil combined with suitable dietary measures. It may be necessary to supplement this treatment with such medication as eserine and

acetylcholine, drugs which stimulate the paraasympathetic system and tend to inhibit the sympathetic. Enemata are of course advisable to assist in the evacuation of the bowel at the same time as reinforcing the tone of the musculature by other means. Surgical measures have also been applied, including colostomy, enterostomy and appendicostomy with only moderate degrees of success and a mortality of about 25%. It is only after medical measures have been tried without success that surgery should be resorted to. With the success attending the more modern surgical procedures upon the sympathetic supply of the bowel, only a reasonable trial of medical therapeusis is warranted. Wade, in 1927, removed the 1st and 2nd lumbar ganglia on the left side and showed there was a definite effect on the colon when the sympathetic supply was interfered with. The following year Judd and Adson extended the operation to the 2nd and 3rd and 4th lumbar ganglia, and included both sides. They felt their results were not only more effective but also applied in more severe cases. Rauhin and Learmonth showed that most of the sympathetic fibres affecting the colon passed through the superior hypogastric plexus and advanced this type of operation. In order to be sure all connections are broken Adson now does a very wide sympathectomy embodying all preceding technique and claims a high degree of efficiency. He not only adheres to his former operation of the bilateral lumbar sympathectomy as well as presacral neurectomy but extends his dissection into the intermesenteric plexus as well, thus completely denervating the large bowel of its sympathetic control. In moderately severe cases it is found that spontaneous emptying of the colon occurs one day post-operatively and is a regular daily occurrence from then on. In more difficult cases the colon may need the assistance of cathartics, flushings and oil retention enemata, or even occasional doses of acetylcholine or eserine for a time. These measures are discontinued as the colon regains its own function. Vasodilation occurs in the feet of both sexes following this operation but is found of no inconvenience. In male patients it should be remembered again that the ejaculatory function of the prostate and seminal vesicles are interfered with as a result of the presacral neurectomy portion of the operation.

Dysmenorrhœa.—Although the relation of the presacral nerve to dysmenorrhœa was recognized in France many years ago, it is only of recent date in England and America that serious consideration has been given to presacral neurectomy for the relief of menstrual pain. It was Leriche who placed the operation on a firm scientific footing by his periarterial sympathectomy. But it remained for Cotte to establish the procedure beyond all question in the surgical armamentarium of the gynæcologist. The operation as it is carried out today is essentially Cotte's modification of Leriche's idea, that is, resection of the superior hypogastric plexus supplanting the combined periarterial sympathectomy and presacral neurectomy. In 1927 Cotte published a report of 90 successful cases of dysmenorrhœa treated by resection of the presacral nerve. In 1929 he reported over 200 such cases having had satisfactory results. Fontaine and Herrmann record excellent results in 13 out of some 15 cases so treated. These were followed over a considerable period post-operatively and report no relapse. Similar results are now forthcoming in England. In a Hunterian lecture in 1934, Davis reported some 20 cases he had done since 1932. In America, De Courcy in 1934 reports 21 cases in which he claims 100% cure of the previous pain. Adson and Masson last year reported 6 cases from the Mayo Clinic and later Craig and Counsellor have added another 8 cases to this list. It always struck me, during my time in Rochester, as an odd thing how slowly a new

operation is absorbed into an old regime. The neurosurgeons were resecting the presacral nerve for Hirschsprung's disease and acquired megacolon and for vesical dysfunction for several years before it was applied in gynæcological work, in spite of the continued reports from France. However, it appears to be accepted generally now not only without untoward effects but with reports of high degrees of success.

Cotte in 1925 gave the indications for the operation as follows:

1. Pelvic neuralgia.
2. Vaginismus.
3. Dysmenorrhœa, resistant to other treatments.
4. Metrorrhagia of ovarian origin.

In addition to the above conditions, the operation has been used in pruritis vulvæ and perinealis, disturbances of genital sensibility, ovaritis sclero-cystica, leucorrhœa and hydrorrhœa, and for pain from inoperable carcinoma of the uterus and pelvic organs. It is difficult to obtain reports in sufficient numbers to evaluate properly the results of the operation in so many conditions. For the present its application to dysmenorrhœas will suffice.

