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BRITISH COLUMBIA

REPORT OF PROCEEDINGS

OF THE

First Annual Convention

OF THE

Hospitals of British Columbia

HELD AT

VANCOUVER

IN THE

B. C. University Auditorium

ON

June 26th, 27th and 28th, 1918.

Vancouver
G. A. ROEDDE, LTD., PRINTERS
1918

PREAMBLE.

The first Convention of the Hospitals of British Columbia was called together June 26th, 27th, 28th, 1918, through the suggestion and efforts of the Board of Directors and Superintendent of the Vancouver General Hospital. The objects of assembling all the Hospitals together were as follows:

Firstly—To promote efficiency in the Hospital work of the Province;

Secondly—To help each other with their struggling problems;

Thirdly—To form a B. C. Hospital Association and thus unite all the Hospitals in co-operative efforts to promote hospital development.

These objectives were accomplished, and one of the most successful Conventions ever assembled was the result. All attending the Convention were much profited and greatly pleased. The excellent papers and keenly interesting discussions follow hereafter.

M. T. MacEACHERN, M.D., C.M.,

President of the B. C. Hospital Association.

List of Officers of the B. C. Hospital Association, elected last Convention.

Honorary President .....Hon. Dr. J. D. McLean, Victoria

President .....Dr. M. T. MacEachern, Vancouver

First Vice-President.....Mr. R. S. Day, Victoria

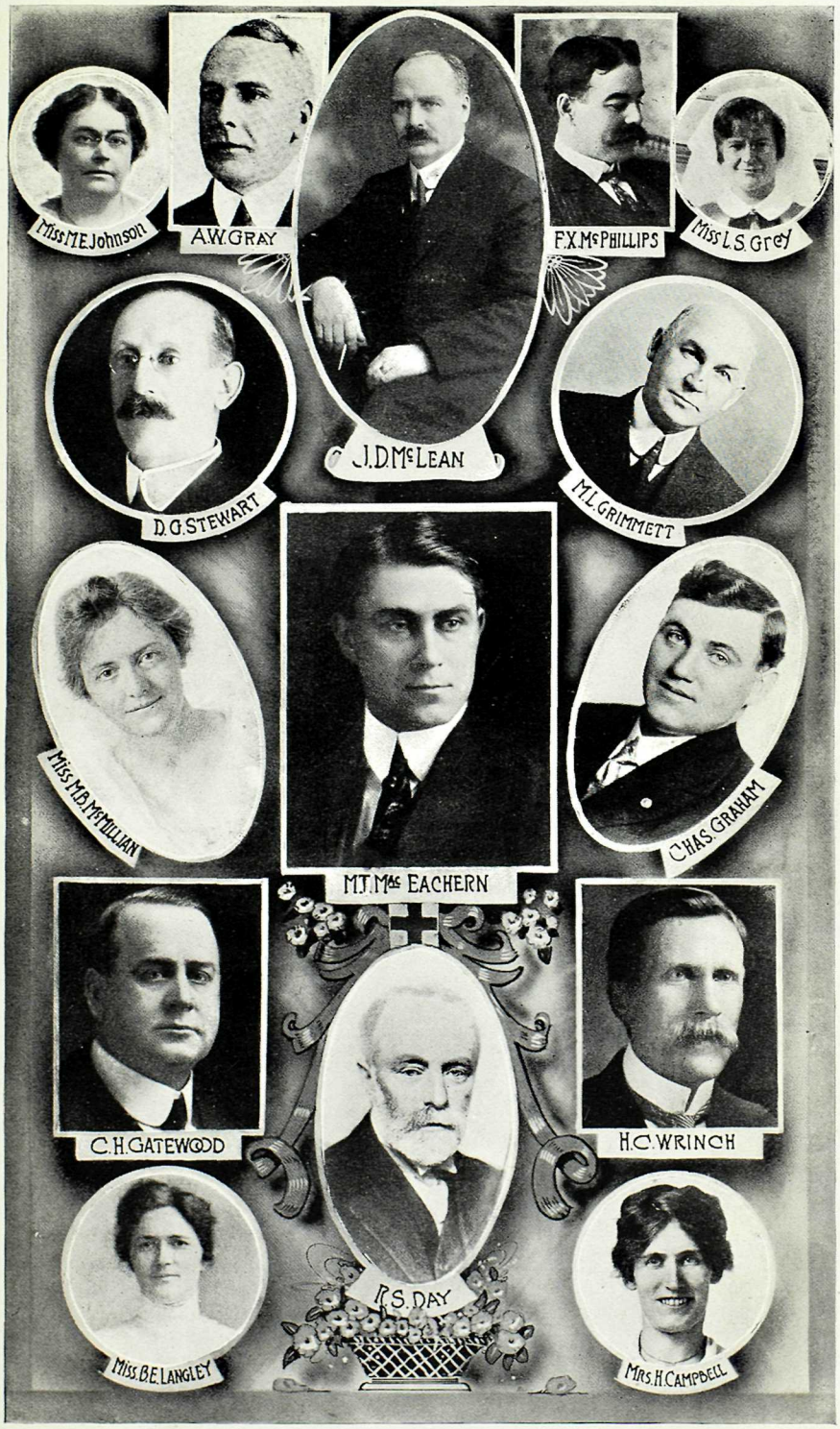
Second Vice-President .....Mayor Gray, New Westminster

Secretary .....Mrs. M. E. Johnson, Vancouver

Treasurer .....Dr. C. H. Gatewood, Vancouver

Executive Committee:

Dr. F. X. McPhillips, Vancouver
Miss M. McMillan, Nanaimo
Mr. C. Graham, Cumberland
Miss L. S. Gray, Chilliwack
Miss Pitblado, Kamloops
Mr. M. L. Grimmett, Merritt
Mr. D. G. Stewart, Prince Rupert
Dr. H. C. Wrinch, Hazelton
Miss B. E. Langley, Fernie
Miss H. Campbell, Vernon



EXECUTIVE COMMITTEE OF THE BRITISH COLUMBIA HOSPITAL ASSOCIATION

PROGRAMME

WEDNESDAY, JUNE 26th, 1918.

10:00 A.M.-12:00 Noon.

Prayer—By Major The Rev. C. C. Owen, C.C.S.

Address of Welcome—Civic—By His Worship Mayor Gale.

Address of Welcome—Board of Directors of the Vancouver General Hospital—By Dr. C. H. Gatewood, Chairman of Board of Directors, Vancouver General Hospital.

Convention Address—By Dr. M. T. MacEachern, Superintendent of the Vancouver General Hospital.

Address—Subject, "Hospital Standardization"—By Dr. R. E. McKechnie, F.A.C.S., Member of Consulting Staff, Vancouver General Hospital.

Address—Subject, "The Hospital; Past, Present, Future"—By Dr. A. S. Munro, Member of the Board of Directors, Vancouver General Hospital.

Paper—Subject, "The X-Ray Department"—By Dr. W. A. Whitelaw, Radiographer to the Vancouver General Hospital. Discussion.

2:00-4:00 P.M.

Paper—Subject, "Problems of the Hospital in Outlying Districts"—By Dr. W. R. Wrinch, Superintendent Hazelton General Hospital. Discussion.

Paper—Subject, "Small Economics in Hospitals"—By Miss J. F. MacKenzie, R.N., Lady Superintendent of "The Provincial Jubilee Hospital," Victoria, B. C. Discussion.

Paper—Subject, "Hospital Architecture," by Mr. J. A. Benzie, Architect, Vancouver, B. C. Discussion.

Paper—Subject, "Standardization of Hospital Equipment and Supplies" —By Mr. R. B. Leders, Purchasing Agent for the Vancouver General Hospital. Discussion.

4:00-5:00 P.M.

Round Table Conferences—Conducted by Miss G. N. Sinclair, Superintendent Royal Columbian Hospital, New Westminster, B. C., and Miss J. F. MacKenzie, Superintendent of Nurses, Provincial Jubilee Hospital, Victoria, B. C.

Evening Session—8:00-11:00 P.M.

Address—Subject, "The Hospital as a Community Service"—By Dr. H. E. Young, Secretary Provincial Board of Health. Discussion.

Address—Subject, "The Duty of the State to the Individual"—By Mr. J. J. Banfield, Member of the Board of Directors, Vancouver General Hospital. Discussion.

Address—Subject, "The Public Health Problem of this Province"—By Dr. R. H. Mullin, Director of Laboratories, Vancouver General Hospital. Discussion.

Address—Subject, "The Tuberculosis Problem of the Province"—By Dr. A. P. Proctor, Major C.A.M.C. Discussion.

THURSDAY, JUNE 27th, 1918.

10:00 A.M.-12:00 Noon.

Paper—Subject, "The Elimination of Chronic Hospital Cases by Proper Dental Diagnosis and Treatment"—By Dr. Milton Jones, Vancouver, B. C. Discussion.

Paper—Subject, "Financing the Hospital"—By Mr. M. L. Grimmett, Member of the Board of Directors, Merritt Hospital. Discussion.

Paper—Subject, "Hospital Accounting"—By Mr. Geo. S. Haddon, Managing Secretary the Vancouver General Hospital. Discussion.

Paper—Subject, "Infectious Diseases and the Control of Same"—By Dr. E. D. Carder, Physician to the Infants' and Children's Wards, the Vancouver General Hospital. Discussion.

Paper—Subject, "The Hospital Laboratory"—By Dr. R. H. Mullin, Director of Laboratories, Vancouver General Hospital. Discussion.

2:00-4:00 P.M.

Paper—Subject, "The Standardization and Affiliation of Training Schools in British Columbia"—By Mrs. M. E. Johnson, Superintendent of the Bute Street Hospital. Discussion.

Paper—Subject, "The Modern Trained Nurse"—By Miss Maude MacLeod, Superintendent of Nurses, Vancouver General Hospital. Discussion.

Paper—Subject, "The Food Problem of Today as It Affects the Hospital"—By Miss G. Sinclair, Superintendent of the Royal Columbian Hospital, New Westminster. Discussion.

Paper—Subject, "The Hospital Dietary"—By Miss E. Kinney, Dietitian to the Vancouver General Hospital. Discussion.

Paper—Subject, "The Assistance of Publicity to the Hospital"—By Mr. R. S. Somerville, Member of the Board of Directors, Vancouver General Hospital. Discussion.

4:30-5:30 P.M.

Round Table Conferences—Conducted by Miss K. Campbell, Superintendent of Cumberland Hospital, and Miss M. P. MacMillan, Superintendent of Nanaimo Hospital.

5:30-12:00 P.M.

Capilano Motor Ride and Dinner at Canyon View Hotel, as Guests of the Board of Directors, Vancouver General Hospital.

FRIDAY, JUNE 28th, 1918.

10:00 A.M.-1:00 P.M.

Address—Subject, "The Workmen's Compensation Board"—By Mr. E. S. H. Winn, Chairman of the Workmen's Compensation Board; Dr. G. B. Hall, Medical Officer of the Workmen's Compensation Board. Discussion.

Paper—Subject, "Maternity Work in the Small Hospital"—By Dr. W. B. Burnett, Obstetrician to the Vancouver General Hospital. Discussion.

Paper—Subject, "The Hospital Pharmacy"—By Mr. E. Hall, Pharmacist to the Vancouver General Hospital. Discussion.

Paper—Subject, "The Administration of Anaesthetics"—By Dr. T. H. Lennie, Chief Anaesthetist to Vancouver General Hospital. Discussion.

Business—Election of Officers, By-Laws—2:00-6:00 P.M.

Motor Ride and Visit to Royal Columbian Hospital, New Westminster, and Provincial Mental Hospitals.

8:00-10:00 P.M.

Convocation of Nurses, Vancouver General Hospital, to which all visitors to the Convention are invited.

GOD SAVE THE KING.

REPORT

The Convention was called to order at 10 a.m. by Dr. C. H. Gatewood, Chairman of the Board of Directors, Vancouver General Hospital.

Prayer by Rev. H. G. King.

OPENING DEVOTIONAL SERVICE.

Conducted by the Rev. Harold G. King, Rector of St. Paul's Church, Vancouver, B. C.

Scripture Reading—Ecclesiasticus XXXVIII, 1-14.

The Lord's Prayer.

Prayers adapted from the Manual of the Guild of St. Barnabas for Nurses:

"O Lord God Almighty, pour down, we pray Thee, upon all those engaged in the care and nursing of the sick, a spirit of tender love to Thee, and of pitiful compassion towards all sufferers, Be Thou in every difficulty their Guide, in temptation their Defence, in weakness their Strength, in weariness their Rest; that transformed by Thy Spirit into the image of Thy holiness, they may finally attain to that blessed Home of everlasting rest and joy, where Thou, with the Son and Holy Spirit, livest and reignest, One God for ever and ever. Grant this, O heavenly Father, for Jesus Christ's sake, our blessed Lord and Saviour. Amen.

O Father of mercies, and God of all consolation, bless we pray Thee, and comfort the sick to whom Thou hast sent us, and sanctify to them their pain, that, being cleansed from their sins, they may serve Thee with their whole heart, and be one day counted worthy to attain to Thy everlasting kingdom; through Jesus Christ, our Lord. Amen.

The grace of our Lord Jesus Christ, and the love of God, and the fellowship of the Holy Ghost, be with us all for evermore. Amen.

ADDRESS OF WELCOME.

Board of Directors of the Vancouver General Hospital,

By Dr. C. H. Gatewood, Chairman of Board of Directors of the Vancouver General Hospital.

Ladies and Gentlemen:

It affords me great pleasure and honour to welcome you here on the occasion of the first Convention of Hospitals for British Columbia ever held, and this welcome I extend to you is on behalf of the Board of Directors of the Vancouver General Hospital, which Board, in conjunction with the Superintendent, conceived and developed the idea of this meeting. In doing this they felt that they were accomplishing something which was of great need in this Province, and realizing that the getting together to discuss our mutual difficulties, to organize for greater efficiency, in short, to improve our hospitals in every way possible, was a good work to launch.

I welcome you whether from large or small hospitals, whether from Protestant or Catholic. Remember, we are all here with one object and one purpose, and the next three days will be busy ones for us all and we must get right down to business every minute that we are here.

I extend to you the freedom of the Vancouver General Hospital and I feel sure that this is the sentiment of all other hospital representatives in the city who are present at the Convention.

I feel sure that when we finish this very excellent programme you will all say it has been good for you to be here. I trust that the enthusiasm which has marked the opening of this Convention will permeate throughout the entire sessions, and a good result will surely follow.

The first order of business which it is my honor to put before the Convention is the appointing of a Chairman and Secretary for the Convention sessions.

Moved by Dr. Henderson, seconded by Mr. Stewart:

THAT Dr. C. H. Gatewood be the Chairman for the Convention sessions;

Carried.

Moved by Dr. R. H. Mullin, seconded by Mr. G. Haddon:

THAT Miss Jessie F. McKenzie of the Provincial Jubilee Hospital, Victoria, be appointed Secretary of the Convention sessions;

Carried.

DR. GATEWOOD—

I thank you indeed for the honor you have conferred on me in appointing me as Chairman. As we have a long programme ahead of us, I will not take up any further time. I regret to inform you that Mayor Gale of the City of Vancouver cannot be present this morning but may be here at one of our later sessions. I have much pleasure now in calling on Dr. M. T. MacEachern, Superintendent of the Vancouver General Hospital, for the Convention address.

CONVENTION ADDRESS

By Dr. M. T. MacEachern, General Superintendent, the Vancouver General Hospital,

—to—

The Delegates of the B. C. Hospital Convention:

June 26th, 1918.

For the first time in the history of this Province have the various hospitals been summoned together. This, therefore, is truly an unusual occasion, which without doubt, marks a new era in hospital work and advancement in this Province. You have come from far and near all over this Province, having dropped your many and varied activities and are here assembled to receive and to dispense information which will throw light on the many and varied difficulties and problems of your respective hospitals. You are here assembed, regardless of the kind of hospital you represent, whether small or large, private or public, maternity or general, Catholic or Protestant. You are here assembled with fine motives and purposes, and no doubt you will leave this Convention not disappointed

but greatly profited, as everything possible has been done to give you a useful and pleasant time.

The Board of Directors of the Vancouver General Hospital together with the official staff have been delighted to arrange this meeting, realizing that, like ourselves, you all must have difficulties and problems to meet daily, and some of these are so perplexing that assistance for their solution is needed. Through this "get together" meeting, therefore, we can acquaint ourselves with improved methods of hospital management, leading to greater efficiency and economy. You all will benefit in various ways, but there is one we must mention in common particularly, and that is in the enthusiasm you will carry back again to take up your respective duties. You will go back better hospital administrators and workers.

The hospital of today is much more important than of former years. The functions of the hospital are indeed many, and much wider in their scope than formerly. One writer summarizes the functions as follows:

1. The Care of the Sick;
2. The Training of Doctors and Nurses;
3. The Extension of Medical Knowledge;
4. The Prevention of Disease.

I could say a great deal of each of these functions, but the whole trend of papers and discussion in our Convention will cover this. The hospital should be a health center in your community, and from it should radiate all the health interests of the community. Each institution has a certain obligation to every patient that enters its doors, and that obligation is—to get the patient well and back to normal as soon as possible. A hospital is nothing more than a factory in which the broken down and diseased are repaired as far as human skill will permit.

This is a day of conservation and large economy problems are facing our country constantly. The hospital has an economic function or obligation to fulfill. All patients within its doors are non-producers, and the work which they were doing when in their usual health must now be carried on by some other person. The patient also requires someone to look after him and a doctor to prescribe treatment. Therefore, the sick patient affects the producing capacity of four people. Hence the economic problem which each hospital must handle. Therefore, the hospital must extend to that patient such a service that they may be speedily returned to health and producing capacity, and you must as hospital administrators and workers, realize your obligation to the patient and that the result to be obtained as quickly as possible means that you must surround yourselves with capable executive officers or assistants and your institution must be efficient in every respect and a "hospital" in the truest sense of the word.

Many of you represent institutions of from five to one hundred beds, and right here I desire to impress upon you the importance of such institutions. Every community of one thousand to two thousand people possibly have one of these hospitals. Some of you may have thought that your institution was so small that you should not attend the Convention or that perhaps you shoud not enter into the discussions or that you should not give a paper. I want to emphatically impress you that this is not the case and that your presence here is of vital importance and the institution which you represent is most important. No matter what institution you came from, no matter what size it is, yet they all have the same purpose, the same duty, the same obligation to perform, and that is primarily, "the care of the sick." Hospitals may be classified into many kinds and in fact, the Hospital Standardization Committee has many classes, but for all practical purposes there is only one and that class includes such institutions which give to the patient the service which they require and which the patient deserves. From the outset of this Convention, therefore, realize that you represent an important institution and in your opinion, the most important of all.

Throughout this Convention I imagine I hear from time to time something like this,, "Oh, there is no use discussing that. We can't do it in

our institution." After this Convention the word "can't" will be dropped from your vocabulary so far as hospital administration is concerned.

Every subject discussed will have bearing on your work, and it is one of the fundamental principles laid down in this Convention, that all papers and discussions must be practical and applicable to the institutions represented.

The hospital management today resolves itself into a profession or art, and demands administrators of good executive ability as well as technical knowledge. Good management can only come when there is good organization and system. Just as the large enterprises or railways must have organization and system, so must you in your hospitals, whether large or small, and you must carry this organization and system down through the smallest details even. The Medical Profession using your hospital wants the highest grade of efficiency therein. A good service means "Efficiency" and "Economy," and no institution is efficient which does not perform all its functions thoroughly without waste. You have never stopped to realize the amount of waste around the institution, and it is not all found in the garbage can. You waste the time of the directors and trustees when you cannot give them a comprehensive idea of the work done and the unit of cost at any time. You waste the time of the attending doctors when you cannot provide adequate facilities to carry on their work. You waste the time of the patients when you cannot give them the advantage of such facilities as will hasten recovery. You waste the time of your nurses by not having definite set standard ways of doing things, when you make them do the same thing over and over day in and day out, work which could be done by an ordinary person. You waste money when you purchase useless articles or equipment that are far from the standard supplies as needed. You waste money, time and energy by employing inexperienced persons in responsible and executive positions. You waste money, both for the patient and the hospital, when you keep convalescent patients in beds which should be occupied by acutely ill persons. I might go on and on but I trust that you will all analyze your institution along the same lines as I have quoted. Therefore, we are holding this Convention to have all the hospitals fall in line with a motto of Efficiency. Then only will you get results. It doesn't always require expenditure of money to produce efficiency. This Convention will show you through their exhibits that considerable equipment and supplies at least, can be obtained for very little money, and a great deal can be made at home. During this Convention I trust that you will spend all possible time examining the equipment and supplies here assembled, and get acquainted with standard goods and prices. The dealers in hospital supplies in this city have been very good to come up here and show their lines at indeed, a great deal of trouble and expense to themselves.

You will therefore realize what I said in a recent letter to you, that we have a great deal to accompish at this Convention, and you will note what a very heavy programme we have, covering every phase of hospital work. I trust that you will all take an active part in the discussions, and will ask you to be as brief as you can and to the point. If we should run through this programme quicker than we have planned, we require the time for Round Table Discussions.

DR. GATEWOOD—

The next paper on the programme is, "The Hospital, Past, Present and Future," by Dr. A. S. Monro, Major C.A.M.C., Director of the Vancouver General Hospital. As the Doctor has been called out of the city, I am going to ask Dr. MacEachern to read his paper.

THE HOSPITAL—PAST, PRESENT AND FUTURE.

By Dr. A. S. Munro, Major C.A.M.C., Director Vancouver General Hospital.

To most of us the pastime of indulging in memories of the events and conditions of former days only serves to accentuate more strongly our appreciation of present day advantages, not only of things in general but

of hospitals in particular. A retrospect, however pleasant it may be, affords to us but a tithe of the fascination as compared with the dazzling prospects that a view of the future unfolds.

Experience, the best of all teachers, has been our mentor in the past and has enabled us to overcome many a difficulty and over-throw obstacles that seemed at the time almost unsurmountable.

While feeling a justifiable pride in the excellence of our present-day hospital attainments, we remain yet unsatisfied and press on with strength renewed to attempt a solution of the many problems that confront us in this work.

Gathered here today from every quarter of this great Province are those who have identified themselves with the work of caring for the sick and suffering through the agency of the hospital. You will listen to the papers and addresses given on the many and varied aspects of hospital management and will, I hope, discuss them freely, and finally by all getting together, find a solution that will lead to a better and more efficient service.

A broad survey then of the hospital question, comprising as it does the past, present and future, may profit all at this juncture and, it is hoped, will stimuate us to renewed effort in the future.

It is within the memory of most of us, and I need not go back more than two decades, to recall the great change that has taken place in public opinion towards the hospital. Then it was a matter of life or death, such as a severe accident or illness that required surgical treatment that compelled the unlucky one to be sent to hospital. How the friends and neighbors talked about it and commiserated with the relatives that had such a calamity of having to send their dear one to the hospital had occurred! Or perchance the sick one had no home but belonged to the great army who have no settled abode, and then of course the hospital was the only place for such, but how he was pitied.

No self-respecting woman, how evermuch she dreaded the coming ordeal of maternity or the upsetting of her household, resultant upon its advent, would entertain for a moment the suggestion of going to the hospital. The hospital was only for the outcast and the unfortunate.

To ask parents to place their children in the hospital for the purpose of having, say an operation for removal of the tonsils done or any other common affection, was often sufficient to immediately bring about a change in medical attendants and the physician who had the temerity to propose such a thing became the subject of adverse criticism by the community at large.

Public opinion, however, was not altogether wrong in the attitude it assumed towards the hospital. The facilities afforded by many of them for the caring for the sick were no better or even as good as that approached by a well appointed home. The accommodation in many institutions provided only for the homeless, the unfortunates or those who required a major surgical operation, and even in the latter case, every effort was made if the patient had a good home to have the operation done there rather than go to the dreaded hospital.

It was not uncommon in this city no longer than fifteen years ago to see major operations performed at the home of the patients. As for the minor ones, only the last five years has seen them transferred from the home to the hospital. What then has brought about this marvelous change of opinion in the public mind towards the hospital? The change is due to **better service** and the hospital is not alone in this respect. We see on every hand the improvement and efficiency of the public utilities and the improved service the public are receiving from them.

In the case of the hospital the factors most influential in molding public opinion were:

First—Improved accommodation and equipment. This meant new buildings that provided for all classes of the community, the private room, semi-private and semi-public beds, and better general wards. The hospital now took on the aspect of a fine home. The surroundings were no longer dull and dreary but on the contrary a homelike comfort was aimed at and the

patient made to feel his stay in the hospital would be as pleasant as circumstances would permit. Special attention was also given to the dietary of the patient and today this important branch of the service is in the hands of a specially qualified dietitian. It is now possible, when the condition of the patient permits, to have as varied a meal as can be obtained in any well appointed restaurant.

Second—Better nursing. Of more importance even than accommodation is the quality of the nursing service provided. In this respect the public feel that a high state of efficiency has been reached in the nursing profession and have shown their confidence by demanding not only in the hospital but in the home the elimination of the untrained nurse. Nurses are like other people. Some are better adapted for certain work than others. In the hospital this specialization of service is carried out to a large extent, and the larger the institution the greater the need of it, with consequent advantage to all concerned. The public understand the advantage of this and appreciate it accordingly.

Third—Advance in medical and surgical science requiring expensive equipment and laboratory facilities only to be found in connection with modern hospitals, has been an important factor in the influencing of public opinion in favor of the hospital. A hospital composed of buildings, beds, furniture, etc., and without up-to-date laboratories, X-Ray departments and operating rooms, is nothing more than a glorified boarding house. The public appreciate the value of these essential features in a hospital and consequently those who are sick are not only willing but anxious to go where the fullest facilities are offered for getting them well. The people are learning that the essential preliminary to intelligent treatment is a correct diagnosis and in many cases it is necessary to go to the hospital to have this made.

In the treatment of disease, the use of medicine or the knife is not the only means of even the most desirable in many cases. We know that the X-ray, radium, electricity in various forms, hydrotherapy, thermotherapy and massage are essential to successful results in the treatment of many of the ailments. This demands an expensive and costly equipment and the hospital is the place the public look to to provide these facilities. Above all, the motive animating those who are responsible for the care of the sick, from the hospital director down to the humblest orderly, is one of **service.** No hospital however well equipped and staffed can do its best work without this atmosphere of service mingled with a spirit of kindliness and sympathy pervading the entire institution. The public are quick to appreciate all these various factors that go to make up the hospital of today, and equally quick to criticize those who are responsible for their absence.

The future of the public hospital and the place it will occupy in the esteem of the community in which it is located will depend largely upon the quality of service it can render to those who require it.

The displacement of the candle and the kerosene lamp by electric light; the horse vehicle by the power car; the old back-yard well by the modern waterworks, are all too well known to necessitate any enlargement on my part upon the advantage of these changes. In a like manner the change from caring for the sick in the home to the hospital has come and is here to stay. The attitude assumed by the people towards the public utilities before mentioned has ever been in favor of better service, and when this was not forthcoming under private ownership to compel the civic, municipal or provincial authorities to take over and assume the responsibility and provide the service demanded.

The system under which the public hospitals of British Columbia are conducted offer, in my opinion, many advantages over the purely municipal or civic control.

The remedy for a poor service in any community is directly in the hands of the people in that community but at the same time a closer supervision by the State of all hospitals would undoubtedly lead to a higher standard of efficiency generally.

The war has brought about so many radical changes that State control of many of our most vital necessities are now accepted by the public as a

matter of course and without question. Who will venture to predict the permanency of these changes in the period after the war and what will be their effect upon the relation of the hospital to the community?

A beneficient socialism that would provide, at the expense of the State, for the care of the sick and injured is as yet too Utopian for realization, but the trend of events are along these lines.

The Medical Insurance Act of Great Britain, the work of Lloyd George, and passed only a few years before the war commenced, was a great advance in state control of sickness. Every worker receiving less than a certain minimum wage came under the provisions, and instead of a more or less haphazard dependence upon hospitals and medical men in time of sickness, he is now cared for by a systematic organized public service.

In this young country, as well as in the older centers, the hospital will be required to provide a larger and better service and it is not too much to say that the day is not far distant when all but the minor and the most trifling ailments will be cared for in the public hospital. The advantages of such a system from an economic point of view are manifest. The saving in time and cost alone would be immense, to say nothing of the added gain to the patient in being enabled to recover from his sickness in the shortest possible time.

The excellence of a public service is directly dependent upon the demand of the public for it, and the hospital of the future will no doubt reflect public opinion in this regard and provide the service demanded of it.

In conclusion, may I urge upon you the need of higher ideals in our work, a broader service and an earnest effort to measure up to all requirements of the future.

DISCUSSION.

DR. RIGGS—

I must say that I think the paper has gone pretty well over the field, viewing the relationship of the hospital to the public for the last few years and the great change which has come over this relationship. Undoubtedly today the public appreciate hospitals. I have in my practice very little difficulty in getting patients now to go to the hospital, where some years ago it required a great deal of persuasion. This undoubtedly is due to the change in the hospitals and the greater efficiency as provided by hospitals, and I have no doubt we are still in process of evolution and in the future will possibly come to that definite scheme that was mentioned in Dr. Munro's paper, where most of the sick shall be treated, not so much at home, but in hospitals, and it shall be more or less under State supervision. That will require a good deal of working out, and I am glad to say that the subject Mr. Banfield will take up tonight will deal much more thoroughly with the question of the State's duty to the individual along the hospital line.

The hospitals today are striving, I think, to provide the proper equipment to look after people in their affliction. It means better means of diagnosis as well as proper line of treatment, and the hospital is very often the only place where this can be got. Therefore, it is necessary the hospitals should be equipped with every facility. Besides buildings, beds and nurses they must be a great deal more than just "boarding houses," and that means that every hospital should have something in the line of apparatus and equipment to do this work. It means an X-ray apparatus of greater or less extent, but suitable for the work that has to be done. It means at least a small laboratory where bacteriology and some pathology can be done, and no hospital today I think is doing its duty to the public, not providing the service to the public, unless they are equipped with at least these two things. After all, hospitals exist for the sake of the public; they exist for the sake of the patient, and unless we aim in the future at providing everything that science can bring to us to bear upon the fact of getting the patient well as soon as possible, we are hardly doing all that we can.

DR. WRINCH—

One thing that struck me in regard to this paper which I think indicates the trend of events toward which we are going and toward which we must work—and that is the tying of the public more closely to the hospital in its

ownership. If you will instill this into its management in this respect, that the hospital is not operated by a private company or corporation doing business with the public to make what they can out of them, but rather that it is the public property—in as much as the city water works for example, the public must come more and more attached to the hospital and the sooner we can get the public to fully realize this the sooner do I believe that we can better do the work of the hospital, and the public get more value therefrom—as well as dividing the responsibility, taking it off the shoulders of a number of worthy, disinterested, generous people who are now carrying more than they should. If this very interesting paper stimulates this idea then I think it is along very valuable and necessary lines.

MR. GRIMMETT—

We laymen have to be lead in this most important subject, that is—the hospital of the future. We depend upon the medical profession to lead us right; doubtless they will, but just one word I want to say—that we, the general public are looking to the medical profession for this leadership and we feel when we look at the medical profession today, that we have leaders whom we can trust; we feel that they will not fail us, and if, to use a well known expression, if they "blaze the trail," we will be happy to follow and will support them in every way possible.

DR. GATEWOOD—

I will now call on Dr. Whitelaw for his paper on "The X-Ray Department."

THE X-RAY DEPARTMENT.

By Dr. W. A. Whitelaw, Radiographer to the Vancouver General Hospital.

The object of this paper is to present to you in a concise form the character of the work which is required of an X-ray laboratory in a modern hospital, whether it be of twenty-five or five hundred beds; to give you an idea of the equipment and the cost, as well as suggestions for the employment of a Roentgenologist.

The X-ray in modern medicine has reached a stage where it is considered indispensable both in hospital work and in private practice, and it is unnecessary to say that it should be a part of the equipment of every modern hospital of whatever size.

Although of comparatively recent development, there have been two great advances made in X-ray apparatus within the past fifteen years. The first was the introduction of the Interrupterless Transformer about the year 1905-1907 by Clyde Snook, of Philadelphia, and the second, the introduction of the Coolidge Tube by Mr. Coolidge, of the General Electric Corporation of America, within the past five years. These instruments have made the work of the Roentgenologist infinitely more simple, more accurate and consequently more capable of producing results.

The work done in a modern X-ray laboratory consists of three parts, viz.: plate work, fluoroscopy and treatment. The main use of the X-ray was formerly to show fractures and locate foreign bodies. While still very important and in constant use, this is only a small portion of the work that is regularly being done. The work in fractures alone has been wonderfully improved by new methods, while the localization of foreign bodies, although at times rather complicated, is so accurate that it can be definitely relied upon.

Stereoscopic work, that is, the taking of two plates at different angles and viewing them in such a manner as to give a sensation of depth, or the third dimension, has been of the greatest assistance in giving proper ideas of fractured joints and of foreign bodies.

The location of kidney stones and gall-stones is a regular part of our daily routine. Gall-stones were formerly thought most difficult to present on an X-ray plate, but now, without doubt, from 20% to 40% at the very lowest estimate, can be defined.

Radiograms of the head have proven of inestimable value, not only to fractures, but in determining the location of pus, particularly in the accessory sinuses, such as the mastoid, the sphenoidal, the maxillary and the

frontal. The greatest advances, however, in modern work have been made in the detection of pulmonary tuberculosis, and in gastro-intestinal lesions. It is often possible to demonstrate tubercular lesions of the chest before the clinical signs give any direct evidence of the presence of the disease, and although the converse is true, the X-ray in the diagnosis of the early stages of pulmonary tuberculosis has become of such value that no chest examination can be considered complete without a visit to the X-ray laboratory. On the other hand, the gastro-intestinal tract yields itself peculiarly to diagnosis by the present modern X-ray methods. It is probably correct that not more than 50% of accurate diagnoses can be made by clinical findings alone, whereas I am safe in stating that 98% of all malignant conditions in the gastro-intestinal tract can be accurately diagnosed, 95% of ulcer of the stomach, and from 90% to 95% of ulcers of the duodenum, and by a combination of clinical and X-ray methods, the error is reduced to such a degree, that it will be a long time before a similar advance is made.

The advent of the Coolidge tube has changed treatment, particularly in deep therapy, that is the treatment of deep-seated carcinomata, such as those in the breast, the uterus and in the bones. The dosage can now be given with accuracy, and the same dose repeated weeks or months later with certainty, and dosage can be given and work done which was impossible with the old type of machine and the gas tube.

In setting up an X-ray laboratory in a hospital, the question naturally comes, what shall we buy, what type of machine, what kind of apparatus, and how much money have we to spend? We must, first of all, consider that our X-ray equipment will much of it be scrap in five or six years, partly because it will have become antiquated, and partly because of wear and tear. In my opinion, it does not particularly matter what type of machine is purchased so long as it is of a good standard make. It does matter, however, whether you can get service to keep your machine in repair and parts very quickly if you need them. The same rule holds good for an X-ray machine as holds good for any other highly developed machine, such as an automobile, for instance. Most automobiles of whatever standard make are worth the money that one pays for them, but one requires mechanics and equipment to keep them running, particularly after they have been in use for two or three years. The same is true of the X-ray machine. Aside from these circumstances, the equipment to be bought depends almost entirely on the amount of money that the hospital can afford to pay, and on the amount and character of the power which can be supplied.

I have made a rough estimate of the cost of equipping three different types of hospitals. First of all, the hospital which has in the neighborhood of twenty-five beds, I believe an equipment adequate to do the ordinary work such as would be carried on in a place of this size, could be purchased from $750 to $1,000. The machine included in this estimate is a smaller type and incapable of doing gastrointestinal work, heavy treatments, or difficult cases, such as very stout individuals, etc.

Hospitals from twenty-five to one hundred beds would require, in my opinion, a larger and heavier equipment, whose cost would approximate $2,000. Hospitals of one hundred beds or over should be supplied with a first-class equipment, and, depending on their size, have duplication of the same. The cost of an equipment sufficient for an hospital of this size would be approximately $4,000. Naturally, these figures are only approximate, for the simple reason that individual tastes vary, and the conditions within the hospital itself are such that work of a more difficult nature might be demanded of smaller hospitals, and naturally a more expensive equipment required.

Much X-ray work is rendered useless by the fact that the technique is improperly carried through to a logical conclusion. Many plates are improperly exposed, but equally as many are destroyed or their value rendered useless by improper development and poor work in the dark room. In addition, many X-ray laboratories nullify their work to a very great degree by failing to have a proper filing system, proper records and proper reports. Their plates lie about in any dark corner where it is handiest

to leave them, are dusty and improperly filed and recorded. The filing system of a small hospital should be as complete as that of the large.

The organization required for an X-ray laboratory naturally depends on its size. In the smaller hospital the Roentgenologist himself, who is usually a doctor, and should of necessity be so, is forced to do his own work—operating, developing and reading the plates. The larger the hospital, the more assistance will be required.

In the Vancouver General Hospital, in addition to the Roentgenologist, we have an operator, who in this particular case is a trained nurse, and there is also a man who does all the developing and filing, and has all the care of the plates. These assistants were trained within the laboratory and have become very expert in a comparatively short time. The trained nurse was able at the end of two months to take splendid pictures of all extremity work. ,In the smaller hospital there is no reason why the bulk of such work cannot be done by an assistant who has been trained to both operate the machine and look after the plates, etc. Judging from our own experience at the Vancouver General, I should say that a competent nurse in any of the small hospitals might do it very satisfactorily, leaving the more difficult work and the reading of the plates to the Roentgenologist himself.

The cost of operating the X-ray laboratory will naturally depend on the amount of work done. The greater the amount of work, the lower the cost per patient. In all hospital work there is a very considerable amount of charity work which naturally increases the operating cost as compared with the total receipts. In the year 1916, which is the last figures I have, the cost of operating, aside from salaries, was 25% of the total receipts and the laboratory itself has always paid its way, not of course including the initial outlay for equipment. In any event, if the laboratory did not pay its way, it should be considered as one of the indispensable diagnostic aids in the work of a modern hospital and placed in the same class as the clinical, pathological or bacteriological laboratories.

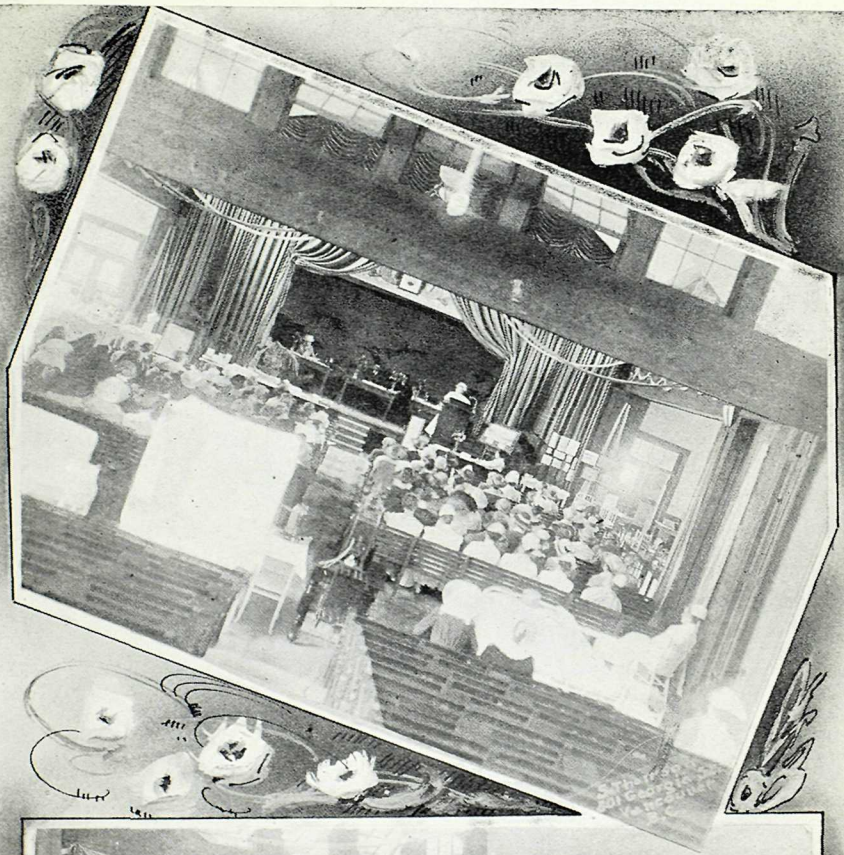
DISCUSSION.

DR. HENDERSON—

I have enjoyed this paper very much. One point I would like to bring up, and that is—"the relationship of the small hospital and the outside surgeon to the larger city hospital"—particularly as regards the X-ray. Of course the small hospital is incompetent, as a rule, to furnish such elaborate equipment as you find in the city hospital here, but it is not that point which I want to take up—I want to call your attention to the abuse of the X-ray. I do not know that the experience I have had is entirely unique, and there may be others who have had similar experiences.

In the matter of fractures—prior to the introduction of the X-ray the result in treatment of fractures was reasonably good—reasonably good legs and arms resulted from the treatment of fractures at that time, and according to diagnosis at that time. We who have not got the elaborate X-ray are compelled to continue our treatment according to the old method. We sometimes get good results, we sometimes get fairly useful limbs, but unfortunately the majority of individuals like to have their photographs taken, they like to be photographed, and many of us like to have our insides photographed as well as our outsides. These people whom we have treated by obsolete methods reach the city and they want an X-ray picture.

A man wanted to have a photograph of his leg. Now, when I was a younger man in the profession, I was always brought up to be careful to avoid looking at a leg that was treated by some other surgeon. I have invariably followed that course, until that surgeon invited me to examine it. Now our friend with the fracture comes down to the city and he begins to wonder if his leg is a little shorter, more crooked or less handsome than it ought to be, and he goes and has it photographed. Now there are many cases where that is perfectly proper. A man has a right to go to a surgeon and that surgeon has a right to treat him if he thinks he can do him any good. The man asks to have a photograph of his leg and that surgeon takes him to one of our best hospitals, takes him to the Vancouver General



Hospital, the Royal Columbian Hospital, New Westminster, the Provincial Jubilee, Victoria, and has his leg fracture photographed and the gentleman is handed the photograph on payment of his fee, which in most cases is a little excessive, and he has his picture to make such use of as he chooses, sometimes for mere curiosity, but very often to try and make trouble. Is that a good thing?

I hope I am not exaggerating the situation. I would like to hear others on the subject and myself set right—and I would like to know if there is any cure for such a grievance, if it may be regarded as such.

DR. RIGGS—

The cure is the instalment of an up-to-date X-ray.

DR. WRINCH—

I have greatly enjoyed the paper. I have had the same trouble as Dr. Henderson and had to put in an X-ray to keep our patients from running away to the city. We have had several cases like that. We had a man with fracture of both forearms, and he was very anxious to get a good right arm. It was doing very well—the bones were in direct line—but in order to avoid this very thing that I understand sometimes happens, we cut down on the fractures, because if we did not do so this individual would have come to the city and might have said it was a bad union. We have to meet this—we have to get an X-ray in outlying districts and protect ourselves, and from the other standpoint also—the patient has a good right to the best he can get.

DR. MacEACHERN—

I would like to ask Dr. Whitelaw whether or not the patient who has an X-ray taken is entitled to the plate or a picture thereof.

DR. WHITELAW—

As far as the practice of the laboratory in the Vancouver General Hospital is concerned, the patient never sees a plate except at the request of the surgeon attending. A report is always given the surgeon attending, and as a matter of law, the plates are kept in the hospital. If the patient pays for the X-ray he is entitled to a print, but no more. The plates are on file and are always kept on file. The only time they are given out is at the request and with the consent of the attending surgeon himself.

CHARLES GRAHAM—

I have been very much interested in the paper and appreciated Dr. Henderson's remarks.

I have heard several times that if a man has a fracture and he thinks he has not had proper treatment, he is not entitled to go elsewhere. I think that any man at all, whatever he has, if he is not satisfied with the treatment he is getting, has every right in the world to go anywhere that he chooses, so long as he is willing to pay for it, and I also think that if he wants to have an X-ray, if the doctor has not the proper facilities, he has a right to go elsewhere. I do not wish to lay any blame on the medical man on that point, but if the man is willing to come to Vancouver, he is perfectly entitled to any information regarding the fracture and is also entitled to get all the information that he can possibly get, irrespective of what has transpired previously.

The X-ray should be at the use of the public and under expert direction.

DR. GATEWOOD—

We are pleased to have with us today Dr. R. E. McKechnie who will address us on "Hospital Standardization," a very live subject now on this continent.

"HOSPITAL STANDARDIZATION."

By Dr. R. E. McKechnie, F.A.C.S., Member of Consulting Staff, Vancouver General Hospital.

In discussing standardization of hospitals there are certain features which are imperative for the proper care of patients. A hospital to be con-

sidered doing its full duty to its community does not necessarily need to have the maximum of these features, but in standardizing there must be set a minimum, below which a hospital will not be considered as functionating properly, lacking the minimum of equipment and facilities for treating patients.

Coming down to the history of hospitals, we find that there has been an evolution from the time the first hospital was started. The Mohammedans and Arabs have the honor of starting the first hospital, and the hospitals as first started would come under the head of "Custodial," that is, they took possession or custody of infirm or sick people. The first hospitals were practictally for indigent and infirm people, and as far as treating them was concerned, there was very little of that done because the medical profession at that time did not amount to very much, so that it was really taking care of people that needed to be taken care of. In the course of time with the progress of the medical profession there was also an evolution in hospital development. We had remedial functions added to custodial, but although treatment was initiated, these hospitals still possessed their custodial functions, and were loaded up with cripples, the aged and indigent. This condition was later somewhat relieved by poor houses, homes for the aged, etc.

It is comparatively recently that the third function of hospitals has been developed, namely,—the "Educational," which seems to take advantage of the opportunities afforded by a hospital to better train all those who care for the sick, and thus in turn benefit to the utmost those for whom hospitals were founded.

It is interesting to note the establishment of hospitals on the Continent. Courtez in Mexico, established the first hospital in America. Canada has the honor of establishing the second hospital, that was the Hotel Dieu in Montreal, so that Canada is pretty well to the forefront as regards beginning its hospital life. There was a hospital started on Manhattan Island, New York State, which constituted the third hospital. The dates for these are: Courtez, 1524; Hotel Dieu, 1639; Manhattan, 1663.

Now as regards the utilizing of facilities in hospitals for teaching purposes, Guy's Hospital, London, began teaching in 1723, Edinburgh in 1741 and Vienna in 1745, so that we find in Great Britain we had two hospitals which started teaching, making use of their facilities, before any were started on the Continent, even in the great teaching centre of the City of Vienna.

Now as to what a modern hospital should be: Of course the first duty is the "care of the patient," the care of those who are entrusted to us, to see that they are getting the very best of attention, treatment and so forth, and this point comes up with other problems which are pretty wide and pretty deep, and some which our laymen think have very little to do with the efficiency of the hospital.