The dysmenorrhœas have been divided by Counsellor into two types, an essential or primary dysmenorrhœa, and secondly, dysmenorrhœa secondary to some demonstrable pelvic lesion such as uterine displacements, myomata, endometriosis, salpingitis or ovarian tumours. Adequate gynæcological surgery usually corrects this latter type. It is primary dysmenorrhœa that we are chiefly concerned with at this time, a type in which the pelvic organs have a normal appearance and are independent of pathological changes, though the two may sometimes be associated. Its cause is still a matter of dispute and many theories have been advanced, such as the retention of menstrual blood in the uterus due to mal-positions of the body, with consequent uterine contractions in an attempt to empty itself. Others have advanced the hypothesis that uterine hypoplasia is a prominent factor. The infantile type of uterus is composed of twice as much connective tissue as muscle tissue. It is known that the infantile type occasionally is found to persist after puberty. Hence arises the theory that with the hyperæmia of menstruation there is engorgement of the vessels, with stagnation of the blood due to an inadequate musculature and a resulting pressure upon the uterine nerves. Counsellor objects to this hypothesis on the grounds that in many of these primary dysmenorrhœas the uterus is of normal size and consistency. He therefore feels that the condition is an acquired dysfunction and claims that in 50% of his cases his patients gave a history of normal flow for years following puberty before the dysmenorrhœa began. There is also the question of endocrine disturbance and especially the findings of Novak and Reynolds who showed that the rhythmic contractions are the result of the ovarian follicular hormone. They suggest that primary dysmenorrhœa is due to spasmodic uterine contractions resulting from an imbalance in the action of corpus luteum, folliculin and progestin. Whatever the intrinsic effect of these hormones upon the uterine musculature, it is a common observation that applications of heat tend to relieve the spasm and pain. It has been noted also by some women that alcohol exerts the same effect. The physiological action of both these agents is one of vasodilatation. This painful condition therefore suggests not so much a hyperæmia and congestion as some have stated as a vaso-spastic disorder perhaps resembling the Raynaud's syndrome. Hence section of the presacral nerve which carries vaso-constrictor fibres to this organ would naturally be expected to relieve the condition.

The neurogenic control of the uterus is still uncertain. In 1895, Langly showed the centre in the cord controlling contractions of the uterus of the rabbit lay between the 10th D and the 2nd L segments. In 1933 Cleland showed by using paravestebral anæsthesia afferent fibres in the human entered the cord by the 11th and 12th D roots only. Findings differ as to the functions played by the sympathetic and parasympathetic systems upon the organ. Dahl states that their actions are the reverse of those found in the bladder, that is, the sympathetic is motor to uterine contracions while the parasympathetic is inhibitory to the same muscles. Hoffman makes the inervation more complicated and claims that the sympathetic is motor to the circular muscle fibres while the longtudinal fibres are excited by the parasympathetic; also that the former nerves relax the cervix uteri while the nervi erigentes cause it to close. In a later paper Dahl suggests that the sympathetic becomes motor to the uterus during pregnancy, a suggestion that is hardly tenable in the light of more modern knowledge that parturition takes place normally after section of the presacral nerve. On the other hand Gutsmann showed that neither section nor complete destruction of the sacral cord will prevent parturition, though it does make it necessary to apply forceps when the head reaches the pelvic floor. According to Rein there is spontaneous birth in rabbits after a complete denervation of the uterus. It is therefore seen that not only is the problem of the neuro-muscular mechanism of the uterus very involved but few indisputable facts are known about it.

The operative technique of presacral neurectomy consists of a low abdominal incision similar to that used for any pelvic laparatomy. With the patient in Trendelenburg position, the intestines are packed off to expose the bifurcation of the aorta and the promontory of the sacrum. Before disturbing the posterior parietal peritoneum the hypogastric plexus may be seen plainly in the interiliac trigone. The peritoneum over this area is then incised longitudinally for about 8 cm. from the bifurcation of the aorta down over the sacral promontory into the pelvis. It is then elevated bilaterally and the nerve beneath it is isolated and dissected from its bed. Care must be taken to include the branches from the 2nd, 3rd and 4th paravertebral lumbar sympathetic ganglia. The dissection must be carried far enough into the pelvis to visualize the bifurcation of the superior hypogastric plexus into the two hypogastric nerves before it is excised. When this is accomplished the denervation is complete and the peritoneum is closed by fine catgut suture. The anterior closure is made in the usual manner.