One of the first things is the proper case taking, the making of case reports in regard to patients. Now this is a pretty broad question. It does not only compel the attending physician to go thoroughly into the case but he has to have it down in black and white so that others may see if he is doing his work properly and see whether he has used every means possible to arrive at his diagnosis. In connection with case taking, that is not only especial in surgical work; we should find out everything that has been done, the manner of the treatment and the results, and some go so far that if the results have been poor, that there should be a note saying where the fault lies, whether it has been an incurable case, whether the fault lies with the patient in not submitting to treatment, whether it is the fault of the surgeon or the hospital; if the hospital has not had proper equipment or efficient staff, etc. Now, if that were all down on a case report and subject to scrutiny and careful investigation later, what would result? Looking as a surgeon, of course I see the surgeon's point of view. There would be in course of time, if case reports were carefully prepared and submitted to the proper authorities, the board of directors and medical staff, data from which you could arrive at a conclusion whether the doctor was doing good work, whether he was doing poor work, and if it could be remedied. How is the

general public going to know whether or not a man is able to look after the public? The hospital appears to have a function to protect the public, and this gives it its opportunity. It is not the mere taking of case reports which we expect to do so much good, for case reports have been taken from time immemorial. But it is the thorough utilization of these case reports in the manner just indicated, which will increase the good done, improve the service of the hospital and prove a great benefit to hospital patients. So I would explain to the laymen the great advantage of having case reports carefully taken and followed up to the limit, and full advantage taken of these case reports later on to see the kind of work being done by the different men in that hospital. It is going to redound to the credit of the hospital and to the patient, and if one hospital does it and another hospital does it, it is going to be to the advantage of the general public itself.

Now as to the duties of the hospital in regard to its patients, we come to what is to be done when the patient has died. There is a great deal of knowledge that the undertaker gets hold of and nobody else does, and he only gets hold of it in pieces, he does not know what he is handling. There is a decided prejudice against post mortem examinations, and it is a case of having the public educated to a higher level. Now take in the Vienna General Hospital, high or low, no difference what rank or society, every patient who dies in it must have a post mortem examination and a report made on the cause of death. What does that do? The post mortem examination finds out exactly what the patient died of, and if this result were put down in black and white and added to the case report and checked up by the proper authorities against the doctor's diagnosis, is not that going to make the doctors more active in seeing that their cases are diagnosed properly? Making a general rule of post mortem examinations would redound not only to the benefit of the profession itself, in making better men, but see what an advantage this would mean to the general public if it is going to make the doctors better in handling their cases. Surely, that needs no argument to show that the public is going to benefit in the long run.

Then as regards other functions of the hospital, we have the Educational pure and simple. These case reports and post mortems are going to educate the doctors, but there are other functions which the hospital can do along educational lines, and should do. Of course, in British Columbia, as long as there is no medical school our hospitals cannot be utilized for the purpose of educating medical students, but we can educate the doctors, we can educate our internes. This education of internes while it affects the interne, still we must not lose sight of the fact that the public reaps the benefit of the interne who later on comes out into practice. Dr. Ed. Martin says the new interne is just about twenty per cent. efficient, and that an interne who has been a year in the hospital goes out with eighty per cent. efficiency, and if a year will add sixty per cent. efficiency, it shows the great efficiency of the hospital, and the public again reaps the benefit.

Now we come down to the use of the hospital for training nurses. We all know about the Sarah Gamp. There are many Sarah Gamps in the community still, but it goes without saying that Sarah Gamp could not do the work that a trained nurse can do, cannot be of the assistance to a doctor in handling his patients that a trained nurse can be. It is a great advantage to a community to have a sufficient number of trained nurses in it ready to respond to the call of the community. The only way to train them is in a hospital, so we find that the modern hospitals are largely going in for the training of nurses. When I was a house surgeon in the Montreal Hospital, the training school was started there, and that was the first training school in Montreal, i.e., in 1890.

I do not wish to prolong this, my ten minutes are already up, but looking over the subject as a whole, what things should a hospital look after? Here is a sentence that I culled out of a recent report: "Every hospital staff should demand and every hospital furnish all known equipment for diagnosis." This is the aim that every hospital should have. The means for diagnosis are often costly and complicated and the individual physician cannot be expected to have a full equipment or even be able to handle a

full equipment himself, so that some other body other than the individual doctor has got to have this equipment, and I consider it is the duty of the hospital to furnish that equipment, and the duty of the public to support the hospital to furnish that equipment, for it all goes to the advantage of the general public itself. If the hospital has not that equipment, if its funds will not permit it to obtain the equipment in all its departments, then what should it do with a case which comes to it which requires the aid of these means to obtain a diagnosis or follow up any certain line of treatment? It should be the practice of such a hospital to tell the patient, "You should go to some other hospital which is properly equipped to do full work." I think that this is the honest point of view to take. If a doctor has a patient and is not able to handle that case, he is not perhaps a specialist in a certain line and the case does not come within his line of work, what is the honest thing for him to do? The honest thing is to get a doctor to handle that case who is specially qualified to handle it. So with the hospital, it should be honest enough to say, "this case should not be treated here, it should go where it can be properly treated."

DISCUSSION.

SISTER FRANCES—

In the very early days here in Vancouver, thirty years ago, we began nursing in a very crude way. We were clean, we were thorough and we came out of good hospitals. We came out of the Montreal General Hospital, we came out of the Winnipeg General Hospital, and nurses still follow from these excellent training schools. They were taught nursing, they were taught cottage hospital work and they did slum work in those days. Winnipeg nurses went to the prairies and some came to Vancouver. They were the best nurses, and I was always glad to get a Winnipeg nurse.

However, nurses' conditions have greatly altered as well as hospitals, with the varying conditions which have arisen since. In the early days very few people with money went to the hospitals, and usually they were men and women, and the women only went for maternity. When they went you always reduced your charge. Later on, however, when money was more easily made and families were growing up in these homes, there was a tendency to send their sick members to the hospital where they could receive better attention and not upset home so much.

The curriculum of study for nurses today is very high all over and in the Vancouver General Hospital. These girls that come to the Vancouver General Hospital do not have to be taught to spell, they do not have to be taught to pronounce Latin terms, they do not have to be taught writing. This preliminary education which they must have is of great advantage to them in their work. This was not the case with the pupils of the early days, who hadn't the many advantages and often had to teach each other. The Vancouver General Hospital have raised their standard and it is only reasonable to expect that the standard of nurses should be better than thirty years ago. The nurses of today are not prepared, however, for cottage work or slum work, nor are they fit for travelling nurses or missionary nurses to Alaska for instance, as was required thirty years ago.

I think today the standard of the hospital should be just as Dr. McKechnie has stated in his excellent address. When we look back and see the wonderful progress hospitals have made, how more scientific they have become, how much more thorough, and yet we see a great deal yet to be done in the way of standardization of the work.

I am glad he made mention of post mortems. These are most important, for how many, many mistakes have been rectified and how many doctors benefited by post-mortem examinations. These should not be at the discretion of the public or the friends, but they should be at the discretion of the attending physician and hospital management. Correct diagnosis and careful investigation of all cases is our duty today when dealing with the sick.

In conclusion, I may say that I am glad to have had the privilege of being the first lady speaker at this Convention, as I am the first nurse in Vancouver.

MR. GRIMMETT—

I am very pleased to hear this excellent address of Dr. McKechnie on "Hospital Standardization." I did not gather whether the doctor recommended post-mortem examinations should be necessary and made compulsory in all cases when necessary. I think the doctor does recommend that, and as a layman I agree.

The case of a man—a carpenter—who met with an accident, ribs broken, went into our hospital, was there about two weeks and was progressing very favorably. One night he was taken seriously ill and died in a few minutes. Naturally, the attending physician did not know what the cause of his death was, nor for a time did they know exactly how to arrive at this cause. They felt that they had no power to have a post mortem on the deceased, so very ingeniously they suggested this—that as the patient had met with an accident just two weeks previously there was sufficient grounds to order a coroner's inquest. Before the inquest could be held, of course the post mortem had to be done and the cause of death ascertained. This instance shows how earnestly the doctors desire to obtain this information, and therefore, legislation, if necessary, should be enacted to allow this privilege. On the death of every person there should be an examination of that kind, particularly if there is any doubt as to the cause of death. To bring this about that work and education must be carried on by the physicians themselves.

DR. RIGGS—

I think that if we grasp the question of hospital standardization at this Convention we will be doing well. I intimated before that hospitals are run for the public and for the public alone, and that the benefit which the doctor, physician or surgeon obtains from the hospital is in doing his work thoroughly. If the public, the laymen generally, would grasp that idea—that the situation of the hospital today is up to them, that it should be run under guidance and leading, but they must grasp the principle that they are going to take a hand in the condition of hospitals today, and that it is with their help good results can be obtained. The public must understand if they do not get proper treatment it may be their own fault, because they have not taken any interest in the hospital, they have not seen that their hospital is up to the standard and that their hospital is utilizing all the scientific methods that can be used. The onus is not alone on them. You must put a certain amount on the medical profession who must educate the public. We are all glad, individually, to educate the public; we are only too glad to tell them all that we know about this sort of thing, yet, unless they will fall in line and help, it cannot be done. I think the public is quite willing to do so, yet it comes down to education and they must be given a certain amount.

We must go further than that if we intend to interest the public. We must have certain standards of hospitals. We must arrive at a certain standard for British Columbia. We must have certain means of diagnoses, such as X-Ray, Clinical and Pathological Laboratories, etc., and in addition, we must have good training schools for nurses and a hospital prepared to carry on post mortem work and case reports. We must therefore bring pressure to bear upon the powers of the people so that we shall have not only the means for doing these things but also the public funds and public moneys available to carry this on.

It is a hard thing to convince the public that the greatest asset to a community is the health of the individual in that community, and until they are forced they will not part with their public funds, and yet these funds are necessary for the means of furnishing hospitals and carrying on their work. We must get the Government, the City Councils, the Municipalities to supply the money as required, and let everybody realize the old saying, "No man liveth unto himself," (and according to the Post Mortem does he die unto himself.)

Therefore in conclusion, I would urge that the hospital have more public support, and you who are here must do your part in educating the public to demand these things; demand them from your Hospital Board, demand them from the Provincial Legislature or the Council, or the Municipality.

Only by these means can we get to the point of a fully equipped hospital ready to do careful and scientific investigation of all cases; and remember, while the doctors may be quite energetic in pushing this along, they are doing it from the standpoint of doing the very best service to the public, working for their welfare as well as earning their livelihood.

DR. WILKES—

I do not intend to say much at this time, but chiefly on the line of Dr. McKechnie's paper in regard to Post Mortems and Case Reports. When I was at the hospital as a student and as house surgeon, case reports and post mortems, of course, were the rule of the day. Dr. McKechnie laid stress upon case reports and post mortems as being a stimulus to efficient physicians and surgeons to better and more accurate work with a close checking on diagnoses and findings. It never occurred to me in that light before altogether, but I realize that there is nothing more important in our work than a carefully compiled case report, and if necessary, post mortem report of such cases which die without a definite diagnoses. The value of such an accurate record, together with the surgeon's findings upon the case at that time, is a close check on all work done. Then again, how often do patients come back again and again, when clinical and pathological reports, as well as that of previous operations, are of great value.

In regard to post mortems, these are of great value, not only in out of the way cases where the diagnoses is in doubt, but also in the common or simple cases. Personally, I find that I lose a clear picture of the condition of the body as the result of disease unless I have that post mortem report in my mind. It is only by keeping such clear pictures in one's mind through having post mortems of such cases, that good clinical experience can be obtained.

I therefore trust that in our hospital these two things will be worked up, that is—the having of good reports on all cases and post mortems on as many cases as are available.

DR. HENDERSON—

The physician who has never made a mistake has never done a post mortem.

DR. MacEACHERN—

It is most gratifying to see such a splendid attendance at our first Convention, and also such a great interest taken in the papers this morning. During the afternoon session a number of interesting papers will be given and we trust that there will be a good attendance. Tonight you will notice an excellent programme of subjects which are of wide and vital interest to the people of this Province. You are privileged to invite any of your friends in the city that you wish, to attend this meeting, as this will be open to the public.

One of the objects of this Convention was, if possible, to form a B. C. Hospital Association, and if this is agreeable, it will be necessary to have such a resolution and also the appointment of a committee to draft rules and regulations for same.

Moved by Mr. Stewart, seconded by Mr. Grimmett:

THAT an Association be formed known as "The B. C. Hospital Association, and a Committee appointed to draft rules and regulations.

Motion carried.

Mr. Grimmett, Mr. Graham and Dr. Gatewood were appointed.

Meeting adjourned, to meet at 2:00 p.m.

AFTERNOON SESSION—June 26th, 1918.

DR. GATEWOOD—

I am going to ask His Worship Mayor Gray of New Westminster and President of the Royal Columbian Hospital Board to act as Chairman of the afternoon session today.

MAYOR GRAY—

I will now call on Dr. H. C. Wrinch, Superintendent of the Hazelton Hospital, to give us his paper, "Problems of Outlying Hospitals."

PROBLEMS OF OUTLYING HOSPITALS.

By Dr. H. C. Wrinch, Superintendent Hazelton General Hospital.

This paper is submitted with a frank apology from the writer for presuming to offer it on the strength of a most limited experience, and in the feeling that its value will be in proportion to the amount of discussion accorded it rather than in the material submitted.

In British Columbia we are proud, perhaps pardonably so, of our "greatnesses." In our grandiose moments we speak of our thousands of miles of coastline, our extensive fisheries with products of highest quality, our vast timber resources of magnificent trees, furnishing some of the finest timber in the world; our mountains of mineral, valuable beyond the possibility of comprehension; our fruits; our water powers; our wonderful harbors; these, and many other features of immensity are so familiar that in contemplation of them we are very apt to forget how insignificent is our population in comparison.

This very disproportion between population and their vast heritage of boundless resources is responsible for most of the problems of the hospital field. With a population of 400,000 scattered over a territory of almost one million square miles, and with half of this population resident in a few cities, we have a task, in attempting to provide for the scattered population, bristling with problems more numerous than can readily be enumerated.

As to a site—This is not usually a serious problem. Convenience to the transportation system by which patients from outlying territory must be brought to a hospital should usually be given greater consideration than the particular interest of the small local centre in the immediate proximity. A difficulty is created that might as readily have been avoided in designating a hospital by the name of a town or village rather than in a more general manner.

It might better be named after the county or district, or whatever might be recognized as the territory from which it derives its patronage, and hence, to which it might reasonably appeal for any special support. Petty jealousies not infrequently exist between small places. These are frequently trifling, and ought not to be allowed to affect the hospital, yet they sometimes do. This is a case in which the injunction to avoid the very appearance of evil might very well apply.

The outlying hospital should very clearly define its relation as being **general,** to a district, rather than **particular** to a town or village. If its location and designation can be made to harmonize with this viewpoint, it will facilitate the obtaining support from people some little distance from it, and will help to dissipate the erroneous idea that every little centre should have its own hospital. Such idea, if carried out, is fatal to that measure of efficiency the outlying hospital might reasonably be expected to develop.

Possible changes in systems of transportation necessary to the permanent development of the resources of the district should not be forgotten. Plenty of elbow room should be insisted upon. This is for a two-fold reason—first, to prevent the encroachment of undesirable neighbors, that there be nothing unpleasantly near, either by sight or sound, to jar the heightened

sensibilities of patients, whose vitality sometimes appears to hang in the balance, requiring every favorable condition possible that the balance may turn in the right way. And for a second the more positive reason—that there may be beautiful and pleasant surroundings, in which the convalescent patient may spend the time in the open air under shady trees or groves.

Every hospital should stand in the centre of a park, rather than within the limited confines of a city block, much less within the limits of two or three lots of a small town or village. Twenty to fifty acres or more would be no handicap and would afford opportunity for studies in landscape effect by the Superintendent in his leisure days. Convenience of water supply, with possibilities for reasonable disposal of sewerage, should be given careful consideration also.

Building Material—This becomes a matter of real thought and study. The ideal, of course, would be solid stone structure, or at least a steel reinforced frame with stone facing, due consideration being given to appropriate ornamentation. The practical will probably resolve itself into a frame building, neatly and plainly finished, in which utility and capacity at minimum cost are the primary considerations. But whatever may be the character of the superstructure, the question of foundation walls, or at least pillars, of concrete, should be insisted upon. This is an economy that can hardly be ignored. The problem of the situation is to make the practical approach as near as possible to the ideal.

In designing the building the classes of population to be served and the "color line"—where it exists—must be considered. The color line exists in the Province. In some outlying parts it is almost as acute as in the Southern States. It is out of no attitude of disregard for, or sympathy with, the native races of our Province, that I seek to emphasize the importance of their being given accommodation entirely distinct in every particular from that provided for patients of our own race.

If it becomes known to the general public that this distinction is not recognized, or even to some extent ignored, the people of finer sensibilities, who are incidentally generally our most profitable patients, will, when opportunity permits, go elsewhere for their care.

The Indian himself, together with all others who use the hospital, becomes a loser by this course, for the lessened patronage reduces the income, and hence also the efficiency of service, which is usually directly dependant upon the income.

When we turn the hospital over to the Matron, she will find it much easier to meet the desires of her patients with a number of smaller wards rather than say with two larger ones, designated respectively, "male" and "female," with perhaps one extra as a special for obstetric cases.

In connection with construction, an ideal and almost essential feature is a separate residence for nurses that they may not be only out of sight, but also out of sound of the patients while off duty. And yet in practice this is not always feasible at the beginning. But because of its impossibility at first, and because nurses may be found willing to work under the less desirable conditions, it should not be ignored. Provision should be made at earliest possible moment for this essential. The increased cost of an extra building, together with cost of lighting, heating and upkeep are the insurmountable obstacles for a time.

Disposal of sewerage is a real problem. Here again the ideal and much the simplest process, is merely to instruct the building contractor to connect all soil pipes with the city system, having the architect see to it that proper gradients are observed. But the practical may resolve itself in the dry earth closet, or the septic tank system, the latter being by far the better and should be feasible in any locality in which it is fit to erect a hospital.

The matter of heating and ventilation resolves itself into a choice of systems and furnaces, which is a subject sufficient and worthy of a paper in itself. It will be affected by the class of fuel obtainable and cost of laying down material of plant. I recall a case where a heating plant material cost $180.00 at shipping point, and the finished installation $800.00 including five weeks' wages for nine days' work by mechanic for installing.

Lighting and water supply becomes a question of the most convenient and economical source of a supply of power. Where this can be obtained from city or corporation yearly it is merely a matter of cost. Where this source is unavailable, the problem today is much simpler than it was twelve or fifteen years ago. The development of oil as fuel, in conjunction with gas, electric engines of a wide range of capacity, places this system within the reach of the smallest institution. One requisite, however, must not be overlooked in this connection. A plant of this nature requires an engineer, or at least a handy man, who could make the proper plant his first care and be willing to be usefully occupied in other mechanical work at other times. The right man in this capacity could save the institution from half to two-thirds his salary in cost of repair work of varied character. A storage battery in connection with this plant can be made to furnish sufficient power for the period of the day when engineer is off duty. The power plant can also be utilized for pumping, wood-sawing, laundry and other machinery. The electric part of it can be made to supply X-ray and other electro-therapeutic purposes in addition to lighting.

Turning to the problems of administration and practical operation, the hospital is confronted with a very wide range of work—wider perhaps than is found grouped in any other single organization. The various departments of this work should be in the hands, in many cases, of highly trained specialists, each of whom should, and can, command a generous remuneration. It becomes the interesting study of the executive of the hospital to group these many and varied duties in the hands of as few individuals as possible, or in other words, to engage only as many persons as means will permit, and yet cover fully this very wide range of endeavor. That the task is a load of superhuman proportions, will be admitted by any thinking person; and yet there are not wanting persons who, when they find any particular phase of the work in which they may be particularly concerned at the time is not being accorded special attention, are not slow or niggardly in the measure of their criticism.

The hospital executive, which by the way, may be a board or committee, or may be vested in the person of a single individual, is responsible for having work done under the following, and a few other headings:

1. Physicians
2. Surgeons
3 Bacteriologists
4. Pathologist
5. Roentgenologist
6. Other specialists, Eye, Ear, Nose, and Throat, Electrotherapy
7. Lecturers
8. House Staff
9. Dispensing Officers
10. Admitting Officer
11. Secretary Treasurer
12. Employment Bureau
13. Purchasing Agent
14. Matron
15. Nurses
16. Orderlies
17. Cooks
18. Kitchen Help, House Cleaning Department
19. Engineer
20. Laundry
21. Gardener
22. Collection Agency of Accounts and of Private Subscriptions

&c., &c

The country as a whole (and the hospitals, are no exception to the rule), is just now confronted with a problem of shortage of labor and higher wages, more acute than has ever been experienced. A natural corollary of that condition is a spirit of independence and indifference on the part of employees, which increases in intensity in inverse proportion to the skill and training required by the occupation.

As a consequence of this it is much more difficult than formerly to find individuals willing to take on work of more than one character. The all-round, general-utility man or woman who would be invaluable in several different ways in hospital service, is becoming increasingly scarce.

It must be remembered that the outlying hospital (which is also a small one) does not offer full time work along many of the lines referred to, but they are all of them such as are to be found in the fully equipped hospitals and hence may occasionally be called for in the smaller one.

The income of a small hospital will only permit it to engage a limited number of its staff—five, ten, twenty, or more, as the case may be. Prob-

ably also this is nearly as many as can be profitably occupied for long enough time to warrant them being engaged.

Where the hospital is located near a large town it is possible, theoretically at least, to have part time workers along a number of lines of work. This is impracticable in outlying hospitals and constitutes the real problem of the situation.

To meet this (unfortunately it cannot be entirely overcome) it becomes the task of the Executive Officer to associate with himself, in every department in which he can maintain one or more individuals, persons of as broad capacity as possible, assigning to each as many allied duties as can be fairly taken over by them. All that remains then is for himself to become responsible for everything else.

Some very real difficulties occur, on account of distance from the larger laboratories, when the need arises for prompt diagnoses by examination of pathological specimens or material, as well as in the making of serum tests, and autogenous vaccines. The attending physician or surgeon has sometimes to content himself with less finely developed methods of diagnosis and treatment. The outlying hospital cannot afford the luxury of a highly trained pathologist and the necessary equipment for carrying out his methods, while at the same time, it is out of the realm of practicability for the few visiting physicians to find the time to do such work.

There remains two problems very difficult of solution because of their comparative intangibility, viz., prejudice on the part of some who have never been in the hospital and adverse criticism from some who have. The latter is the more damaging of the two.

In biblical times the question was raised, "Can any good thing come out of Nazareth?" a small obscure village. Today, people will ask, "What can you expect from a small outlying hospital anyway? Let's go to the city, where they do things." The mere fact of its being remote is accepted by some (most unfairly) as bona fide and absolute evidence of inefficiency. In answer to that it becomes the duty of the small hospital to "do things" also. It must convince the critic. We must make its service so good that it is only necessary for the critic or a member of his household or a friend to once use the hospital, and his prejudice becomes converted into praise from that time on.

The adverse criticism from someone who has been in the hospital is a much more damaging matter, and one very difficult to check. Doubtless mistakes are sometimes made in all hospitals, and sometimes complaints are not without foundation. Often, however, such complaints and adverse criticism, when traced to their source, have been found to emanate from someone who has received free or nearly free treatment, or who has been rendered an account which he is too mean to pay, and is endeavoring to hypnotize himself in the belief that he ought not to pay it. It is suggested, therefore, in order to reduce to a minimum this obnoxious feature, that the hospital make every effort to obtain fair renumeration for its services, and settlement of accounts in the promptest manner possible. Other advantages accruing from this course of action will be readily appreciated by members of this Convention. The problem of finance is one which I believe is not limited, as a matter of interest, to the outlying hospitals only, but since the committee have deemed it worthy of a place to itself on your programme, I will with your permission, leave it for later discussion.

In conclusion, I desire to record my firm conviction that the benefits of a hospital to a community are so apparent that there can be found no insuperable obstacle, if the matter is properly presented to all persons concerned and judiciously followed up by taking them fully into confidence and giving due emphasis to the principle that the hospital exists and is maintained purely for their good.