Because primary dysmenorrhœa is found in association with other gynæcological conditions, though quite independent from the latter, most writers advise the usual pelvic repairs and procedures in conjunction with the operation for presacral neurectomy. In Cotte's large series he demonstrated that the relief of pain is more complete when the necessary uterine suspensions and removal of chronically infected tubes are effected. It is the common practice to repair these lesions before proceeding with the sympathectomy.

The immediate effects of the operation seem to produce a spurious mensis within the first 48 to 72 hours no matter what time of the menstrual cycle the operation is performed. The following period is related in point of time to the last preoperative period. Subsequent periods are normal in time and amount of flow as a general rule. There are slightly varying reports on the success of the operation but it is only very occasionally that no benefit is recorded. In such cases a legitimate criticism would throw doubt on the completeness of the neurectomy. On the whole those surgeons

who began the operation far enough back to possess worth-while follow-up records are most enthusiastic about their results. Cotte reports that one of his cases, now six and one-half years postoperative, has not only had no return of her dysmenorrhœa but has gone through a normal pregnancy terminated by a normal delivery. Normal pregnancies are reported by the same author following the operation in three other cases, proving that the procedure does not impair the normal function of parturition. American surgeons report the same good results but having taken up the operation at a more recent date are unable to add any data regarding pregnancies in their series.

There is still another major application of presacral neurectomy which is rapidly gaining favor due to the success of the results reported. I refer to its use in cases of inoperable carcinoma of the pelvic organs. Fontaine and Herrman cite many French writers who have had considerable experience with the relief of pain gained by this procedure. Some of these report excellent results from section of the superior hypogastric plexus alone. But according to Prof. Leriche it is advisable to do a complete pelvic sympathectomy after which one can be quite sure of complete relief from the most intolerable pelvic pains. Fontaine goes so far as to state, "We believe that it is superior to cordotomy, since it gives complete relief from pain without sacrificing any of the normal protective reflex pathways of the individual."

The above account of the presacral neurectomy is a brief review of the conditions in which the operation is found to be applicable. No doubt other uses will be discovered to be added to its already broad and ever widening scope. Its popularity as indicated by the rapidly increasing volume of literature on the subject appears to be due to three main factors; the low operative risk, the absence of any deleterious effect upon normal organs, and lastly its positive beneficial influence on a variety of pathological lesions and physiological dysfunctions in properly selected cases.

THE CANCER PROBLEM

[The following extract from an address given by Dr. C. F. Martin, Dean of the Medical Faculty of McGill, is of special interest at this time, and will repay careful consideration and thought by members of the medical profession.—Ed.]

The message is a simple one. I have stressed the need of early diagnosis and early treatment. I have emphasized the importance of publicity. "Fight cancer with knowledge" is a familiar slogan—knowledge by the public and by the profession. The price of protection and control is organization for service and for research, and the greater of these for us in Canada is service.

The service must be nation-wide in scope through the establishment of cancer centres or clinics, and groups organized to afford every facility for the care of cancer patients. These centres are the pivotal units, the foci to which patients will be attracted through publicity and through successful results; the centres of attraction to which patients and physicians will come for the solution of any of the problems connected with this dread disease—centres strategically distributed throughout the country. In the larger cities such clinics, preferably in association with the hospitals and universities, fully equipped to fulfil all the needs of diagnoses and surgical treatment, and with modern installation for radiological care. In the smaller communities simpler clinics for diagnoses and less elaborate treatments may be carried out. Most of all should such centres be a stimulus and assistance to the family physician, whose position in the cancer problem will always be unique. He it is who first sees the patient, he it is who guides the family,

and on him devolves the main responsibility for that early attention which, if rightly directed, leads to health and happiness, or, if wrongly, to misery and destruction.

A survey of the situation leads to the indisputable conclusion that *the care of cancer patients requires special training*. Nor is it the job of any one man alone—nothing but a co-ordinated personnel will make the perfect attack. The diagnosis and treatment of any cancer is not always a simple matter, and often calls for the combined effort of the surgeon, the physician and the specialist, the pathologist and the radiologist. A co-operative effort on the group system, alone fulfils the ideal need of cancer care.

We do not require new buildings or elaborate new construction. The existing centres merely await financial aid to render them more efficient, but everywhere the service requires organization, without which no perfect care can be afforded.

Co-ordination is absolutely essential, and unselfish collaboration, with but one end in view—service to humanity.