DISCUSSION.

MR. STEWART—

I congratulate Dr. Wrinch on his hospital at Hazelton. It is a splendidly equipped and managed institution.

DR. MacEACHERN—

I also concur with Mr. Stewart that the Hazelton Hospital is an up-to-

date institution. It is quite possible that the small hospital can assume such a condition that people won't pass by its door. In the State of Illinois, for instance, there is a small hospital of fifty beds and patients come from three hundred miles and even further, passing several hospitals along the line, many of which are much larger, and passing many towns, making their way to this small hospital. This goes to show that you can make your hospital, no matter what size it is, just as efficient as is necessary to hold and attract patients. Dr. Wrinch has introduced several problems which confront the outlying smaller hospitals. Dr. Mullin will handle the Laboratory problem later in the Convention, and Mr. Benzie, Architect, is going to take up some of the architectural problems. In regard to hospital surroundings. This is of great importance to every institution. There should be lots of room around the hospital, park or trees and seats. Unfortunately, the Vancouver General Hospital has been crowded in on all sides by the growth of the city, and this has given us a great deal of trouble from the standpoint of noise which affects part of our buildings very much. I think we should have a provincial regulation governing the erection of buildings within a certain distance of every hospital and the regulating of "silence zones" about the hospitals.

MR. MORDY—

Case reports, post mortems and careful diagnoses are all of vital importance to our hospitals. In regard to these, and especially in regard to case reports, this appears to me to be a matter of standardization for our hospitals in British Columbia, and a work for our B. C. Hospital Association. The Association should get all these things in line and set us a standard to work to, for if this is left to the laymen their information on the subject is so slight that it would offer every diversity of opinion as to what should constitute a standardized case report for instance. Therefore, all these should be carefully standardized for the use of the hospitals. However, there are many difficulties in our way in accomplishing the ideal. Take the outlying districts: We cannot have the equipment which would cover every possible diagnosis, yet I find that there is possibly an exception taken to the case of a patient who is not able perhaps to afford treatment for several weeks or months and might perhaps be able to furnish money which would enable him to go down to the city and get an X-ray taken and a correct diagnosis made of his case which he then could take back to Cumberland for instance, and get his own hospital physician or surgeon to continue the treatment on this diagnosis. It is unfair to ask hospitals, especially if the man is willing to pay for it, to put in such expensive facilities if it can be done expeditiously and conveniently elsewhere.

DR. MacEACHERN—

(In reply to Mr. Mordy's discussion.)

Small hospitals should do a certain amount of laboratory work. A certain amount of the more difficult or complicated work cannot be done in smaller hospitals, but if you get it done somewhere else the credit and honor is yours and goes to your institution, for you are seeing that your patient gets the best treatment. It is your duty as hospital administrators to see that your patients get the service which they require.

Write your own case reports. Personally, I think I had better case reports when I had a hospital of sixty-five beds and did them all myself, and even better, I may say, than I will ever have in this hospital. You people can do the same thing. You can have good case reports. You can do a certain amount of laboratory work. You can see that your patient gets as good service as in the large hospital. Whether you do all the work or not, the credit should come to the institution that has the patient and renders the patient that service.

DR. HENDERSON—

My hospital at Powell River is limited to sixteen beds, which probably will rank as the smallest hospital represented in British Columbia. The work there is what I might call "casual work." I have a good deal of trouble with the small hospital in cases wanting to go to the larger institutions

in the city. I handle a great many emergency cases and I limit the work to that kind of service.

Dr. Wrinch made reference to the fact that a small hospital doctor is apt to be disregarded. As just an example of this, I had a personal experience lately. I presented a bill to an individual for payment (it happened to be a lady) and she asked me for an itemized statement of the bill. The visits were made at a stated price. She said, "Oh my, I can go to Vancouver and have a good doctor attend me for that."

MR. GRIMMETT—

I was particularly interested in Dr. Wrinch's paper and there is one matter that applies particularly to our hospital at Merritt; that is—the erection of a nurses' home. At the present time the nurses have no home. They have their rooms in the top story of the building, which is very unsuitable for that purpose. The dining-room is small as also the sitting-room, and there is no means whatever of having any social intercourse with their friends. Some months ago I took up very strongly the question of building a home. I am very pleased to say we have the money to do so, but we met with every possible opposition from some of the members of the board. The chief argument advanced is that at the present time material is so dear, labor is so high that to proceed now would be a mistake. I take issue to such a stand, and am of the opinion that it will be some years before there will be any marked reduction in the price of either material or labor; but what concerns me particularly is this—that if I can take this paper of Dr. Wrinch's home with me and read this portion of it to the board, I am sure it will be a great assistance in that regard. I feel that if there is any part of the staff of the hospital that should have a home it is our nurses and they deserve it, and I am entirely out of sympathy with any opposition to or any scheme which has not that in view, and so far as it is in my power, I intend to prosecute this plan. If I am defeated, however, I will have to take the defeat with good grace, but if I have Dr. Wrinch's paper it would be very useful to me in that regard.

I was very interested in the Indian question which Dr. Wrinch mentioned, and this is a very important one with us at Merritt, but as it will be my privilege tomorrow to discuss financial problems of hospitals, in which this question arises, I will defer any remarks I have to make on that part of the paper.

MR. MORDY—

I would like to suggest that all the papers be printed so that we will not lose any part of any paper.

DR. MacEACHERN—

All the papers will be printed in a report after the Convention is over, if we can find the wherewithal to finance it.

MR. COOK—

I wish to commend this very admirable paper which is not only brief but most thoroughly practical and interesting.

MAYOR GRAY—

I will now call upon Miss J. F. McKenzie, R.N., Lady Superintendent of the Provincial Jubilee Hospital, Victoria, for her paper, "Small Economies in Hospitals."

SMALL ECONOMIES IN HOSPITALS.

By Miss J. F. MacKenzie, R.N., Lady Superintendent of the Provincial Jubilee Hospital, Victoria, B. C.

Chairman, Ladies and Gentlemen:

For this paper, nothing very original or unusual can be anticipated. This rather may be regarded as a presentation of every day economies, born of personal and exhaustive attempts at making the most of ones budget.

The keynote is, economical administration lies in the point of view of the Superintendent and associates. Indifference in the attitude of the executive and heads of the departments is fatal.

A knowledge of prices and approximate amounts to be used, will cause heads of departments to be more vigilant in checking waste and impressing this upon subordinates.

The accounting system of a small hospital should be just as thorough, accurate and efficient as a large hospital, but the system installed should consist of simplicity in the form of records and reports, simplicity in the daily workout and applications of accruing data; and simplicity in methods of collating and segregating data.

No system of cost finding will prevent the wholesale waste of food stuff which will take place in every institutional kitchen where supervision by the steward or housekeeper is lax or ineffective. As an alternative to spending money accruing elaborate data, engage or appoint some person with good "horse sense" to look after the leaks and compel observance of the rules of discipline and thrift.

Stores—It is well to have a central store room, in charge of a well trained responsible person, sufficiently interested in the economy of the institution to check up daily requisitions, which have already been checked and signed by the Lady Superintendent. For instance, the person in charge knows there are 14 teaspoonfuls of tea in one ounce. Sugar has 24 teaspoonfuls in one-quarter pound.

She also knows the number of patients in each department. Daily requisitions and drugs should be on the table by 6.00 p.m., checked, signed and ready for their respective departments.

Drug Rooms—Empty prescription bottles washed, sorted and put back in stock. Pill boxes recovered by convalescent patients. All clean wrapping paper and twine may be saved to advantage. Replace stock supplies on each ward, viz., lysol, bi-chloride, boracic acid powder, etc., by stock solutions. Soap should be cut in convenient sizes, and allowed to dry for two (2) months, all small pieces utilized for enemas. All re-fill prescriptions must be re-ordered and signed by the physician on the case, filed away for three months, then use the opposite side of the prescription blanks for scratch pads. There are usually sufficient number of requisition blanks, which may be cut into convenient sizes for scratch pads. The utilizing of all lines on the clinical records is a great economy at the end of the year.

Operating Room—Gauze, swabs, and large gauzes are all reclaimed, washed and resterilized. If anyone is interested in knowing our method of washing reclaimed gauze, I will be glad to tell them. We have replaced all gauze and cotton pads in the wards, as well as in the operating room, by Turkish towelling cut in sizes 12 in. x 14 in., folding it once and stitching the folded edge. Catgut left over after operations, is boiled and put in a solution of glycerine, alcohol and bi-chloride, then used for minor operations.

Gloves with holes are patched and used for minor operations. When too old to be of further use, the fingers in good condition are cleaned, powdered, rolled and used for finger cots. The balance of the glove is used for compress rubber.

Kitchen—Whenever possible, drippings are used in place of cooking butter, or its equivalent, crisco, etc. Browned drippings as a result of frying fish, etc., is used for soap grease; our chef makes all his own soap used in the kitchen.

Rinds of bacon and ham are used for flavoring vegetables. All bread crusts from the ends of the loaves are toasted and ground, used for gravy and breading chops in place of cracker meal. Some hospitals in San Francisco, since the commencement of the war, are making bread ⅓ white flour, ⅓ bran, ⅓ crumbs. The water used for cooking vegetables is poured into the stock pot for their mineral salts.

Jelly made from fruit peelings and cores, the rind being used as flavoring. Melon rind pickled, seasoned and used as a relish. Our chef last year put up 10,000 pounds of fruit, never using more than 3½ ozs. of sugar to the pound, we never lost one jar due to fermentation.

A daily requisition from all wards containing the names of the patients, the diet, etc., is sent to the chef. He cuts all roasts and fowls, etc.,

consequently there is very little chance for waste. We give individual service in the nurses dining room.

One of the duties of the junior nurse, assisting in serving the meals in the wards, is to give individual service of sugar and bread.

The daily inspection of the garbage can is undoubtedly one of the best methods to employ in the prevention of waste.

I could enumerate many more small economies, but time will not permit, and my paper would become tiresome.

The staff of the hospital can be of great service in conserving the food supply of the hospital.

The nurses have more power to prevent waste of food in hospitals than the administration or medical staff.

The simplification of the diet system of a hospital not only favors economy in the purchase of food, but efficiency in service.

Food supplies must be purchased and the diets prescribed by the physician for patients, without more regard for the cost, than to buy at the lowest prices demanded for commodities of standard grade. Medical and surgical supplies of absolute purity and guaranteed quality must be purchased and dispensed alike to pay patients, paying high prices for private treatment, and to free patients calling at the dispensary.

DISCUSSION.

MRS. C. J. WILKES—

I must commend Miss McKenzie on her excellent paper. Speaking as a lay person, I may say there are many economies which we can effect in hospitals. Today I want to take up the question of reclaiming used gauze.

The importance of reclaiming used gauze, owing to the high cost of this material, which is now required for war purposes, has induced the members of the St. Paul's Hospital Auxiliary to devote a considerable part of their time to this work, in conjunction with other economies in the hospital. The methods of reclaiming the gauze are the same as those used in many other large hospitals such as the Pennsylvania Hospital of Philadelphia, the New York Hospital and others, and is accomplished as follows:

> The soiled dressings are collected in low-priced 20-lb. automatic paper bags, held in position by home made frames. Immediately after the surgical dressings are completed the bags are taken to the laundry, where the dressings are transferred to net bags, and placed in cold water in the soaking tank. This water is changed three or four times during the day. The following morning the net bags containing the gauze are transferred to the sterilizing washer and washed by the following process:
>
> First, two cold water washes without soap or alkali for ten minutes each; 2, wash fifty-five minutes in hot soap and water solution; 3, rinse twice in hot water for ten minutes each; 4, after a small amount of hot water is placed in the washer, run the cylinder for forty-five minutes under pressure of twelve pounds of steam. After the dressings are put through the extractor, they are taken, while moist, to the gauze room, where they are stretched, trimmed and prepared for final sterilization by the members of the auxiliary under expert supervision. The trimmings and worn out pieces of gauze are saved and used as waste in the engine room as required.

While it is generally believed that the process through the washing machine, especially where steam is turned into the washer, sterilizes the gauze completely and makes it safe for re-use, the fact that it is sterilized in the regular way before being re-used, insures the absolute safety of its application in this way. No case of infection has ever been known as a result of using reclaimed gauze.

The saving of money depends, of course, on the amount of gauze that is used, but it averages from $15.00 to $20.00 per basket of gauze. This proportionate saving is at least twenty-five per cent. and often as high as thirty-three and a third per cent.

Other economies are the collection of medicine bottles of every description, which are cleaned and sterilized and used again, thereby saving the management a considerable sum of money each year. Small boxes of all kinds, and old linen, empty flour sacks, etc., are also collected and used in many ways.

In these strenuous times there is no better work for women than helping in any way they can the work of the hospital, as there is much to be done and much to be saved.

MAYOR GRAY—

There is a great deal to be said on this subject and I trust that the discussions later will have some bearing on this.

I will now call upon Mr. James A. Benzie, for his paper on "Hospital Architecture."

"HOSPITAL ARCHITECTURE."

By Mr. James A. Benzie, Architect, Vancouver, B. C.

When invited to read a paper to you as delegates from British Columbia, on the subject of Hospital Architecture, my first intention was to prepare as a line of thought, drawings of a hypothetical building, or what might be called a model hospital for a given number of beds.

While such a line of illustrated thought might lead to good results, on reflection I decided that a talk on general lines would be more advantageous to all interested.

In writing these notes I find myself addressing you in the capacity of Medical Superintendents, and for the purpose of this reading I have decided to let it go at that, as being more helpful in concentrating what I have to say to you .

The subject of hospital architecture is really a very comprehensive one, calling as it does for a more than general knowledge of a wide range of subjects, from architectural composition, building construction and engineering, to medical requirements and hospital administration, not to speak of electrical, steam, mechanical and sanitary engineering. As no man can possibly attain to master all such professions, the question naturally forms in one's mind, "how then can complete success be attained in hospital architecture?" And in looking back over the past, all my experience goes to bear out that such a question can only be answered by a compromise, namely, close co-operation of the medical and the architectural professions.

I could quote many instances from my own personal experience where some building or another, or some detail or another has been an unqualified success, or the reverse, altogether in direct ratio to the initial efforts put forward by the architect on the one hand, and the medical superintendent on the other hand, to successfully visualize in its early conception just what function would be required of such building or item in question.

Naturally, there is a great difference of opinion as to the correct management of hospitals, and what may be considered efficiency by one, may not be so considered by another. This, I think, is conceded by all. So it behooves the architect, no matter how well he may be versed in hospital requirements, to approach with an open mind the medical superintendent with a view to gleaning just what his views are as regards requirements for any new project or proposal, and so in like manner the medical superintendent, however well he may be versed in modern hospital construction generally, should in turn lean on the architect for suggestions as to just what composition and arrangement of modern materials would best meet the requirements of the case in point.

Therefore, I say again, in any object, or project, in the realm of hospital architecture, the medical superintendent and the architect should at its early conception get together, discuss and formulate—not what size a given item should be, or what construction, but rather what are the requirements—and what are the functions, that such or so many items required will be called upon to perform, and information so gathered by con-

sultations should be amplified by consultations with heads of departments; then, and then only, should an architect prepare preliminary sketches, and once these are prepared the time is ripe to again get together, not primarily for the approval of the sketch plans, but rather for criticism. Any right-thinking architect welcomes, and in fact is anxious, for an intelligent criticism of his early sketches, for many reasons, among which the natural reason that the sketches have to be developed in any case, and had better be revised before, than after considerable time and expense have been expended; and another reason why the architect is anxious for criticism, and, in my opinion a very important one, is that the more a medical superintendent or member of building committee shall criticize the sketches, the more shall he glean, and be able to size up and picturize in his own mind, the intention of the sketches submitted, and for that very reason will his criticism be all the more intelligent and helpful to the architect.

With the foregoing general remarks I might now try to outline in sequence the line of procedure usually followed in the erection of a modern hospital building, be it large or small:

1. Choosing the site—A site is unfortunately more often than not a child of circumstance, maybe it has been bequeathed or gifted, sometimes may be cast up, shall I say, by a political tide; in fact, more often than not a site is not all that it should be, through no fault of the management or selecting committee. A hospital site should be carefully selected; selected with the same or even greater care than one might select a homesite. An unsuitable site should rather be discarded, even at some financial sacrifice, as a bad site will always be a negative force in the efficiency and success of any institution.

The ideal site to my mind, should fulfil the following natural requirements Firstly—natural drainage, sunny aspect, bracing airy elevation, while for choice sheltered from cold winds; and secondly, quietness, a restful vista, and generally one best suited to uplift the spirit of the patient. Naturally, hospitals must be close to their activities, and so in and around large communities, great judgment has to be exercised in the choosing of a site to meet the natural requirements, and at the same time avoid the natural disadvantages, such as noise from traffic or railroads, smoke and dirt from factories, unsightly outlook and such like. This raises the question for a city hospital of distance from the centre of the city in which respect local conditions must always be your guide, and given full consideration.

Naturally, a city requires an emergency hospital close in, whereas an institution catering to a well-to-do class of paying patient may be further afield, so that where a general hospital is required, judgment must be used as to what might be the happy medium from all points of view in the selection of the site.

2. Block Planning—The site having been definitely decided upon as good, the next step is the general massing or block plan. This should be decided on broad lines, that is, bearing in mind possible future extension and development, and to so arrange the present part or unit, in such a way that it may form a part of an ultimate scheme of development and that with a minimum of structural alteration.

Naturally, the main consideration on the general disposition of the buildings should first and last be given to sunlight, which, as a destroyer of micro-organism you know more about than I can tell you. The general block plan for a medium or large-sized hospital can naturally be laid out in a variety of designs, but where space and money are not the determining factors, possibly the best general arrangement is a series of pavilion buildings each isolated but connected by a system of covered ways for the distribution of supplies and administration. These covered ways may be partially or wholly closed in, while under the floor of such a subway may be constructed for piping, etc., in a very economical manner.

Such systems and layouts are expensive, both on capital account and administrative cost, and as it is not my intention in this paper to deal with the large hospital in particular, I shall not go any further into the question.
tion.

Next in order of economy for general block planning, I would mention what is known as a semi-block system, that is, a series of semi-isolated pavilions, all connecting with a main corridor for medium-sized hospitals, or connecting direct with an administration building in the case of smaller hospitals. Such a system is well suited to cities where the cost of land is usually a consideration. Such semi-block system, however, is more or less adaptable to hospitals of all sizes, and one which I would recommend for any hospital over thirty beds, for the reason that just as American designers are going more and more for semi-private wards of two, three or four beds, in lieu of the old general ward, with the object of isolation and classification of patients, for the same reason I incline to the system of more units in lieu of this old style of one large block. Such semi-block designs may be constructed for two or more units and at the same time allowing for unlimited addition.

3. Designing the Unit—The requirements of each unit will naturally vary according to the size of the hospital, but a typical unit should contain a general ward or wards, private ward or wards, toilet and baths for patients and staff, diet kitchen, utility or sink room, office for nurse, and cabinets for linen, medicine and housekeeping utensils. Where units are duplicated or repeated, the cost naturally decreases proportionately, illustrative of which assertion I might mention the Military Annex Building at the Vancouver General Hospital; each unit is exactly one-eighth of the whole building and was so designed to accelerate construction and afford economy.

4. Size of Wards—The size of wards generally is regulated in most cities by regulations providing for the minimum area and cubic feet of air space per patient, as 80 sq. ft. and 800 cu. ft. respectively. Other useful figures quoted by authorities are 8 ft. from centre to centre of beds for single wards and in the case of double wards, also 8 ft. from centre to centre and 8 ft. between the row of beds, which after allowing 6½ feet for each bed and the head of the bed 18 inches off the wall, gives a total width of ward, 24 ft. Such dimensions are, I maintain, too liberal and extravagant.

5. Administration Unit—In smaller hospitals the administrative unit would naturally provide for admitting and discharging, and examining offices for superintendent and staff, all on the ground floor, while the kitchen service, staff, dining rooms, etc., are oftentimes placed in the basement, but in my opinion, are better in a separate unit and above ground. The upper floor of an administrative unit is the logical place for operating room suites, dressing and sterilizing departments. Naturally, in a cottage hospital, all these requirements have to be condensed, both as to number and size.

6. Construction—Regarding construction generally, I will exhibit for your information a few scale drawings, showing some modern forms and details of construction and finish all on the latest lines of modern hospital construction, all of which are along the lines of profiles or forms so designed as to give a minimum chance for germs and a maximum chance for the house cleaners.

7. Cost Data—As to cost data. I know you are all well aware that prices at the moment are all more or less abnormal, but in my opinion, high prices are likely to prevail for some years after the war.

Architects and others accustomed to estimating the cost of buildings have adopted the unit prices per cubic foot of building as a basis of comparative costs based on past examples, but these have to be applied in the full light of experience, knowledge of local conditions, and with the judgment of one knowing the state of the material and labor markets. With this word of warning I might quote you the following approximate costs as a guide to cost of construction in British Columbia:

For small hospitals of frame construction, plain detail, lath and plastered interior; shingle exterior.....20c to 25c per cu. ft.

For semi-fire proof buildings, that is brick exterior, but mill construction interior, well finished.....30c to 35c per cu. ft.

For Class A. constructions, fireproof building; well, but not elaborately finished 45c to 50c per cu. ft.

Costs in pre-war days would be reduced from 25 per cent. to 50 per cent. less than the above figures, such trades as plumbing and heating being largely responsible for the present high costs. Plumbing and heating in normal times should run each about 2½ per cent. to 3 per cent. of the total cost of the building, but today they run very much above that. I have had cases lately where plumbing and heating combined ran to 30 per cent. of th whole building, but this was in the case where the building was of the cheaper class, whereas the plumbing and heating were of good standard.

Cost of equipment may be computed at approximately 25 per cent. of the cost of the building.

The cost of hospital buildings fully equipped may be calculated in round figures as from $1,000.00 to $1,500.00 per patient for the less expensive construction, and from $1,500.00 to $2,500.00 for the better class of fireproof construction.

Before concluding, I might say I have tried to deal with the subject from your point of view, that is, from the medical viewpoint, more than from a strictly architectural one. Not that Art should have no place in hospital architecture—far from it, for as I have said in dealing with the choosing of a site, that which is beautiful and restful is all important in the upbuilding of the patient; therefore let your hospital building be not only restful and beautiful in their spirit of rendering, but inviting and dignified in their massing and composition, and the small outlay thereby caused will be amply justified in the years to follow.

DISCUSSION.

DR. MacEACHERN—

If the architect desires to get a good institution and a good result he must consult not only the superintendent but also the heads of the various departments who have to work therein, and who through their actual years of experience can give good suggestions. He must confer with the superintendent of nurses, supervisors of the different departments, the dietitian and other officials, and take into consultation various members of the Board of Directors.

The infectious block plans shown by Mr. Benzie were intended more to demonstrate to you a practical observation block which all hospitals should have. It is needless to mention the advantage of an observation section for any hospital, where cases with doubtful diagnoses and possibly of an infectious nature can be temporarily detained.

MAYOR GRAY—

The next on the programme is a paper by Mr. R. B. Leders, Purchasing Agent for the Vancouver General Hospital, on "Standardization of Hospital Equipment and Supplies."

"STANDARDIZATION OF HOSPITAL EUIPMENT AND SUPPLIES."

By R. B. Leders,

Purchasing Agent for the Vancouver General Hospital.

Many points of material interest could be dwelt upon to great advantage on an occasion such as this. Although only a limited time may be spent in considering this question of standardizing equipment and supplies, still here we may look closely into the most essential points as we proceed.