Turn your eyes to Sweden for the perfect system under government control, where suspects of cancer are brought to early attention in cancer centres, where the diagnoses are established with a commendable rapidity, and where each patient is followed up by a system which includes the services of the post office, the priest and the police.

The medical profession in the attack on cancer cannot afford to be individualistics.

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In consideration of this Silver Jubilee campaign, it would seem important that organization of these clinics on a national basis is a fundamental necessity, their standardization and their control by competent authorities. It is equally important that due publicity should be given to their existence, to their facilities and to the opportunities they can offer for the treatment of cancer.

In the outlying districts means of access to these centres may not be easy for indigent patients, and it is hoped that some form of transportation facility may be provided to render them of sufficient usefulness.

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In addition to leafy vegetables about the only source of calcium and phosphorus is milk. Milk of cows carries about one-third more calcium than does human milk.

By 1920 Doctor H. C. Sherman had satisfied himself that the ordinary diet was so lacking in calcium that during pregnancy of women the intake in the diet was not equal to the demands on the body. Likewise, the supply was not sufficient in many diets to meet the needs of the growing child. The recognition of this widespread need was an important factor in quickening his interest in the part which milk might play in nutrition.

In 1922 he reported a careful study of the nutrition of children in which there appeared the following:

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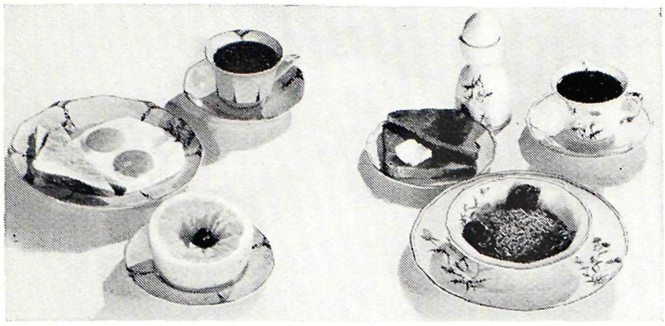

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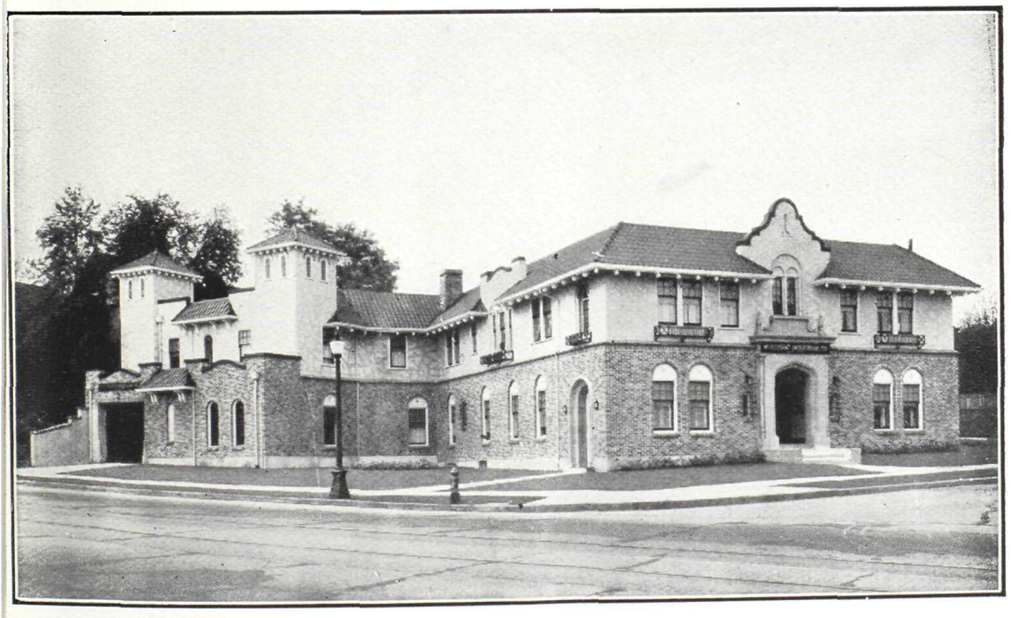