It has been thought it would be very beneficial on the part of hospital superintendents and boards of management to consider carefully and seriously the advisability of establishing a Central Bureau of Purchase and Supply in the most convenient centre, there being, I understand, some one hundred hospitals throughout this Province (large and small). If an arrangement such as this were made, supplies of all kinds could be purchased to great advantage—more especially if discounts could be taken, e.g.: on

dry goods, a cash discount of 4 per cent. could be obtained; groceries, 2 per cent.; surgical instruments, 2 per cent., and in some cases 5 per cent.

CENTRAL BUREAU.

I have read in the publication, "The Modern Hospital, July, 1915 issue, of such an arrangement being in force in the State of Maryland, U. S. A. I quote an extract from same:—

"An excellent feature of the methods of purchase adopted by the co-operative purchasing committee of the State of Maryland consists in the fact that the superintendents of the various institutions form the purchasing committee and are held responsible by their respective boards for the careful and economical purchasing of supplies. Supplies are purchased quarterly, with the exception of coal, which is purchased during the month of April for the ensuing year.

"The following schedule has been arranged as being the most convenient way for grouping the supplies for quarterly purchasing:

"For the quarters beginning June, September, December, March—groceries, laundry supplies, paints and oils, rubber goods, curled hair, tobacco, cigars and pipes.

"For the quarters beginning July, October, January, April—dry goods, house furnishings, drugs and chemicals, tin shop supplies, engineers' supplies, broom shop supplies, furniture.

"For the quarters beginning August, November, February, May—notions, blacksmiths' supplies, hardware and carpenters' supplies, clothing, boots and shoes, leather and shoe findings.

"In November Christmas supplies also are purchased.

"Requisitions for articles included in any of the above classifications required for the quarter are sent to the office of the purchasing committee on the fifth of each month. Upon the receipt of these requisitions from each institution, a total sheet is prepared, on which are entered all the different articles (by specification numbers) for convenience and accuracy, the amount required by each hospital and the total of each item estimated. From this total sheet there is then prepared on Form 3 a request to bidders containing the items upon which the firms are to bid, giving the specification number and the name of the article in brackets, but without a full description, and the total quantity wanted, with the unit to be used. The name of the institution does not appear on this sheet.

"For the purpose of illustration, a few items of groceries may be considered. Printed specification sheets have been prepared and placed in the hands of the bidders, which describe fully each article, in order that the bidder may know exactly what he is to bid on. Each article is given a specification number. For instance, under Groceries, No. 1a refers to 'Sugar (fine granulated)'; No. 2a, 'Coffee (Bourbon Santos),' etc.

"Each institution is furnished from this office with a full set of specification sheets covering every classification, and is always required to order articles by specification numbers, which greatly expedites matters and insures uniformity. Each institution also has a copy of the schedule governing the purchase of supplies; and each month, upon a given date, it must send to the co-operative purchasing committee a list of the articles required as supplies for the next three months. The list of articles under the different classifications is very large, and is intended to cover every supply that has been used or will be required in the hospitals. If, however, an article is wanted by the hospital which does not appear on the specification sheets, such articles may be described fully on the requisition blank, in a column for the purpose, the specification number being left blank, for the specification number to be supplied in the office and added to the specifications."

Items of most vital importance as follows:—

HOSPITAL GAUZE.

If a standard quality of, say, 21x12 threads were decided upon by a committee of supervision, the head of the Bureau could in all probability get in direct communication with the manufacturers and arrange for one plant to supply the total requirements and make a direct shipment to the various hospitals at intervals to be arranged. This would also apply to bandage rolls, cotton batting, absorbent cotton, sheet wadding, sheeting, sheets, pillow-slips, quilts, blankets, patients' gowns, convalescent suits, and many other articles, too numerous to give in detail just now.

WARD STANDARD.

Here is a supply standard for a ward of forty beds worked out, showing how many sheets, blankets, etc., down to kitchen equipment, which I would like those interested to look at. It is well known that efficient work cannot be done unless the nurses of a ward are supplied with the necessary articles and sufficient of them. There should be a ward standard.

STANDARD WARD EQUIPMENT FOR FORTY BEDS.

Linen.

Draw Sheets	80	Towels, Tea	20
Sheets	160	" Roller	10
Spreads	80	Nightshirts	80
Pillow Cases	160	Tray Covers	80
Blankets, White	120	Napkins	80
" Grey	6	Toilet Bags	40
Towels, Bath	80	H. W. B. Covers	30
" Face	160	B. P. Covers	40
" Doctors	80	Bath Mats	4
" Glass	20	Washcloths	80

Rubberware.

Rectal Tubes	6	Kelly Pad	1
Catheters	6	Hot Water Bottles	18
Rubber Aprons	2	Ice Caps	18
" Sheets (large)	40	Lavage Tubes	2
" " (small)	12	Biers Bandage	2
" Pillow Cases	6		

Enamelware.

Pitchers (large)	6	Kidney Basins	18
" (small)	6	Instrument Pans	2
Trays	12	Solution Basins	12
Irrigating Cans	4	Bed Pans	18
Wash Basins	12	Douche Pans	2
Foot Tubs	4	Urinals	16

Glassware.

Catheters	10	Glass Graduates, 250 cc	2
Douche Nossels	10	Minim Glasses	20
Glass Syringes	2	Medicine Glasses	20
" Jars	2	Alcohol Lamp	1
Thermometers, Bath	2	Connecting Tips	10
" Clinical, Mouth	10	Irrigating Tips	10
" " Rectal	2	Medicine Droppers	4
Glass Graduates, 500 cc	3	Atomizers	3

Instruments, Etc.

Scissors, Suture	10	Razors	3
" Bandage	2	Hypodermics	3
Artery Forceps	4	Ear Speculum	2
Tissue "	10	Tape Measure	2
Probes	10	Drop Lights	10
Mouth Gags	2	Stethescope	2
Head Mirrors	2	Aspirating Sets	2
Throat Mirrors	2	Tycos B. P. Sets	2
Scalpel	2		

Furniture.

Beds	40	Screens	16
Tables, Enamel	40	Irrigating Poles	2
Chairs	40	Mattresses	40
Wheel Chairs	3	Pillows	80
Wooden Tables	3		

Cleaning Gear.

Brooms, Hair	3	Brushes, Sink	2
" Corn	2	" Hopper	3
" Whisk	4	" Urinal	2
Brushes, Radiator	2	O-Cedar Mops	2
" Long Handle Wall	2	Mop Pails	3
" Dust	2	" Handles	2
" Hair	2	Garbage Tins	3
" Scrubbing	2	Dust Pans	3
" Stove	2	Step Ladders	2

Dishes and Silverware.

Cups	40	Salts	40
Saucers	40	Peppers	40
Large Plates	40	Knives	40
Bread and Butter Plates	40	Forks	40
Sauce Dishes	40	Teaspoons	40
Soup Bowls	40	Dessertspoons	40
Drinking Cups	40	Pitchers	10

Kitchen Utensils.

Granite Pitchers	3	Frying Pan, small	2
Milk Pails	2	Nutmeg Graters	2
Soup Ladles	2	Corkscrews	2
Carving Forks	2	Ice Pick	2
" Knives	2	" Mallet	2
Bread Knives	2	Drinking Tubes	10
Can Openers	2	Metal Trays	16
Egg Beaters	2	Wooden Trays	40
Lemon Squeezers	2	Granite Spoons, large	2
Strainers, large	3	Egg Lifter	2
" small	3	Tea Kettle	2
Double Boiler	2	Potato Masher	2
Frying Pan, large	2		

Serving Kitchen.

Gas Range	1	Garbage Tins	2
Steam Table	1	Serving Table	2
Tray Rack	1	Dish Cupboard	1
Refrigerator	1	Food Carrier	1

Nurses' Office.

Desk	1	Small Tables	2
Desk Chair	1	Medicine Cupboard	1
Office Chairs	2		

Utility Room.

Ward Sterilizer	1	Dressing Table	1
Dressing Carriages	2		

Doctors' Room.

Desk	1	Examining Table	1
Desk Chair	1	Office Chairs	2

Ward Dressings Used.

Large	Perineal Pads (12 in roll)
Medium	Lint
Small	Double T. Binders
Four Gauze Pads (four in a packet)	Many Tailed Binders
Cotton Balls	Straight Abdominal Binders
Sponges	Gloves
Rolls	Gauze Bandages
White Packing, ½", 1", 2", 4"	Cotton Bandages
Iodoform Packing, ½", 1", 2", 4"	Woollen Bandages
Mastoid Packing (Iodoform), ¼"	

Miscellaneous.

Mouth Wash Cups	20	Rulers	2
Mortuary Basket	1	Ink Wells	2
Dressing Baskets	2	Brushes	2
Vases	20	Combs	2
Waste Baskets	2	Bed-rollers, Sets	2
Pen Holders	10	Shock Blocks, Sets	2

A ward is stocked (as mentioned before) from sheets to knives and forks. An inventory book is provided, and stock taken and checked each month; on a given date, breakages and worn-out articles are replaced. Here I might mention that part of the nurses' training should be "Economics." Many of these breakages are due to some careless person, who, at the time, does not think whether the article can be replaced or not. It is then up to the steward or buyer to spend valuable time hunting, sometimes in vain, to secure something that is now off the market, or provide a substitute. This latter condition would, of course, not exist if all articles were standardized.

The following is a linen standard:—

LINEN.

Drawsheets are made from 8/4 (meaning 36 inches wide) unbleached twill cloth.
Sheets, from 8/4 best plain bleached, heavy quality.
Spreads—Dimity Searsucker, 82"x90".
Pillow Cases—Heavy Indian Head.
Blankets, White—Wool, 6 lbs., 56"x76".
" **Grey**—Wool, 7 lbs., 60"x80".
Towels, Bath—No. 60, 23"x45", Plain (no fringe).
" **Face**—18"x36", Cotton Huck.
" **Doctors'**—15"x27", Union unbleached.
" **Glass**—18"x36", Linen.
" **Tea**—18"x36", Linen.
" **Roller**—18" x 2¼ yds., Scotch Linen Crash.
Nightshirts—Middy Twill.
Tray Covers—20"x23", Indian Head.
Napkins—12"x12", remnants of above.
Toilet Bags—A. C. B. Ticking.
Clothes Bags—12 oz. Duck.
H. W. B. Covers—A. C. B. Ticking.
B. P. Covers—A. C. B. Ticking.
Wash Cloths—Turkish Toweling.

Serving Kitchen.

We are in the enviable position of having a Superintendent of Works, who is an expert on woodwork, having been a carpenter and afterwards superintendent of a woodworking plant. He therefore is in a position to supervise the putting together of a great deal of our ward furnishings. For instance, patients trays, serving tables, dish, utility and medicine cupboards, tray racks, small tables, bed screens, splints, nurses' desks, samples of which are on exhibition and have been adopted as our standard, are all assembled in our own work shop. A considerable saving is made by cutting out the manufacturer's profit.

Ward Food Carrier.

About a year ago a change in the system of serving the patients was adopted, which proved to be a saving. A platform wagon was provided each ward, on a plan suggested by our then Lady Superintendent, which has provision for four containers for soup, meat and two vegetables.

Formerly the trays were made up in the ward kitchen, each plate was fixed up in the same manner, a like quantity of meat or fish, potatoes and vegetables, whatever was provided according to the menu for the day. There was then considerable waste because patient A did not wish any meat, potatoes or other vegetables, as the case may be. This was then consigned to the garbage can. Not so now. This wagon is wheeled around from bed to bed, patient A is served with just what he cares for, probably a small portion of meat and no potato or vegetable.

Catgut.

Recently we had a great deal of trouble with the catgut provided. Considerable difficulty was experienced for some time in the preparation of the raw material which was on the market, the alcohol being of a very inferior quality, it was therefore decided to purchase what is known as "Perfection," prepared by the makers all ready for use, in glass tubes. This change proved very beneficial, both from the economic side as well as the satisfactory work. It is also wise to arrange a supply for a certain length of time, so that the supply house may protect themselves against any possible shortage, if an estimate of monthly or quarterly requirements were provided.

Food Stuffs.

Now to touch on the supply of food stuffs. Previous to this year the Vancouver General Hospital has made yearly contracts for supply of meat, fish, milk, ice, bread, but owing to conditions which exist today this arrangement could not be entered into, but as a general rule this is a wise procedure.

Groceries are bought monthly by tender, procedure as follows:

Requisition of requirements as Exhibit No. 2, is mailed to the wholesalers on or about the 26th of each month, being returned in tender form about two days later. Figures, quality and quantity are then checked and contract awarded.

I have chosen a few items for explanation, as the question might arise, "Why do you buy prunes of forty to fifty size? The reason for this is—the stone is much the same size and there is more meat, and cooks up to better advantage.

Sago and tapioca are specified by second grade, namely—Fancy, because of price, and quality is good enough for use in large quantities.

Canned Goods—Goods packed in British Columbia are specified whenever possible.

Coffee—Combination of Bourbon Santos, Guatamala and Bogota is used, the first named as a filler, second for acidity and body and the latter for the fine flavor and also adds to the body. This blend gives quality equal to price which I have set.

Tea—A blend of Ceylon and Java so as to keep within price and secure about two hundred cups per pound.

Stationery.

I have provided a complete file of forms in use at the Vancouver General Hospital, which are on exhibition.

A few words about the system of dealing out supplies of all kinds might be of interest.

Staple articles for ward use from the store are given out every morning at eleven o'clock.

Form No. 3 is filled in, in duplicate, by the head nurse each morning, first sent to the Lady Superintendent's office for checking and signature, passed on to the Dietitian, in order that she may make a list of special diets, if any, dictated by the doctor; the book is then sent to the store room. Each ward is provided with a large tray and containers. These are taken to the store room by the ward helper (not the orderly) and at the time as arranged, namely, eleven o'clock, this helper returns, checks the quantities with the clerk and then takes these supplies to his ward. On Friday he returns his tray again, in order that cleaning supplies may be given out.

Form No. 58 is used for extra supplies when needed, also for stationery which is given on Saturdays.

Form 3

WARD..... DATE..... 191.....

REQUIREMENTS			FULL	LIGHT	SOFT	FLUID
Bread, White - (loaves)						
" Brown- "						
" French "						
Butter - - lbs.		PRIVATE				
Tea - - "						
Coffee - - "		PUBLIC				
Cocoa - - "						
Biscuits - - "						
Graham Wafers - -						
Oranges - - - -						
Lemons - - - -						
Eggs - - - -						
Sugar, White- - -						
" Brown- - -						
Jam- - - . -						
Marmalade - - -						

Requested by .....
HEAD NURSE

Approved by.....
SUPT. OF NURSES

Checked by.....
HOUSEKEEPER

Filled by .....
STEWARD

Form 58

REQUISITION

.....191....

The following supplies are required for :

Ward.....

.....

Two Branches.

We have also our two branches, namely, Marpole Annex and the Infants' Department, to provision. As soon after the first of each month as convenient, a monthly supply of groceries, cleaning supplies are sent to each place, and daily trips are made by a small delivery car with the more perishable articles, such as meat, fish, butter, bread, etc.

Dishes.

To provide against the possibility of wards using dining-room dishes, a system of colors is carried out Public Wards are provided with what is known as Green band, heavy.

Private Wards—Blue band.
Isolation Wards—Plain White.
Doctors' and Nurses' Dining-rooms—Brown or Key Pattern.
Military Annex—White and Gold (Shamrock Pattern.)
Marked Dishes—White and Gold (Plain).

In conclusion, I regret that time is so limited for this big subject—and one I am sure you are all interested in. I hope this paper may arouse more interest and more serious consideration to this very important matter which confronts all hospitals, and that at present requires such attention as it involves many economic problems.

DISCUSSION.

DR. MacEACHERN—

A central purchasing bureau for the hospitals of British Columbia would be a distinct advantage to all, but something that we cannot expect to have for a while yet in so young an Association. However, if we had such a bureau, all supplies could be standardized and you could at all times get the proper kind at the best price, and such lines as the large dealers throughout the Province could keep. There would be a distinct economy in such an arrangement.

MAYOR GRAY—

The meeting will now resolve itself into round table conferences, which will be conducted by Miss McKenzie and Miss Sinclair.

ROUND TABLE CONFERENCES.

Conducted by Miss McKenzie and Miss Sinclair.

A B. C. Hospital Produce Day for the donation of fruits, produce and other food supplies, together with the collection and distribution of same on a pro rata basis.

MR. DEVINE—

This is a subject that I am deeply interested in and, I dare say, every person connected with hospital work. The suggestion is to have one day a year for the giving of produce to the hospital. In some cases possibly the patient who has not the means for paying his bill, for instance, might grow some little thing in his garden, giving to the hospital possibly say a bunch of onions, a few pounds of potatoes, some plums, or any kind of fruit, and increasing the amount as the case might be; in fact, the well-to-do farmers might give a ton of potatoes. In this way a large amount of produce can be donated.

The collection of these foods might be arranged for and brought to centres from which they could be distributed pro rata. In cases where such fruit was given in large quantities, arrangements could be made whereby the women helpers would come in and can the fruit that could not be used by eating right away, and so with many other things.

In this way we could give the general public a chance to give something other than money, which they may not have, and each hospital throughout the Province I feel sure would get enough of the stable commodity to last them the entire season.

I feel confident that the railroads and the different transportation companies, even to the automobiles, could be secured and used almost free of cost for this undertaking.

It appears to me that if a good live committee were formed at this Convention and means to develop this scheme were arrived at, that it could be put in force this autumn. We all who are connected with hospitals in one way or another know that vegetables and fruit enter more and more, especially under the food conservation, into our dietary and that of the hospital.

MAYOR GRAY—

There is a good deal in what Mr. Devine has said. The only thing I don't agree with is that the patient should pay his bill in trade. The hospital has power to collect from the municipality for the case. I think we should have a day or probably a week in which we would receive donations for the hospital; particularly in the Fraser Valley, as the amount of fruit that goes to waste each year throughout the Valley is something tremendous. I know of whole orchards where they don't attempt to pick the fruit at all.

MR. DEVINE—

It was only a matter from a gratuitous standpoint. We want the money, and the patients must know that they have had more than money can repay, and from that point they cannot give any more except a gift in kind.

MISS ANDREWS—

I do think that sometimes people do not appreciate all that is done for them in the hospital. Sometimes they are able to pay and sometimes they are not, and I think Mr. Devine is quite right. Possibly they may be able to pay in produce when they cannot pay all in money.

MR. MORDY—

I am quite in favor of the remarks and think a great deal can be done for the maintenance of the hospital by this hospital day once a year.

We are in the centre of a mining district where there is a small farming centre a few miles out, and during the past year we have had an experience in that regard. There was a campaign for raising funds for our hospital and a canvass made of the district. A number of the farmers were not supplied with ready cash but gave very generously of farm produce. I

do not think there would be any difficulty in getting a very substantial donation in this way and the scheme is very practical and sensible.

DR. WRINCH—

We can do very nicely with apples at Hazelton, but do not know whether the transportation companies would assist. I gather that the proposal is the collecting of all this produce into different centres from which distribution would be made to the different districts.

MR. GRAHAM—

In mining communities where there is little produce, the question of distribution would enter into this to a great degree. It seems to me it would be rather a difficult matter to distribute throughout the various places so that it could be done on a fair and reasonable basis. It looks more like a local proposition.

MR. MORDY—

I might say that it strikes me as rather a difficult matter to handle a large quantity of fruit and vegetables in such a way that they could be conserved for future use. If you have a donation day for produce you might get such a quantity of fruit and vegetables donated which, no doubt, in the case of Vancouver, could be utilized, but in the case of small hospitals would be impossible to utilize. This proposition might be handled by the Women's Auxiliary in many cases.

MISS AITCHESON—

I have been requested to mention that in Summerland we have an Egg Day. The people are requested to bring eggs to the hospital.

MRS. BROOM—

In Montreal we had a Pound Day and it was a very profitable one, indeed. We would accept a pound of butter, a pound of bacon or anything like that.

DR. MacEACHERN—

I suppose in Vancouver we would have to have a Fish Day. We have had considerable discussion on this now and I think it is a proposition which possibly could be referred by our Association to a committee to see if it could be worked out from a practical standpoint.

Increasing the public ward rate from $1.00 per day to $1.50 per day throughout the Province.

MISS McKENZIE—

I think the hospital rate should be raised from $1.00 to $1.50 per day. This cannot be done without special legislation, and I think our organization could appoint a committee to interview the Government on this point.

DR. WRINCH—

Where did the rate of $1.00 per day originate for public wards?

MISS McKENZIE—

This rate is fixed by the Government and is all you can charge. There was no co-operative action in this matter in approaching the Government last year during session. I know that the Vancouver General Hospital approached the Government with a view to getting an increased grant and we also approached them on certain matters, but in my opinion all hospitals should unite and take up this question. The question has not been raised as to whether or not we should unite to ask the Government for an increased grant. Last year the only increase made by the Provincial Government was increasing the rate for tuberculosis patients to $1.00 per day. This was an excellent move. I think we should have an increased per capita rate from the Government rather than permission to charge a greater rate to the public. Our public cannot stand a greater rate than we have charged. I think we are charging the public as much as we can, and I doubt if an increased ward rate will bring us in any more revenue, but if we can get the Government to pay a little more, it would be certain. I hope when this question comes up it will be entered into thoroughly.

All hospitals receiving Government aid are now required to take in Tubercular cases, incipient or advanced. Would it not be best to have compulsory segregation of all, or at least, advanced cases?

DR. ROGERS—

If a hospital is in a position to build a ward to segregate these cases, it should be done. If they are not in a position to do it, I suppose the Provincial Government could be called upon to help.

DR. MacEACHERN—

Every hospital receiving Government aid has to provide ten per cent. of its accommodation for tubercular cases. If you cannot afford to make this extra accommodation, I suppose then the Government should assist. However, apart from all this, tubercular cases should be segregated and very especially the advanced cases who are constantly disseminating bacteria.

What is the best and most economical way for a fifty-bed hospital to sterilize pillows and mattresses?

DR. WILKES—

In Nanaimo we recognize that the only efficient way to sterilize these was to get a sterilizer, which is rather an expensive outlay for a small hospital. We would like to hear discussion on the kind of sterilizers that are to be obtained and also discussion on how this problem has been solved in other small hospitals.

DR. MacEACHERN—

Every hospital with high pressure sterilizers and live steam can do this effectually. Therefore, in the smaller hospitals where such is not obtainable, more difficulty will be encountered. The only dependable way is by heat sterilization.

(This question will be taken up later.)

The affiliation of small hospitals with large ones for the purpose of giving a short course in the nursing of Infectious Diseases.

MISS FORSHAW—

Speaking from a graduate's point of view, I do not believe that there is any place in British Columbia that offers a thorough post-graduate course in infectious diseases. If there is any such place, I would like to know.

DR. MacEACHERN—

We do give post-graduate and affiliated courses in the Vancouver General Hospital. We have a great number of patients in the various infectious wards during the year, but we regret to say that our buildings are not modern and therefore we felt that we could not give as good accommodation and possibly as up-to-date experience in this line as we could in other lines, and we have accordingly not encouraged it.

Certain training schools throughout the Province are affiliated with us. Nurses come here after they have spent two years in their own hospital, and finish up their third year. They graduate, however, from their own hospital. Two or three hospitals have taken advantage of this privilege, Chemainus having sent us several nurses. We find this works out very well in many cases.

In infectious diseases, a course which we could give should be good, but the number of patients varies as low as one and two at times, up to a large number during epidemics.

In addition to our affiliation course we have the regular post-graduate work in every line. Personally, now that it has been brought up, I think possibly a post-graduate course could be arranged.

MISS McKENZIE—

In Victoria we have nothing to do with this department, as it is under the City Health Department. I understand Seattle can give a good course in infectious diseases. I do not know of any hospitals in British Columbia who are ready to give a post-graduate course in this work if the Vancouver General Hospital cannot.

MR. STEWART—

Has it ever occurred to you, Dr. MacEachern, to establish a school at the Vancouver General Hospital for nurses, like a normal school?