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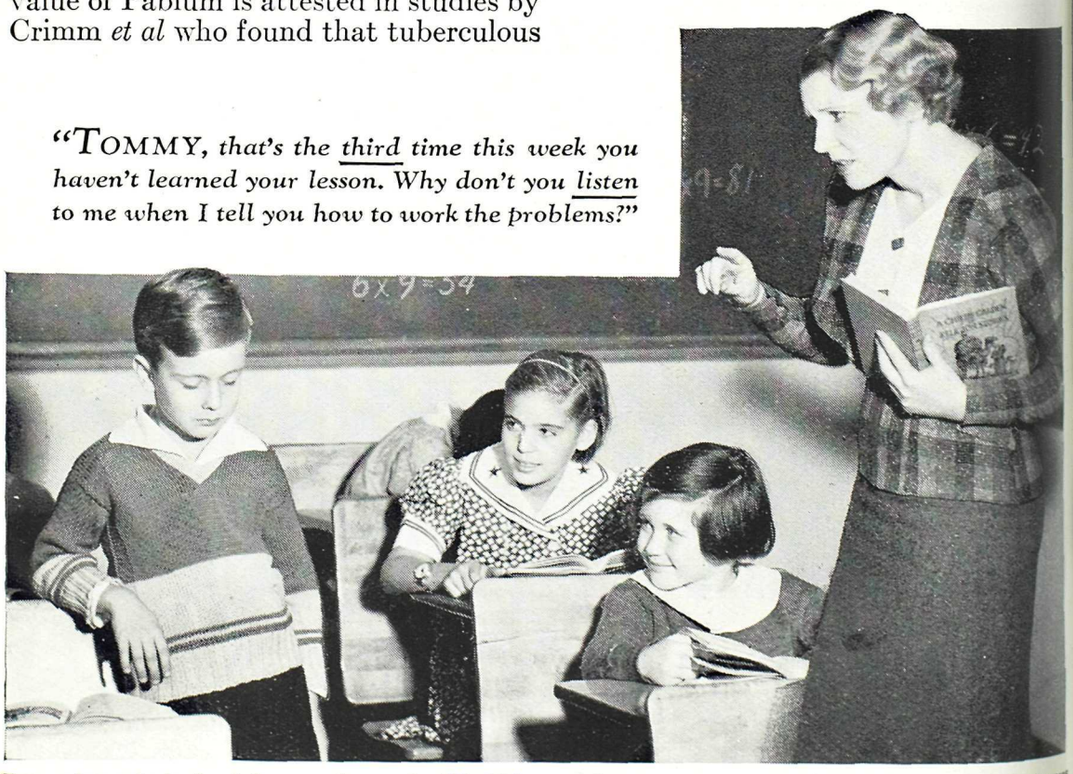

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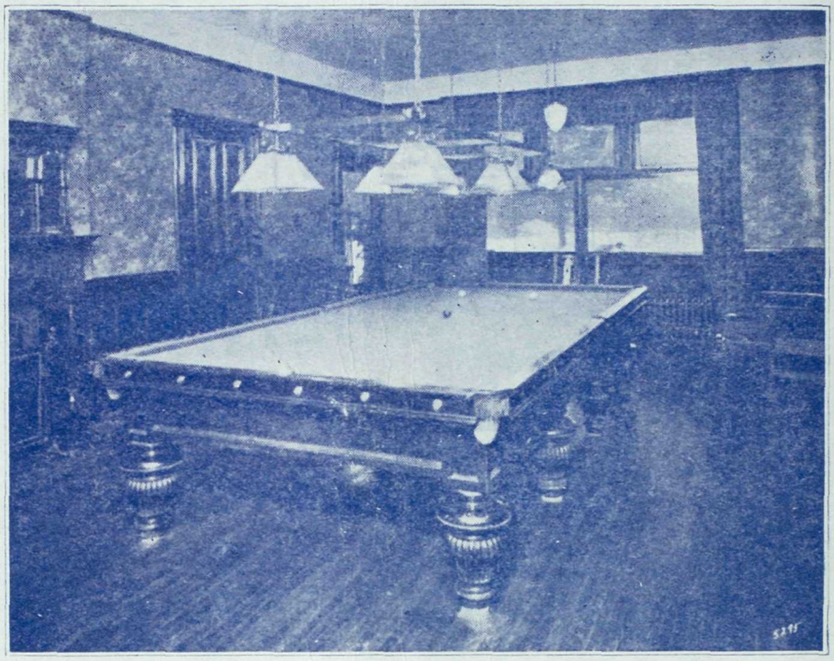

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