DR. MacEACHERN—

It has occurred to me that the University of British Columbia should establish a chair for nursing and that the hospitals throughout this entire Province could affiliate their training schools with the University and the University see that the hospitals were supplied with capable teachers in different places. In this way a uniform standard course could be given to all nurses in the various hospitals where they receive the practical experience necessary. When you analyze the ability and efficiency of different nurses from different schools, you cannot help but feel that there is something wrong, and there is need for more uniformity, standardization or centralization of training.

In Montreal I had charge of a hospital where we received nurses for maternity training from four or five different institutions. Here you saw quite a difference in their training, all other things being equal.

For efficiency, therefore, if we in British Columbia want to come to our own in short time on this question, we must get our training schools on a proper standardized basis as will be explained to you tomorrow, and we must get a uniformity of teaching, whether it be through the University or otherwise.

I am not satisfied with the way in which these questions are being taken up and discussed. It seems to me that you are not prepared to lead the discussion on the various questions, and I would like suggestions as to what is the best way of handling this, to be taken up at a later session.

Moved by Miss McKenzie, seconded by Miss Sinclair:

THAT Mr. Mordy, Mr. Stewart and Mrs. M. E. Johnston be a committee to take up the various questions, classify them and assign them to various members of the Convention to discuss on the following day.

Carried.

MAYOR GRAY—

This brings our programme for the afternoon to a close. We trust that you and all your friends will be back tonight to hear the four addresses which will be given and which are of great importance to this Province.

Meeting adjourned.

EVENING SESSION—Wednesday, June 26th, 1918.

DR. GATEWOOD—

I am going to request our good friend Mr. Grimmett to take the meeting tonight.

MR. GRIMMETT—

As the addresses tonight are all along similar lines, I would suggest that we hear them first and have the discussion after. (This was agreed to.)

I will now call on Dr. H. E. Young, Secretary of the Provincial Board of Health for British Columbia, for his paper, "The Hospital as a Community Service."

"THE HOSPITAL AS A COMMUNITY SERVICE."

By Dr. H. E. Young, Secretary Provincial Board of Health.

The object of this Convention might be called a great get-together affair of people interested in hospital management. I am a very firm believer in Conventions of this kind. A great many people in the country are imbued with the same idea of being a help to their fellow citizens in some measure

and as a result we have men and women who are willing to devote a portion of their time and to give their services freely towards the advancement of the common interests of the municipalities, and willingly serve as school trustees, municipal councillors, or on hospital boards. Very often their zeal and their willingness outruns their knowledge of the best way to obtain the results which they have vaguely formulated in their own minds. There is no one in their communities who has any greater knowledge of the subject with whom they can consult and as a result they grope along learning by experience but, unfortunately, the knowledge they are acquiring in this way is at the expense of real efficiency in the management of the institution with which they are connected. They have not the opportunity, very often, of meeting others engaged in similar work in other parts of the Province, much as they may desire to talk over the knotty points that arise, and I think that we are to be congratulated that those, in charge of this Convention, have given us the opportunity to meet and to discuss questions of mutual interest, to present our individual ideas, to listen to the presentation of those of others, and to meet, face to face, with those who are actuated by the same motives. The questions that present themselves to those who are connected with hospital work are complicated and varied. They cover a wide range of subjects and one has only to glance at our programme to appreciate the fact that the term "hospital" embraces many, and on the face of it, divergant interests, yet all interlocking and all aiming for the ultimate result we all desire, viz., a well equipped and efficiently managed hospital. This is an age of specialization and we find, especially in medicine, that as our knowledge increases that the term "medicine" means something made up of many branches, each in itself requiring special training and a life devotion in work to carrying it out. The results obtained in the work in each branch must be corelative with that of others and the knowledge gained weighed, compared and balanced with others in order that we can arrive at a definite conclusion in the understanding, management and treatment of disease.

The primary idea of a hospital was that it was a place to go when one was sick, a place to be dreaded, and people avoided it if possible. It was looked upon as a reflection upon the ability of people to look after their own sick when it was said that one of the family had gone to the hospital. With the great advances that are being made this idea is being eliminated from the lay mind and people are beginning to understand that the hospital has become a community centre, supervised and officered by persons skilled in the treatment of all forms of disease. So much so, that instead of being avoided we are willing to take the opportunity of going to the hospital when necessary, and the laity are progressing so far now as to demand that hospital accommodation shall be provided for each and every one of us. They are recognizing the fact that in the development of medical science the sociological side has become really the most important. They are realizing that by the development in medicine we are increasing our knowledge of how diseases are spread and are realizing more and more that the mode of our daily life and our environment has such a bearing on disease that they are demanding protection from the inroads of disease. They are demanding that the knowledge that we are learning in the laboratory and in the wards of the hospitals and by the investigations carried on by our boards of health, shall be given practical application in the protection of the health of the public. In other words, they are demanding prevention of disease.

Since the outbreak of the war in 1914, conditions in the nation have been such that we never dreamed of. Demands have been made upon our resources that has taught us that rich and prosperous as we are, we have not been able to meet the demand without economizing, and we have been taught by bitter experience that the slipshod, hand-to-mouth existence that we were leading is not such as lends itself to the preservation of what we had, nor did it show that we were equal to meet the enormous demands that have been made upon us. Fortunately, we are of a race that has in its history met emergencies and we are meeting them today conscious of our effort to win and with that as our first consideration we have also made up

our minds to do what stern necessity has taught us, that it shall be a lesson for the future and we will not be caught napping again, that our line shall be so ordered that conservation of resources will become one of the first of the nation's duties and conservation of resources means to us, more particularly connected with medical and hospital work, the conservation of the man power of the Empire. We have been taught the great value of co-operation as shown by the work done by the co-operation of our own armies with that of the Allies. This idea is bearing fruit and bringing forth co-operation in everything else, and we believe that for the future co-operation in our hospital work will be one of the outstanding results of the present war. It is said that in medicine the best service can only be obtained by millionaires or by the very poor in the cities. The millionaires get it by paying for the service of experts. The very poor get it gratis in the hospitals of our cities which are manned by these same specialists, but the great mass of the people are not able to avail themselves of these privileges. At the same time it is the great mass of the people who, through their taxes, are keeping up our institutions and are paying the cost, and it is beginning to dawn upon everyone that they are entitled to an equal service with their fellow citizens of any class. The idea has germinated that will result in an impetus in the movement towards establishing hospitals that will be at the service of everyone. Not a hospital in the old acceptation of the term as meaning a place that you would only go to when you were too sick to do anything else, but a hospital in the sense of the application of the services of an institution to which you could go for advice and service that would lead to the prevention of sickness, and not a place that you will wait until you are sick before you will go. It will not be an institution where the patient will come in for a cursory examination, given a bottle of medicine by an overworked doctor, and told to come back in a week. It will be an institution that will be the centre of the medical activities of the district; it will be an institution whose greatest benefit will be derived from the development of the sociological side; it will be an institution to which when a patient comes he will not only be given every consideration and advice, but officers connected with the institution will follow up that case to the home, will find what the environment of the patient is, what his family circumstances, what observance he is giving to the ordinary rules of health. He will be advised on these subjects, and the doctor also will be advised in order that he may take into account in his diagnosis all of the circumstances connected with the case. It may be said that this is an ideal picture. Ideals presented to the people in an attractive form stimulates them to an effort to bring about the realization of their views and to make practical and an every-day occurence of these ideals.

Co-operation is one of the first steps that is necessary. We must get away from the idea of local jealousies. We must get away from the idea that a small community must possess a hospital because some other hamlet, which is its rival some few miles distant, has already started one.

A few years ago when, during the boom and the period of railroad construction in the province, town planning was the favorite diversion of the real estate dealer, and the pretty picture he drew of his townsite invariably showed the proposed site of his hospital. This, with the sites for the schools and the town hall, being used as sugar for the bait in his lot-selling game. Many of these towns have not yet even got beyond the picture stage, but others progressed so far as to justify, in the opinion of the promoters, the beginning of the hospital. Local enthusiasm was aroused, money raised, and this, with financial assistance from the government, provided for the building. Unfortunately, the population fell and the prospects for the immediate future of an increase are, to say the least, not very rosy. But the hospital remains with no diminuation of the fixed charges for maintenance and with recurring annual deficiencies in the revenue. I am not criticizing the hospitals, or the present management of the smaller institutions. The fact that they have been able to continue at all, speaks volumes for the zeal and devotion of those who have voluntarily assumed the responsibility of carrying on the work. But, nevertheless, the present financial conditions of many of the smaller institutions is a cause of worry and anxiety to those in charge

and the prospects for the immediate future for any improvements are, to say the least, not very encouraging. We are, however, in this province, not alone as regards this condition of affairs. The western provinces have gone through the same experience. Our province is very large in extent. Our population is scattered. The depression following the collapse of the speculative period, coupled with the large drain on our population that has been made by the war, is bringing the condition home so forcibly in the provinces of the west that they have adopted a scheme for the solution which appears, in the case of Alberta and Saskatchewan, to be meeting the difficulties. They have recognized the fact that in the sparsely settled districts the maintenance of the smaller hospitals was impracticable. They recognized the absolute necessity of having hospital accommodation, and as a result they have passed an Act which makes provision whereby groups of municipalities and urban centres may co-operate in the organization and maintenance of hospitals to serve their people. It provides that two or more rural municipalities may co-operate with one or more urban centres in the establishment of a municipality hospital. The Act provides that each municipality concerned has the power to levy a rate, not exceeding two mills on the dollar, on all assessable property within its boundaries for hospital purposes. The managing boards are composed of representatives of the councils of the co-operated municipalities. It has struck me that it would be an excellent idea if the members of this convention were to take under consideration the adoption of something similar in British Columbia. They are getting back to the idea of co-operation. They are adopting the principle which, in the Education Departments of the different provinces, is being found to be of great advantage, that is, the centralization of school work by the establishing of graded schools at some central point, providing for transportation of pupils to that school, and doing away with small schools. In the establishing of the graded school the child has the benefit of the co-operation of a number of teachers, they can follow out their course from grade to grade; whereas in our isolated schools, there is a limit not only to how far they can go, but there is a limit to the best efforts of the teacher when the teacher has to teach all the subjects from the A B C's to Euclid. Now if it works so well in the schools, why cannot this same principle work out in our hospitals? I pointed out in the beginning of my remarks, that it has been said that in medicine only the best services can be obtained by the millionaires or by the very poor in the cities. By this is meant, that in the larger institutions the facilities provided for the treatment of the sick are available in a way that we can never hope to obtain in small institutions. but if two or three or more adjoining municipalities were to co-operate and found an hospital that would receive the financial assistance of the municipalities, we would be taking a step in the same direction that the school authorities have taken, and we would be able to get correspondingly good results. In these days of easy transportation with the increasingly large number of motors, with the establishment of good roads, what, a few years ago would have been a day or two days' journey may be done now in an hour or two, that now we may say a centrally located hospital is in direct and easy touch with the territory within a radius of fifty miles. It would mean, on the basis of the taxation adopted in Saskatchewan, a very low charge upon the municipality. It would have a financial grant from the government, and between the two would be a free hospital for the people. It would mean co-operation amongst the medical men, and it would mean that such an institution would become a community centre, not for the sick alone, but would be the hub from which would radiate the efforts and endeavours that are being put forth today in what we know as preventive medicine.

Sometimes a suggestion of this nature seems to be radical because at the first offering of the suggestion those whose interests are affected are most apt to object. I know, and I am speaking as a medical man, that it is very convenient for a doctor to have his hospital next door, especially when the population is a scattered one, because with a trained nurse in charge he feels much safer with his patient immediately under his supervision than if he has to make a visit every day, and probably have a trip of ten or twenty miles to do so. On second thought that same medical men would know that in a larger institution with a larger staff of trained nurses, with the advan-

tage of consultation with other medical men, with possibly laboratory facilities, that he's going to do far better work and get better results, and that his patient is going to be much better off than if the old condition were to be continued. As for the institution itself, the maintenance charges of two or three or half-a-dozen smaller institutions would be done away with, economies would be practised and training schools for nurses could be maintained that would be training schools in fact as well as in name.

In speaking of the training of nurses, the development of a community hospital, such as I have outlined, would result in a broader training for nurses, and a larger field for their work. It would mean the training of some of the nurses more along the lines of health-work and result in the development of a system of district nurses whose duty it would be not only to visit the country schools, but to give pre-natal instructions to expectant mothers, and to act as a link between the hospital centres and the people in the outlying districts. In other words, we would be carrying a gospel of health to the people. She would be able to personally advise in matters affecting the health of the home, and it is time for a body of workers, mainly concerned in health missionary work, among the people, to appear. They would be able to co-operate with the laity in initiating and furthering all movements that would tend to prevent disease. They would be foremost in the work for child welfare organizations, for propagandas against venereal diseases and tuberculosis, for all public health work and of other educative schemes. Many years ago Florence Nightingale said that there could be no health of a community without health of the individual. The fundamental means of success in health of people is by education, and while our health department and our health officials throughout the province are working along the lines of education, yet the great difficulty that they find is in reaching a sufficient number of the people. We publish bulletins and distribute them as widely as we can, but the great drawback of this method is the fact that these, as a rule, fall into the hands of those already interested and do not reach those who should know the facts that we are trying to convey.

Experience has taught us that it is only when an epidemic of some sort arises that the interest of the people is aroused. Talk of an epidemic of Smallpox will result in a great many people wishing to be vaccinated. You could frighten people with press reports of Infantile Paralysis, but you cannot rouse them to the danger that arises from epidemics of Measles or Whooping Cough. They do not recognize the fact that probably there are more deaths from Measles, or from the troubles that follow Measles, than from almost any other disease. The Provincial Board of Health is something that they hear about occasionally, but in which they are not interested. Its headquarters are far away from them and there is not that personal touch which is so essential in the work of health education. With our local hospitals as centres, with workers from these hospitals radiating throughout the districts, the personal touch is established and people begin to recognize that the health visitor is one who is not an officer of red tape, but a human being, well versed in the subject, and may meet them on common ground with heart-to-heart talks, explain to them the meaning of the "don'ts" and also explain to them the meaning of the "why" they should follow out certain lines of conduct in their personal habits and in their family life. The Board of Health can, and does, direct the medical examination of the school children. Defects are discovered and the parents are notified of the defects, which, if attended to at the time, means that the child will not be handicapped by physical defects in after life. When the notifications are sent home to the parents, while in many cases they are attended to, yet in many others the importance is not understood and attention to the matter is put off to a more convenient time. Whereas if the follow-up work were adopted, explanations given to the parents of what the results to the child would be of neglect, action would be taken, but it would be taken simply because the parents would understand. In other words, they would be interested in health matters.

We have made a start in this in the province in regard to tuberculosis. We have a splendid sanatorium, but it is crowded with advanced cases. The cases we want to reach are those in the incipiency stage that we can

cure. We are asking that these cases be reported. We are asking that the local hospitals set aside ten per cent. of their bed accommodation for tuberculosis cases, and we are appointing a medical man to go round the province, not with the idea of looking after the advanced cases in the hospitals, but to take the names and addresses of those who have been reported in the early stages of the disease and to follow them up and bring directly to them the knowledge of how to take care of themselves, and particularly the knowledge of how to guard against infecting others. This is our work at present, and we intend to enlarge it, but we must secure the co-operation of those interested in the work in the smaller centres, and we hope in time to develop this scheme whereby the hospital will become a community health centre of its district working in conjunction with the Provincial Board of Health as the administrative body, and we hope to secure the services of the laboratories of the University to do the necessary health work that would be required of a laboratory. The University laboratories could provide experts who would visit the districts and would give an opinion of water supplies, sewerage disposal, and questions of paramount importance from a health point of view in smaller districts where facilities for handling these things are not as great as in cities. They would be able to advise directly with municipal bodies who are installing water supplies, and to advise generally on questions of health as affecting the community. Lectures would be delivered on health matters either at the hospital or by someone connected with the hospital, at different points in the district.

My presentation of the subject may appear as a description of an ideal condition, especially so when one looks over the programme and notes the subjects which have been set for the different papers to be read before the convention. But I feel that I have outlined in a general way the natural growth of the hospital. We are coming to the days of state control of medical service in the country. Health insurance, old age pensions and the care of the sick are not subjects of probability, but are something that is being given effect to in other countries. Under our democratic form of government we will have to work the general application of these principles out gradually, but those who have given any attention to the subject recognize the fact that all governments will have a department, presided over by a Minister of Health; that medical attention of the people will be a function of the state, and that hospital accommodation, in the broad sense of the word, will be free and available to every citizen. Standardization in all branches will be brought about, and while your own immediate problems for the management and maintenance of your hospital are engrossing your attention, still those who are interested in these subjects and are giving them thought, recognize that the people are going to demand, and they are entitled to equality of service, no matter in what part of the country they live. The war is not over, nor can we even begin to count what effect the loss of our men is going to have upon our national life. When we begin to realize what a halt this loss is going to cause in our productive life as a nation, and when we begin to realize how even our national existence will be threatened, we are going to insist upon steps being taken to conserve our assets, and particularly the asset of human life. Our mortality tables, which are at present simply records of our incompetence, will be studied with a full knowledge of what they mean and with an appreciation of that knowledge will come an insistence by the people for different methods in the ordering of our lives. Not only will we insist that as far as humanly possible that the span of life shall be lengthened, but that during that span of life an individual shall stand for one with fully developed mental and physical powers, that shall be utilized to the best of their capacity for the advancement of the nation as a whole.

MR. GRIMMETT—

I will now call on Mr. J. J. Banfield for his paper on "The Duty of the State to the Individual."

"THE DUTY OF THE STATE TO THE INDIVIDUAL."

By Mr. J. J. Banfield, Director of The Vancouver General Hospital.

As a Director of The Vancouver General Hospital for several years, and noting the growth and also the change in public sentiment towards hospitals, I am convinced that these institutions require to be placed upon a different footing financially. Their usefulness and necessity are a proven part of the municipal and state life.

We live today in an organized community where the value of the individual to the state is recognized. While, however, with us, the individual does not exist for the state, there are acknowledged duties as between the one and the other, and my thought is that along certain lines especially interesting to us, the state might extend more liberally its support and activities in the preservation of public health and so enhance the value of the individual for the well-being of himself and the community; as his productive abilities in all branches of life are in direct ratio to the condition of his health. You cannot secure a 100% production with a 50% health. My connection with our own splendidly equipped hospital has given me both the pleasure and the privilege of discussing with business and professional men the relation that should exist between such institutions as our and the people; also the duty of the state to the individual and the institution. There has been a favorable change in public sentiment towards hospitals within the last twenty-five years. The demand for expensive equipment necessary to effectively carry on the work cannot depend for support on individual endowments and charity, but require to be financed by organizations who are in a position to raise the required money through taxation, thus reaching the individual members of the community. (Only in this way shall our full duty be realized by not only the individual but by the state.)

FUNCTIONS.

The functions of a hospital are: First, the care of the sick; second, educational; third, investigation and research.

FIRST.—Dealing with the first, the care of the sick, this calls for various departments, medicine, surgery, and research, all manned by experts and equipped with the most modern appliances so that they may be ready for any contingency that might arise during a medical or surgical investigation. The nurse is a trained woman and expert in departmental management, which with all other preparations are made in order that the individual shall be able to obtain the best possible medical and surgical advice and care if his welfare in time of sickness is to be considered. All of these advantages, advice and treatment, are within the reach of the wealthy, as they possess the money required to avail themselves of the best to be had. Then again, all the privileges, with the best treatment of the hospital, are placed at the disposal of the poor by the assistance of the state and the generosity of many philanthropic individuals. There is a worthy self-respecting class of people that come in between the two first mentioned, and my plea is for them. They are ignored or regarded indifferently. They represent the mass of taxpayers, and should receive a greater consideration from the state. In many instances the demands on this class of people are greater than their financial ability can bear, and consequently the medical requirements of themselves and their children are neglected, owing to the cost of medical and surgical treatment. To the bread winner there is a loss of time, and the children's future health is impaired, and both become a charge upon the state at a time when they should be most useful to it.

I maintain that all should have the inalienable right to a free diagnosis and should then have the option of receiving treatment in a state ward free of charge or accept other hospital accommodation for which they would be required to pay. Free diagnosis is the special point I desire to make here, and my contention is that it is prevention and would lessen not only the future work of the hospital, but other departments of the state life that have to be maintained at great cost.

As to free treatment, I will deal with this at a later period.

SECOND.—Regarding the second function, namely, the educational, patients admitted to hospitals cannot help but absorb a great deal of information during the periods of their treatment, and the general public, when they become visitors, carry away a respect for organization and system. But to those who go into these institutions to study and train themselves for lifework great opportunities are shown. They receive a degree of training that fits them for the care of the sick which is necessary for the public and themselves, while the medical and surgical practitioner come into a more practical exercise of his work than can be taken up in theory at the University.

THIRD.—Finally investigation, this branch is beginning to be appreciated and should be, in a state department, extended to medical science. It demands special trained workers who cannot be expected to make their departments pay and at the same time continue their research work. In the ordinary institution this branch is a financial burden.

I have merely referred to these ideas that I might lead up by logical deduction to the principal idea of my paper. The state being composed of individuals, it naturally follows that the welfare and condition of its component parts makes for success or failure as the parts are strong or weak. The cycle of life that begins with the birth of an infant does not end with the death of that body, but must be carried on through its life to that of another. The part the child plays as a member of the community will either be well done or badly done just to the extent that it is equipped. Our experience during the past few years with the Better Babies Contest has proved the value of a really free clinic or diagnosis of the little ones brought for examination; many a mother came not once but twice and three times, just to see how her little one fared physically. The actual benefits derived were made use of by them. Medical statistics show that 80% of the children that die within the first few months after birth die from preventable diseases.

We are making an effort to stop this loss of life. The United States people realize the importance of child life to such an extent that an aggressive campaign has been inaugurated under the Department of Labor and the Society for the Prevention of Infant Mortality to save 100,000 babies in the year 1918, having in view of making good their loss during the war. This is prevention. If we link up to the prevention that is now being made in our schools, the child life on the one side and the matured life on the other by the same system of diagnosis and treating, we shall have a great waste of human life. The state has assumed the care for the education of the children, and this work is being well done. The doctors and the nurses not only guard against epidemics, but see that the children are kept as far as possible in good health. A step further covers a large percentage of people who need and should have advice and treatment for ailments, not always the result of some inherent weakness or aggregation of circumstances or conditions. We are justly proud of our own country and boast of its wealth of resources, but to hold this wonderful country we must have a robust manhood and womanhood to people it. Given a healthy population with a proper understanding of themselves and their relations to each other and to the state, we need have no anxiety for the future. A decadent people is one which through neglect of body has been unable to keep up with the race for existence; whose mental strength cannot keep pace with that of others. Many who have, what seems to be to them a slight ailment, for lack of sufficient money, cannot receive the care they should have, and who transmit to their children a weakness that may result in an early death or may cause a miserable existence, which they in turn pass along to the next generation. Philip Brooks said many years ago: "It is the right of every child to be born healthy." Should there be established a state-supported clinic, with the privileges of treatment added such as I have briefly mentioned, I am firmly convinced the necessity for such elaborate institutions as now exist for the care of the diseased would be decreased very materially.

I advocate prevention in place of cure. From a financial point of view this is necessary. Should we continue in the present condition, numerous hospitals and mental institutions will be required to meet the demands of

the people, and consequently a drain on the public exchequer for the care of the individuals that might have been prevented by timely treatment during the early period of their lives. In my judgment prevention is the crux not only as applied to tubercular cases, but also to the majority of those commonly treated in our hospitals. If we switch our system, and starting with the child, carry it along through the school period, then on to manhood and womanhood, we shall produce a better race and one that will not call for the demands now made upon our hospital work. These institutions today are not only a financial burden upon the community in which they are located, but also upon the state. If we are to continue our present system in order to lessen the financial burden upon the institution, the state and the community will be required to pay the full cost of looking after the deserving poor. This the institutions can no longer do. The constant deficits in hospital work are tiring to the Directorate, who endeavor to maintain a state of efficiency that causes a financial burden that cannot be continued except with increased state assistance. We recognize fully the great financial demands made to maintain the work, but under the present system no other method can be adopted than that which is at work. Relief will be required from the state as people of means during a period such as we are in, are financially unable to assist in continuing the operations as at present.

The details of my suggestions herein outlined can be easily and profitably carried out, and I appeal to you that they are worthy of at least consideration on the part of people in authority.

MR. GRIMMETT—

I will now call on Dr. R. H. Mullin, Director of Laboratories, The Vancouver General Hospital, to give his paper on "The Public Health Problem of this Province."

"THE PUBLIC HEALTH PROBLEM IN BRITISH COLUMBIA."

By Dr. R. H. Mullin, Director of Laboratories, Vancouver General Hospital, and Director of Bacteriology for the University of British Columbia.

At the first glance it would not appear that a subject dealing essentially with community health would be of interest to a gathering consisting of those interested primarily in the various phases of the treatment and cure of individuals. However, in certain lines of public health activities, the hospitals are being recognized as a very essential factor, especially in the control of communicable diseases. Moreover, physicians are looked upon by the laity as being familiar with all of the phases of problems concerning health. It is therefore seemly that physicians and hospital administrators have an accurate knowledge concerning the principles which underlie the practises in the science of public health. The principles of public health do not vary with different communities. It is true in some communities, greater emphasis may be properly laid upon some branches than on others, but the principles are always the same. The public health movement is a conscious and co-operative effort on the part of all, or at least the majority, of the individuals of a community to promote as much as possible their own bodily comfort and well-being, to prevent as far as possible their own sickness, and to postpone as long as possible their own death. In this movement there are three prominent, essential factors. The effort must be conscious on the part of the community; it must be co-operative among all the individuals in the community; and it must be continuous. The goal of the movement is to increase community and national efficiency by increasing individual efficiency. It is therefore a true symbiosis where all are living together for their individual and combined welfare. The ability to live a continuous community life of this kind is one of the markings which distinguishes men from lower animals. Among the latter a continuous community life as such does not exist, since it is limited to a family life, lasting for the most part only until the young can originate a new family.

There is no such thing as complete independence. The world is composed of nations all more or less inter-dependent. The success and relative position of any nation is determined by the ability of that nation and its component people to successfully compete, individually and collectively, with other nations. The public health problem is to produce a nation that is adequately prepared from both a quantitative and qualitative standpoint for the continuous competition, national and international, which constitutes this world.

The practice of public health, while resembling the practice of medicine in some respects, differs from it sharply in others. For a clear conception of the former it might be well to sharply differentiate between it and the latter. Private health or private medicine is essentially individualistic and selfish. The parties concerned are interested primarily for their own particular good. As a general rule the relation which this may have to the community as a whole is seldom thought of. Public health, on the other hand, is essentially communistic and philanthropic. The interests of the community as a whole are predominant, compelling, in certain instances, the apparent interests of an individual to give way to and be superceded by those of the common welfare. In private medicine the cure of the disease is a most essential factor; prevention occupying a very secondary position. In public medicine, on the other hand, prevention is the key-note; the cure in individual cases being frequently left to the individuals themselves. Private medicine ranks amongst the oldest of the sciences, dating from antiquity. Public medicine, on the other hand, is a science of comparatively recent development. Especially is this true when one takes into consideration the various specialties, which taken together, constitute the science as a whole. These two sciences resemble one another in that both are more or less related to disease, and they are both sciences in the true sense of the term. They both depend upon accurate observation and experimentation. They are both coming in their practises to be divided into various specialties, so that no longer is it expected of any one individual that he should be entirely familiar with the whole subject of either science.

A knowledge of the character and aims of these specialties in public health and their relations to the whole, is necessary for a correct appreciation of the science. They naturally fall into groups more or less related. One group consists of the accurate recording of all health activities; another is related to disease; a third to conditions connected with environment and development of individuals; and a fourth to the factors which make for the comfort and convenience of the people.

Vital Statistics.

Vital Statistics play a very important and prominent part in all public health activities. It has well been called the "bookkeeping of the science," since it records all of the items concerning the health and numbers of the community. Too frequently in the minds of many people, vital statistics, or demography, is thought to be limited to the mere collection of data regarding births, deaths and marriages. This should not be so, for there should be collected in addition accurate information concerning the prevalence of diseases, the conditions under which it is occurring and numerous other factors, all of which are essential in any accurate determination of the health index of a given community. It is only by a careful analysis of such records, accurately kept, that an adequate idea can be obtained concerning the advancement or retardation, from a community health standpoint, of any particular locality. Furthermore, proper and reasonable deductions should be drawn, not from individual cases, but from a collection of data from large numbers of similar cases. Such are obtainable only when an accurate and complete system of compiling Vital Statistics obtains in a community.

There are two branches of the science which deal more or less directly and entirely with disease and the effect it has on the community, namely, Communicable Diseases, and Infant and Maternal Welfare. These two constitute a very important division and are of importance, since through them it can be determined easily how the scientific application of the principles of the science are related to the economic and social advantage of any community.

Communicable Diseases.

Development here has been very rapid in recent years, due to a large extent to the fact that familiar as some of these diseases are, their scientific control is comparatively new and that, with the development of bacteriology and more accurate deductions drawn from closer observation of facts enabling the control of communicable diseases to be more easily effected, many of the older theories are being rapidly discarded. Some claim that the pendulum has swung too far. The old voluntary cry of the leper, "Unclean, unclean," has been replaced by compulsory and iron-bound confinement of dangerous individuals. It is being appreciated that complete success can be obtained only when the combination of these two principles are employed, so that now there is sought a maximum amount of voluntary assistance from the afflicted, together with just sufficient confinement of their activities to produce the maximum amount of safety to the community. The old idea that each individual infectious disease follows rules of its own in the matter of spread and so forth, is now lost. It is known that the control of all such diseases follows certain fundamental principles, although of course variations may occur in any one. Success in control depends on knowing when, where, and under what conditions such diseases exist, and of being able to prevent infectious material from the infected (usually found in their discharges) reaching the healthy. That much-abused term "common sense" (which, from the frequency of its occurrence, might better be called "uncommon sense") is a factor which is rapidly replacing iron-bound rules. More than in any other branch of public health, in communicable diseases there is found a number of paradoxes which are difficult to explain. It is a fact that people fear and dread the unknown to a very much greater extent than they do the known, so there is found an almost hysterical state of mind on the part of the public regarding such diseases as leprosy, and infantile paralysis—diseases which cause a comparatively limited number of deaths—while there is an apathy and indifference to the commoner diseases, such as measles, whooping cough, etc., which in bulk cause a comparatively great number of deaths. People will go blocks to avoid passing a practically non-infectious leper on the street, but will hold most intimate social intercourse with a highly infectious syphilitic.

Infant and Maternal Welfare.

These two branches are usually grouped together since it has been found that many of the factors which operate in producing high infant mortality are to be found where there is a high maternal mortality. Usually remedial measures taken to reduce infant mortality will have a decidedly beneficial result in reducing maternal mortality. This is a natural consequence of the observation that many of the deaths of infants one month old and under are due to ante-natal causes. For the correction of these defects the education of the prospective mother is necessary. This education naturally is of considerable advantage, not alone to the child, but to the mother. Few of those who have not given special attention to the matter realize the seriousness of the present condition of affairs. It has been determined by reliable and accurate statistics that nearly one-fourth of babies born never reach the productive age—productive either from an economic or procreative viewpoint. Most of these deaths occur during the first year. Of these that occur during the first year, twenty-five per cent. occur on the first day, thirty-eight per cent. in the first week, and fifty per cent. in the first month. Four-fifths of these are preventable. In spite of the wonderful advances that have been made in other branches of medical science, such as surgery, internal medicine, etc., the fact remains that, during the child-bearing period, more women die from accidents connected with child-birth than from any other disease, except tuberculosis. Fifty per cent. of maternal deaths incident to child-birth are caused by sepsis. In the United States one woman dies in child-birth for every 145 living children born, so that one might almost say that it is more dangerous for a woman to have a baby in the United States than to pass through the submarine zone. Without a doubt, many of the maternal mishaps of child-birth are due to improper preparations and insufficient care before, during and after confinement. It is found that conditions are much better where hospital facilities are

available than where they are lacking, so that the saying has arisen that while the country may be a fine place to live in, it is a poor place to be born in. Undoubtedly economic factors play a very important part in the birth rate. It has been found in England on two occasions, that legislation restricting child-labor has been followed by a sharp and unprecedented fall in the birth rate. To compensate for these untoward factors, mechanisms must be devised for state assistance before and during child-birth and until the children shall have reached a self-supporting age. In more advanced countries, this has been taken care of in part, by education, by the institution of maternal benefits, and by providing day nurseries, public playgrounds, etc., where the family can be relieved in cases of necessity from the immediate care of their children, and so be released for productive work.

School Hygiene.

The supervision begun at an early age, even before the child is born, is now being maintained during the course of the educational period. Public school education is an effort on the part of the community to increase the economic value of individuals during their formative period by community-supported efforts. The inutility of pushing education without at the same time supervising the health of the pupils, is clear to all. School supervision, or school hygiene, has therefore grown to be a factor of considerable importance in most enlightened communities. This medical supervision allows the proper relationship to be established and maintained between the physical and mental development of the children. It affords a means of devising special mechanisms to meet certain physical defects, and permits of corrective efforts being begun before too much damage has occurred and perhaps before the damage may have become permanent. It is the aim to turn out a product that is both mentally and physically at its highest point of efficiency for each individual. As a very important factor in physical education which is becoming so prominent in schools and colleges, the value of public playgrounds and recreation periods is being appreciated. It has been found that not only do children have to be taught to work, but they also have to be taught to play. To attain the best results of recreation it must have an adequate and intelligent supervision. School hygiene plays a very important part in the control of the ordinary infectious diseases, since most of these diseases occur sometime during the school period, and undoubtedly many of the infections are acquired during attendance at school, either in the class-room itself, or in the journeys to and from the building.

Industrial Hygiene.

In all productive industries a number of elements will enter into the productive efficiency of all employed. The sanitary arrangements of the factory, such as proper heating, ventilating and lighting, are of the very greatest importance. Proper intervals between periods of work have been found to increase the capacity of the workmen. There have arisen certain legal mechanisms for the compulsory inspection of factories and the prohibition, except in cases of necessity, of over-time labor. Another glaring defect in previous economic theories has been rectified. It is recognized that the product, and not the employer or the employee, should bear the expense of the hazards of production. On this the so-called "Workmen's Compensation Acts" are based, and they have been found to work out advantageously in more directions than one. Not only is the employee protected against accidents, but the employer also is given an opportunity to more or less select his workmen, after a consideration of their physical capacities. In many of the larger industries physical examination of applicants and social service activities among their employees, have been adopted as a means of increasing the efficiency of the employees. Employers have found that frequent changes in the personnel of their workmen entails always an economic loss, since the new man must be trained to the particular job of the man he is replacing. Voluntary efforts to prevent this loss to employers all point in the direction of attempting to keep the employees happy and well, so that their services may be retained. Greater and greater provision is being insisted upon by various governments to prevent the so-called "trade diseases" arising from handling dangerous metals, such as

lead, phosphorus, arsenic, etc. These occupational diseases are receiving in many places adequate legal supervision.

Housing and Town Planning.

Closely allied with hygienic conditions at the factory are hygienic conditions in the home. It has been found that physically defective employees are not as productive as those in the best of health. Undoubtedly, home surroundings will influence to a certain extent all employees. It is just as important to have hygienic conditions in the home as at the factory. With this idea in mind, the modern efforts at town planning have produced wonderful results. The principal idea has been to substitute well-lighted and well-ventilated small houses properly equipped, for the old-fashioned tenement houses where the laboring classes were formerly housed. The value of these "garden cities" where each house has light and air and sufficient garden facilities to produce not only flowers for beauty, but food for consumption, can be readily determined by a comparison of the physical condition of their inhabitants with those of others, and by comparison of the efficiency of these happy garden-city dwellers with that of their more poorly housed companions.

Social Hygiene.

Closely allied to both industrial hygiene and to the housing problem is a newer branch of the science, designated, for want of a better name, as "social hygiene." This is an attempt to co-relate the economic and social aspects of the individuals of a community. Efforts are made to establish what relation, if any, exists between the wage and the birth and death rates and disease incidence. This is an aspect of the science that has only recently come into prominence, so that it is too early to hazard an opinion as to the direction in which this branch will ultimately go.

Food and Drugs.

This department has to do with the supervision of foods, so as to ensure their suitability for consumption, and the examination of drugs to determine their purity.

For a considerable time most of the energies spent on foods were directed towards our commonest articles of diet, namely, milk and water. Both of these problems are very extensive since constant supervision in each is necessary. Milk supplies are always a source of gravest concern, since milk itself is an excellent food for bacteria, which will multiply with great rapidity. The damage to milk may be of two kinds. Either the milk will become rotten, or it may become infected with some organism pathogenic to man, either tubercule bacillus from the cow, or some other organism, usually derived from a healthy carrier who is handling the milk.

The danger in public water supplies lies in the fact that some people insist on using the same source as a means of disposing of sewage and a water supply. This is always dangerous; and never pleasant, if one is aware of it.

One common factor between these two problems is the number of people who are apt to be involved if infection with a disease-producing organism occurs. Milk and water born epidemics are usually explosive in character, a comparatively large proportion of the population becoming infected at or about the same time. On account of this explosive nature of the epidemic, the dangers and the necessity for supervision are easily apparent, but for some peculiar reason many communities will delay this supervision until after a lesson has been brought home by some large, disastrous epidemic. More recently the necessity of supervision of other foods has become recognized, so that there is federal inspection of packing plants, the oyster industry, and so forth.

The supervision of the drug industry is more or less an economical problem, being an effort to protect the public against impurities. This search for impurities is not limited to drugs alone, but has extended to foods. The effort is chiefly to assure the consumer that he is obtaining that for which he pays, and not some cheaper adulterant which may appear the same, but lacks the essential value desired.

Enough has been said to indicate the size of the public health problem and the great variety of directions in which this problem leads. No matter whether one considers the problem as a whole, or in one of its divisions, the community aspect of the problem is predominant. Different units of communities exist. The smallest community is the family, which in reality is the unit of civil life, no matter what the size of the family may be. For economic and other reasons, families may group themselves in municipalities of greater or smaller size. Such municipalities, with the surrounding rural country, for the purposes of government are grouped into townships, counties, and so forth. These counties are collected into a province, and the provinces into the Dominion. The health problem is related directly to each community, no matter which one of these divisions is concerned. All these divisions of civil life are inter-related, so that there is a corresponding inter-relation of health problems as between these various communities. The inutility of one community having an excellent health service, while the one immediately adjacent is neglected in toto, is at once apparent, since social intercourse is not as a rule limited by geographical boundaries. Unfortunately, in this country there is not even a pretence at the maintenance of a federal department of health. The provinces are organized with a degree of efficiency varying from none at all to comparatively efficient. The question naturally arises: What is required for an adequate and efficient health service in a community? There are three factors which are of paramount importance. First, there must be a demand on the part of the individuals in the community; second, there must be an organization to perform the public service; and third, there must be an adequate budget to support the activities of the service.

It is a fact that more and more, both medicine as a profession and public health as a science are being robbed of the mysticism in which they were at one time more or less enshrouded. People are beginning to want to know. They desire to have things explained in ordinary every-day terms which they can understand, and it is usually found that when once the people appreciate the problem, they are anxious and willing for its solution, even if it entails a considerable amount of expense. The comparative ease with which the Rotary Clinic was established in this city, and the generous response made to a voluntary call, is good evidence of this. However, if the problem as a whole is to be successfully met, the demand for its solution must be generalized, insistent and continuous, instead of localized, very faint and spasmodic.

To accomplish this end, education of the people in health lines is most essential. A leaf should be taken from the book of the patent medicine man. Their profits depend, not on the value of their product, but upon the publicity, frequently mendacious, for which they pay. It has been found that such publicity, even for a worthless product, will bring fortunes to the proprietors. Surely the same wealth can be conserved to the community if a valuable effort were to receive the same publicity.

This education may be undertaken through the public press or any of the ordinary avenues by which publicity is attained. There should also be a systematic education in our school system, beginning in public schools and ending in the university. This educational factor links the public health movement to the educational institutions of the community. It would seem that those who are actually concerned in the public health service should be the best to take part in the education of the community. This of necessity belongs to the highest type of education, whether or not a medical school exists in the community. Therefore, the Provincial University should be intensely interested in health activities and should form a prominent part in any provincial health service.

It might well be that the technical work of routine, service, investigation and research, should be established as a department of the university, thereby making the university as the highest educational institution in the state, the technical advisers of the Provincial Government in health matters. By such a mechanism, the benefits of having the technical workers and instructors composed of the same body of men would accrue to both the university and the service.

The organization of a health service is of the very greatest importance, since the success and value of the service will depend to a very considerable extent upon the efficiency with which it is organized. Since any community health service involves the principle of compelling individuals to do certain things for the good of the community, it follows that the health service must be a governmental institution. It is not meant by this that the service should be a political institution, for nothing will kill a health service more quickly and more completely than making it subservient in any way to the so-called "party politics." Legal machinery and police power is always required, since no community action can be taken until legal means are provided. An administrator is therefore required to see that all the laws, rules and regulations, and so forth, related to the health service, are enforced in the different communities within the province. His position as an executive is not necessarily a highly technical one. Extreme tact, and the ability to receive with a smiling face the abuse of anyone who fancies himself injured, together with fearlessness in administrating the law, are the essential characteristics required in a successful administrator.

A technical staff is required composed of men who have been specially trained in the particular branches of the science to which they are assigned. It is becoming more and more appreciated that training over and above that received in the medical school or engineering college, is required and demanded in technical workers in health services. This demand is being met in part by institutions of learning providing the necessary facilities and instruction, so that a worker can get his training there, rather than by practising upon the community which he is supposed to serve.

Needless to say, such highly specialized experts demand and should receive compensation in proportion to the amount of time which has been spent in preparing themselves for their work. They should receive a wage sufficient to enable them to occupy their proper place in the social life of the community; they should have a reasonable tenure of office, if health positions are to attract men of the proper type. They should have the assurance of freedom from political interference, so that their positions are not held at the pleasure of the low type of politician which is sometimes met; and they should have sufficient time for study and research, so as to enable them to add to the information that others may desire.

The organization itself should be made after a careful study of the necessities of the particular community. A definite and well-thought out plan for each community should be prepared, obviating the hit or miss method of meeting emergencies as they arise, which always governs an organization composed of elements almost impossible of co-relation. This organization should be capable of meeting the immediate necessities and at the same time should permit of future expansion or alteration as changed conditions arise, without having to go through the disrupting influence of complete reorganization at more or less indefinite intervals.

The provincial organization should be centrally placed, with branches if required by geographical necessities. The staff should be of such numbers as to allow of extreme mobility, enabling them to obtain direct, first-hand information from the scene at which any problem may occur.

Budget.

It would be folly to pretend that any such health service can be maintained on a small budget. For its success adequate monetary provision is an absolute essential. Too many people distinguish sharply between economy and efficiency, applying to the term "economy" a meaning which entails refusal to spend money. That economy is best which will give the highest efficiency, and can only be obtained with spending a proper quid pro quo.

The relation between the budget and results can be determined by observation. It has been found in actual practice that the health efficiency of any community will vary directly with the amount of funds that are appropriated for the health department. This has been determined in a very interesting manner. It has been found that the typhoid death rate may be taken as a gross means of estimating health efficiency; this, of course, in communities where typhoid has existed. In recent investigations it has

been determined that the typhoid death rate in a community will always bear a direct proportion to the budget of the health department.

Does expenditure on legitimate public health problems pay? "An ounce of prevention is worth a pound of cure" is as true in health problems as anywhere else. To be concrete: is it cheaper and more efficient to do a Wassermann test, and if necessary adequately treat with Salvarsan, say 100 individuals, at the current rates in British Columbia, or to maintain one individual at the Mental Hospital for a varying number of years as the result of an improperly treated previous syphilitic infection? It would probably be found that the amount of money spent annually in maintenance of the syphilitic insane would go a good way towards paying for the total suppression of venereal diseases, so that any other good derived could be listed as clear profit. In the State of California it has been determined that the amount of money saved in the prevention of typhoid deaths, the number of which can be accurately and readily computed, is more than sufficient to cover the total appropriation of the health department, so that practically all of their many other activities are done without expense.

In the minds of some people the war seems to be a sufficient excuse for refusing any additional expenditure, no matter how great the benefits to be derived may be. The question would naturally arise: is this a good time to begin a conscious, co-operative and continuous effort for the public welfare? It must be remembered that there is at present a period of very great wastage of adult productive man-power, undertaken to preserve and maintain national honor. It would seem that every possible step should be taken to compensate for this wastage, which can never entirely be replaced; the very fact of the wastage demands a compensatory effort unless the resources are of such magnitude as to render the wastage comparatively small.

Moreover, people generally are beginning to demand reliable and accurate information concerning health subjects, and to look for protection in health matters as a right to be expected from the governing bodies. The people themselves have already shown that when they become familiar with such problems, they are ready and willing to pay the cost when the need develops.

The state has already shown itself ready to make demands upon its citizens for the protection of the community. The assumption of the right to make demands lays upon the state obligations to afford adequate protection to the individuals in the community. Governments are supposed in theory to carry out the mandates of the people whom they govern, but it is a wise government that can foresee and foretell the pressing needs of the community and give a proper protection to the economic and physical welfare of their electors.

It would seem that immediate action along these lines is eminently necessary in order to have proper and adequate plans prepared and in operation before the great period of reconstruction begins, in order to simplify so far as possible that reconstructional period. There should therefore be no hesitancy in the government undertaking, or in the people urging the government to undertake, the immediate installation in British Columbia of an adequate and energetic health service.

MR. GRIMMETT—

I will now call on Dr. A. P. Procter for his address on "The Tuberculosis Problem of the Province."

"THE TUBERCULOSIS PROBLEM OF THE PROVINCE."

By Dr. A. P. Procter, Major C. A. M. C.

I believe I am acting as a stop gap for Dr. Vrooman, of Tranquille, who was to have addressed you on this subject. The only thing I can promise to lessen your disappointment is to be brief.

I was asked to speak on the problem of tuberculosis in this Province. It is easy today to speak of tuberculosis, because every man, woman and child knows something about this disease and its symptoms. It was not, I remember, so many years ago when we took charge of the ranch that is now Tranquille Sanatorium—how I met the owner, a farmer, who said to

me in broad Yorkshire: "Doctor, do you think that that there consumption is catching?" I said that I rather thought it was. He replied, "I don't believe you." Not very long after that, when we were cleaning and fumigating the old farm house where many consumptives had been staying, this same man's wife was very indignant because, in the process, we tore many covers off the sofas and chairs. "They talk about germs," she said. "I have been here over thirty years and I have never seen one." Almost the youngest child knows something about this disease and its cause. One thing about this War, with all its tragedies (and I suppose there never has been such a universal tragedy as this War), it has done more to bring home to our people the value of physically fit people than years of peace might have done. I don't know what you think about alcohol; but it seems that it almost took the great War to banish the bar. I believe that the bar has at least gone out forever, and so with tuberculosis. It used to discourage those of us who tried to wake our people up on the subject of tuberculosis, but the War has done more to bring home to our people this awful loss of young manhood and womanhood. Every year in this Province (Dr. Young may correct me if I am wrong), you lose approximately four hundred of your citizens, men and women, from tuberculosis. It seems that in the city of Vancouver last year you lost one hundred and fifty-eight of your citizens from the same cause. Dr. Philip, of Edinburgh, tells us that if you multiply the number that die by five or ten you will get approximately an estimate of people in your country that are victims of this disease, because a certain portion only of those affected die each year. Do you know what the economic loss means to this Province and to this city? Well, political economists place various figures upon the value of the wage-earning life,—anywhere from two to ten thousand dollars, and if you multiply the total that die by that figure you will get in dollars what this Province is losing every year from tuberculosis. It seems that at the lowest figure this city is losing something like $300,000.00 a year from this disease, the Province $1,000,000.00.

When I was down at the City Hall a short time ago discussing whether after the first year the Rotary Clinic should be supported by the city, how little the city fathers seemed to realize what this city was losing in dollars and cents, and how little they realize how much in dollars and cents they ought to spend to stem that loss, apart from the human suffering that this disease means. Have any of you been told that you have tuberculosis? How would it feel to be told that you had that disease? I remember some years ago, a great picture, exhibited in the city of London, a picture known as "The Death Sentence," which created quite a sensation—the picture of a young man at the one side of the table and his physician at the other. The physician had told him as gently as these things can be told, that he had tuberculosis of an advanced type, with all that that means. Out of that young man's eyes all hope of life goes. Love of life is a very natural thing; and particularly true of youth. Think of the beauties of this country; no wonder that people love life. The tragedy of this disease is that it kills largely in the period of youth, in the valuable time of life. Tuberculosis, while it is not a respecter of any age, of course, chiefly attacks and kills in the valued period of life, the wage-earning period. That is what the problem of tuberculosis is today in our country. Don't you wonder when we think over the facts and see them as other physicians see them and as other nurses see them, don't you wonder that it should have been difficult to arouse people out of the apathy that seemed to exist some years ago,—to do something to stem this awful disease in our midst? What are we doing about it now? Happily a great deal more is done than twenty years ago. Municipal responsibility is at last being recognized. A civic conscience is being awakened. I venture to say that the response to the Rotary Clinic shows what the general public feel about this question today. What is the answer to this problem? The answer is easy. First of all, it divides itself into two definite lines: first, the cure or the care of those who already have this disease; second, and last, the prevention. I don't need to tell you, although it is a very fine thing to be able to cure disease, it is very much finer to be able to prevent it. We have at the present time two sanatoria for the treatment of tuberculosis. Up to one year ago we had only one, at Tranquille, capacity of one hundred and forty beds. We have another now

at Balfour, a purely military institution, taken over for the soldiers, with a capacity of about ninety beds. Those of you who have been reading the journals lately may have noticed a somewhat pessimistic note with regard to sanatorium treatment. I think that that largely arises from a misconception of what the sanatorium starts out to do. Some people appear to have looked upon the sanatorium as the beginning and the end of the tuberculosis problem. The sanatorium is only one very small link of a very general crusade against tuberculosis. Unfortunately, as has been explained before, we have been obliged to take at Tranquille a large number of advanced cases with little hope; these cases will ultimately die and injure the statistics of the sanatorium, and they unfortunately take up beds which are badly needed for cases which do have a reasonable hope of getting better. A certain number of cases that go to a sanatorium will not do well, but a very large proportion do excellently, which all points to the value of sanatorium work when cases are properly selected. Somebody asked some time ago whether it paid to cure tuberculosis. In spite of having taken so many advanced cases into our institution at Tranquille, we have a record of cases cured or arrested which is not discreditable. One series of twenty-five cases that had been arrested or cured has been kept track of, which cost some $6,000.00 to look after and treat and finally turn out as arrested. When they were last traced, these same people had earned $65,000.00 since their discharge. Not a bad answer whether it paid to cure tuberculosis. Besides, looking after these people was a very proper and very humane thing to do.

From the standpoint of education, the sanatorium is splendid. These people come back to their homes as missionaries and they spread the good work to others; because you would be absolutely amazed if you knew how many people who have tuberculosis, have not apparently been told one thing about how to take care of themselves or about the prevention of this disease. The Government is coming to the rescue by making it necessary for the general hospitals to take in the advanced cases. I know that certain districts and certain hospitals rather resent having the advanced cases of tuberculosis forced upon them; but if we are to fight this thing properly, if we are to stop this awful toll, this awful loss of our best young manhood and womanhood, we must take care of the advanced cases and prevent these infectious cases becoming centres of infection for the outside world. What I would like to see the Government of our Province do is to appoint a committee to make it possible for us to confine certain advanced cases in an institution where they would have to stay. I am not speaking of the man or woman who is decent and who will try to protect others, but there is a type of tubercular person who does not care at all. They expectorate on our streets, and these are the people that by some kind of legislation ought to be confined if they won't play the game. Here are a few illustrations:

A case in Ward "O"—a man insisted on leaving the hospital—that man spent his summer as a waiter in one of your restaurants down town, an advanced case of tuberculosis, and we have at present no legislation to cope with that type of case. We should have the power to keep them in the hospital for their own sakes, but chiefly for the sake of others.

Methods of prevention. I have spoken first of the care of the advanced cases, which is one of the most important parts of the campaign. We should prosecute those who continue to expectorate on our streets.

At a meeting held at the B. C. E. R. Co., some years ago, to protest against the dirty condition of the street cars, the general manager at that time got up and actually said in cold blood that the dirty condition of the street cars was due to the way the people expectorated in the street cars. When you realize that the danger of infection from tuberculosis is in the expectoration, you will realize the criminality of that sort of thing if allowed.

Then the testing of cattle,—we now know that bovine tuberculosis is communicable to people. I have talked with people, and it is rather annoying, you have to be very good natured, who come up to you in a superior manner and suggest that we doctors are simply enthusiastic faddists. I would like to be able to show men and women of that type a few facts. I should like to give you a case that came under my own observation. I was called in to see a child with an obscure fever. After watching the child for

a day or two I could find nothing definite and finally the child got better. About the same time the mother got ill, was ill for weeks. We found that they had been taking milk from private people who had had two cows die. The mother was operated on and found to have "tubercular peritonitis." In this case I have not the slightest doubt what the child was suffering from. I know what the woman was suffering from because I saw it.

We want a campaign of education. We want our physicians to notify whenever they run across a case of tuberculosis. The health authorities cannot fight this disease unless they know where this disease exists. I want to say one word about this Rotary Clinic. Nothing can be of greater value to a city than the establishment of the clinic that has just been made possible by the splendid campaign of the Rotary Club. They will have a nurse who will follow up suspicious people who come down from the sanatoria as arrested or cured cases and who come in and have their chest gone over. We shall have our fingers on the active cases; we shall be able to check it, know where it is and fight it. That is the value of a clinic. There will be a laboratory, there will be an X-ray. Most of you know that we are getting a tremendous amount of aid today from the use of the X-ray.

I have tried to speak to you for a few moments on the problem of tuberculosis, and what I consider to be the answer to the problem. The subject is huge. It is very inspiring to have you gathered together discussing these health problems and trying to make this a better country for people to live in. I don't think it takes very much imagination for us to realize that we are standing on the threshold of a great nation. We can almost hear the footsteps of those who are to come after us, and surely it depends very largely on the foundation we may lay, socially and morally, what the kind of people who come after us will be.

DISCUSSION.

MR. MORDY—

Dr. Procter stated, if I am not mistaken, that we have on an average a loss of young men and young women, of four hundred in the province annually; but he only reckons the loss for one year. If you take the working life of an individual from twenty years to fifty years, that is thirty years of work, and at the rate of $2,000.00 per annum, and four hundred being the loss this year and four hundred next year, and so on, for each of those thirty years, it adds up to the enormous loss of $24,000,000.00 to this province in an ordinary working life.

MR. SUTTON—

In order to produce a thing you have got to have it. It reminds me of a story I heard. A man said to his wife, "I have made $50.00 today. I spat on the sidewalk and they didn't see me."

MR. DAY—

While some of the views put forward regarding the provision that should be made by the state for the maintenance of hospitals, might be considered Utopian, it is certain that the trend of thought amongst those intimately connected with hospitals is largely along lines similar to those laid down in the papers read this evening. In Sir Thomas More's "Utopia," published at Louvain in 1516, the following passage occurs:—

> "The hospitals are furnished and stored with all things that are convenient for the ease and recovery of the sick; and those that are put in them are looked after with such tender and watchful care, and are so constantly attended by their skilful physicians, that as none are sent to them against their will, so there is scarce one in a whole town that, if he should fall ill, would not choose rather to go thither than lie sick at home."

The vision of three hundred years ago is a fact today, and as the social world is moving rapidly, the vision of today will probably be seen translated with fact by our young men before they have reached the age of those who have so ably dealt with the subjects of the community and the state this evening.

Today hospital boards have four sources of income—Dominion, Provincial, Municipal, and Individual. With the Dominion, twenty years ago

we had only to consider the question of caring for a few Indians. Then with the taking over of the defence of Canada from the Imperial Government, came the care of sailors and soldiers, and with the abolishment of the Marine Hospital the care of ocean-going merchant seamen. Now the returned soldier problem has come, and we in Victoria consider the rate allowed for their treatment is inadequate for the wards of a general hospital. It never covered more than actual cost, and now with the high prices of all food and supplies, it is inadequate. The Provincial Government and the municipality have noted this and are watching it with some concern.

The Provincial Government grant is admittedly liberal when compared with the grants made to hospitals by the prairie provinces, and the Minister of Health has not failed to tell us so. In his opinion the further burden of support should fall upon the municipality, while the latter is firmly of the opinion that it is easier for the government to help than for them. We have, therefore, some way to go before we can bring these opposing forces into line. Hitherto each hospital board has gone to the government and made its request, some on one ground, some on another ground, and possibly some divergence of opinion has been shown. This convention should appoint a representative committee to consider the requirements of the hospitals, and formulate a definite income-raising scheme. Then we can go to the government as a unit and make the weight of our case felt. Inasmuch as now we have to deal with three bodies (Dominion, provincial, municipal) we should endeavor to determine what proportion of cost should fairly fall upon each, and we should keep at the work until we have accomplished a satisfactory result. Fuller control by the state as a corollary of full support would follow. Hospital boards would not be allowed to run up heavy bills for the community to pay. Thus state would control all expenditure, especially capital expenditure, and decide what equipment is necessary for each hospital, so that it would have all reasonably adequate accessories for the treatment of the general run of patients likely to be found within its walls.

MR. SUTTON—

Dr. Young mentioned the need of a co-operative spirit between municipalities for the formation of community centre hospitals—that is, the smaller places would get together and link up with the larger centres—making this the community centre. He suggests this be run by the councillors. Does he think that such a body would be a suitable one to maintain and manage a hospital, in view of the fact that in many places they are not able to manage their own municipalities?

Does the Provincial Government think time opportune that tuberculosis should be tagged in the same manner that any infectious disease is at the present time? In case of scarlet fever, diphtheria, smallpox, for instance, no one is allowed to enter or come out, yet a person suffering from tuberculosis is allowed to come and go anywhere. Do you not think that this is an opportune time to placard the house or take that man away from the place, where he can be looked after without coming into contact with the people?

DR. YOUNG—

The contributing source and the revenue of the hospital would naturally want some representation on the management of that hospital. The direct management of the hospital would not be vested in a board that would be of such representatives. There should be selected for that active management of the hospital superintendents and others who would understand the management of a hospital, they would be concerned in the management of the hospital. If the co-operative scheme was carried out the Provincial Government should also desire representation on account of its contribution. I would not suggest that we pick up a board haphazard throughout the province. The question with most of our hospitals, unfortunately, is management. I would suggest boards of men and women who are voluntarily giving their services because they are interested and love the work. There would have to be some scheme for representation of municipalities. The government would ask that one or two members of the board should be appointed by the government.

As regards the question of tuberculosis and the question of treating it as an infectious disease—I am very glad that you wish to see that carried out and enforced, but while we may place this upon the Statutes, and while we may enact regulations under the authorities of those Statutes, we cannot succeed in enforcing them unless we proceed to the extremity of prosecution, and if so, we raise a storm of protest, and we are finding out by experience that until the people are educated, it is almost an impossible task to enforce. The public are admitting in some places that they are afraid of being disfigured by smallpox—of the terrible effects of infantile paralysis, because the lay press will always feature the horrible side. There are hundreds of thousands of other cases fill up our deaf mute asylums and fill our cemeteries with bronchial pneumonia, etc., following measles. We need to educate the public opinion that the public health officials know what they are talking about, and it will come to the time, as Dr. Mullin pointed out tonight, where the community, which is constituted by the family, becomes a menace to the community at large, drastic measures will be adopted, and when a tubercular patient will go forth to spread the disease, then the State must step in and say to that patient, "You are a menace to the community, you will have to be confined," just as we say to a scarlet fever or smallpox patient—but they do not know the deadly effect of tuberculosis.

I cannot conscientiously congratulate the medical men for the enthusiasm they have shown in co-operating with the Government in regard to the reporting of tuberculosis cases.

At the last session of Parliament a Bill was passed providing for a Uniform Training School for Nurses for outlying districts. I was not opposed to this Act, and advocate a broader training and a wider field of work.

I would have them engage in general health work in the nature of District Nurses, carrying the gospel of health to the people; visit the schools for hygienic instruction and give parental lessons where they are needed.

Co-operation with the public for all its health and educational needs along health lines, I advocate as a nurse's work. Nothing short of an epidemic arouses public interest to real health matters, and the health department headquarters, unfortunately, are too far removed from the people to accomplish all the beneficial work it should be able to do to have the direct effect.

But in order that a nurse may give her best to further her profession, it is very necessary that she should have proper accommodation. If she is put into a hot, stuffy room, with bare walls and no comforts, she cannot be expected to accomplish as much, or to do as much good, as if she were quartered in bright, comfortable rooms, with plenty of air and sunshine. I therefore strongly advocate better accommodation for our nurses. Also, I say that provision be made for a Nurses' Training School in small hospitals. This is essential, and I trust it will not be long until this is established.

MISS COLE—

I was in a land where the law was made, where it was compulsory for a tuberculosis patient to be removed from the house, and certainly the people were not educated up to it in any form or way, but I can strongly say there was no opposition. I was working myself and had to do with a great deal of tuberculosis. Proper isolation had to be insured and proper care, and there was no opposition. It answered very well, but I cannot see, that with all the great work the Rotary Clinic is going to do in the next year, how they can succeed without having some compulsory law attached to it. In these days you may wait and wait for people to be educated, but until a strict measure is taken you will not get a very good effect.

MRS. CURRIE—

I would suggest a $50.00 fine for people who expectorate on the street, as in Banff.

MR. GRIMMETT—

A man suffering from tuberculosis, may be for years, his isolation may continue for years, whereas in a case of measles or smallpox, only a few

weeks at the most. Is not that the reason for this apparent apathy in regard to isolation of tuberculosis cases?

DR. YOUNG—

I do not think that is the apathy, but the fact of the long existence of the disease. Smallpox comes on in a very acute manner and it appeals immediately to those who are in contact. It is only within the last few years that those interested have determined upon the contagiousness of the disease. As you know, probably—anybody here can remember, it isn't so very many years ago—to tell a man that he had consumption was simply to condemn him to death. There was no hope for that man, but as our studies progressed we have learned that we can cure tuberculosis.

Education of the public on this particular subject is needed, and when they become educated to the fact that if the disease is taken at the right time we can cure it—then we can control it better. We can at least teach them such rules of procedure that will put them on the road to cure; but where the real danger lies is when the expectoration is loaded with the bacilli: it is then that they become a menace and should be confined, just as strictly as a smallpox case; at least they should be under such supervision that there would be no danger of affecting other people.

The building of sanatoria is necessary, and we must have them. These patients must be taken charge of and the Government proposes to do it. We ask the co-operation of all the medical men to report the cases. If we have an exact knowledge of the existence of the cases we will be able to deal more directly with the subject, and, as I pointed out when I was speaking tonight, we are appointing a man who will take supervision of that work. No doubt we will ask and hope to get the co-operation of the Victorian Nurses in this scheme; but we want to carry the work into the homes, to educate the people to the danger; and we hope that when that point is reached, when we reach such a storm of protest, we will go into the homes and say, "For the benefit of the community you must do so and so." We have the idea, we are trying to instill it into the minds of the public, and eventually, not in the distant future, we propose handling these cases which have been shunned heretofore—handling them as contagious diseases. The same remarks will apply to the venereal diseases. The public realize the fact, and we will, we hope, in the very near future, publish regulations which will apply to this disease. You cannot convince the public of what the medical men know in regard to this. It certainly was enlightening to listen to Dr. Mullin tonight on what it costs to support a syphilitic patient in the Mental Hospital at New Westminster, but you don't hear any outcry about intimate social intercourse amongst people who medical men know are syphilitic, but people are beginning to realize the seriousness of the case. The public will demand that the authorities who are in charge of this work shall protect their health and it will be done.

DR. RIGGS—

We hope that this thing will go on until the whole country will be well organized to deal with all these questions, not only contagious diseases but all the questions of public health; but I would like to just draw the attention of the Convention back to the question of State control of hospital work, and the question as raised by the gentleman from Victoria as to cost. We cannot, probably, get the Government to take over hospitals all at once, to bear the whole expenses of the hospital all at once, but I would like to emphasize what Mr. Banfield said—making a certain part of the work of the hospital available for everybody. It seems to me that while the rich man and the pauper are treated the very best, that we should make these means available to the poor part of the population with the same readiness. That means that the hospital cannot support laboratories and X-ray, clinical, bacteriological, pathological and X-ray laboratories and do this work for nothing. The expense is too great, and yet that is necessary if these people with moderate means are going to be treated as well as the pauper. Therefore I would suggest to this committee to see that they have the same line of argument to put to the Government—ask the Government to continue the work they are doing, and to stand the expense of every hospital in the Province to furnish the means of diagnosis, free. It would mean in the

small hospital that it could be arranged that a clinical and bacteriological laboratory on a small scale could be instituted in every hospital, also an X-ray, and that all these means would be available to everyone and would be supported by the Government. That would materially help, and I believe that it would not only be an economic thing from the standpoint of preserving those who are already badly diseased, but that we could get many of those cases early, and therefore should be able to prevent much of the trouble that arises from either lack of diagnosis or a wrong diagnosis, as at present.

MR. GRIMMETT—

If there is no further discussion, I will declare the meeting adjourned, to meet to-morrow morning at 10 a.m.

We will close by singing the National Anthem, "God Save the King."

MORNING SESSION—Thursday, June 27th, 1918.

DR. GATEWOOD—

I am going to ask Mr. R. S. Day to take the chair this morning.

MR. DAY—

I will now call upon Dr. Milton Jones for his paper on "The Elimination of Chronic Hospital Cases by Proper Dental Diagnosis and Treatment."

"THE ELIMINATION OF CHRONIC HOSPITAL CASES BY PROPER DENTAL DIAGNOSIS AND TREATMENT."

By Dr. Milton Jones, Vancouver, B. C.

The discovery of a relationship between defective teeth and ill health is not recent. It has been recognized for centuries by practitioners of dentistry and medicine, but only within the last decade has it received the attention it has deserved. Benjamin Rush, one of America's most noted physicians, began observations along this line as early as 1801. He says, "I have been made happy by discovery that I have only added to the observations of other physicians in pointing out a connection between the extraction of decayed teeth and the cure of general diseases." The early writers attributed the relationship to dental caries. Doubtless the swallowing of poorly masticated food, putrid material and even pus has an untoward effect upon digestion. It does not seem probable, however, that it has an important bearing upon the many systemic ills for which the teeth are now thought to be responsible. The healthy mucous membrane of the gastro-intestinal tract can tolerate much abuse and can even destroy septic material when ingested. Pyorrhoea is a frequent source of chronic infection distributed by the blood to remote organs; so also alveolar abscesses and granulomata are known to be a source of ill health and are of greater pathological import than is pyorrhoea, for two reasons:—

First—They lack drainage, are confined in bony walls and contradistinct to the infected areas of pyorrhoea where expansion is possible.

Secondly—Pyorrhoea gives rise to symptoms which are apparent to both patient and dentist; whereas chronic granulomata at the root apices do not, as a rule, give rise to a single disagreeable symptom which could arouse suspicion.

Pyorrhoea is easily diagnosed by ocular and digital examination, its essential symptom being the exudation of pus on pressure being applied to the gums. Yet many physicians have erred in the diagnosis of this malady. They have diagnosed pyorrhoea where only an accumulation of tartar and the consequent gum recession was present. One case came under the writer's observation recently where a prominent surgeon had diagnosed pyorrhoea in

a patient whose only dental trouble was a series of erosion cavities at the necks of the teeth, due to a vicious secretion of the mucous glands.

The diagnosis of the blind abscess or granuloma is a more difficult matter inasmuch as it can be made only with the aid of the X-ray. Should the infection be of the hemolytic type, of high virulence, the abscess will be acute and the casual symptoms of acute inflammation in evidence; whereas if the infection be of the vividans type, of low virulence, the inflammatory reaction is likely to be chronic, giving rise to little disturbance, but slowly progressive in nature. The acute form leaves very little trace of its activities from a radiographic standpoint, there not having been time for dissolution of the lime salts to occur. On the other hand, a chronic abscess, having dissolved out the lime salts, will allow of the free passage of the rays and show up as a dark area on the film.

At this point it is well to observe that the X-ray, while an important and indispensible means of diagnosis, is not without its limitations and can never be relied upon as the sole means of diagnosis. Not every dark area on the film is evidence of infection, and many an infected area shows normal on the film. The roentgenographic evidence must invariably be weighed along with the history and the clinical manifestations if a correct diagnosis is to be made. Often a small granuloma may be entirely obscured by being located directly behind a dense root. On the other hand some dark areas on the film represent cavities which are sterile, having been rendered so by previous treatment. This observation, however, we believe applies only where treatment has been recent; for if treatment had been made several months previously, there ought to be evidence of new bone formation if the treatment was effective.

There are other anatomical conditions which are sure to mislead the unwary. Often the shadows of the nasal fossae are projected at such an angle that they show an apparently rarefied area at the apices of the central incisors. One instance came under our observation where a physician had ordered the extraction of the two centrals because of this shadow which he saw on the film. Fortunately, the dentist knowing the teeth to be vital, checked up what might have been a serious blunder. The shadow of the anterior palatine foramen may often be mistaken for a rarefied, infected area in the same region, just as occasionally the shadow of the posterior palatine foramen may be projected at the apex of the palatine root of one of the molars, and be misread as an area of infection. The shadow of the antrum often leads to complications of diagnosis in the upper molar region especially as the roots of the molars often lie in the walls of the antrum or project abnormally above its floor. The mental foramen may also be mistaken for an infected area inasmuch as the shadow is frequently cast over the apex of the lower bicuspids. Even the inferior dental canal itself may cast a shadow so close to the root apices as to lead to a hasty diagnosis of rarefication. Then, too, the uncalcified tissues at the apices of erupting or recently erupted teeth may be misread as an infected area. These citations are made to show the many pitfalls into which one may fall in an attempt at a diagnosis of a roentgenogram without the aid of clinical evidence. The use of the Faradic current is an excellent aid in diagnosis. By it one can determine the vitality of a pulp and in this way often settle a doubt or even avoid the necessity of an X-ray exposure for any particular tooth.

The stages of periapical disease may be summed up as follows:—

1. **Chronic pericementitis,** shown on the film as an increase in thickness of the normal dark line between the apical portion of the tooth root and the bone.

2. **Chronic rarefying osteitis with granuloma,** and a disintegration of bone takes place in a circumscribed area, the bone cells being replaced by granulation tissue. The tooth apex may project into the bone cavity, may be roughened from irregular absorption or may be enlarged from hypercementosis. In the film there appears a clearly defined area surrounding the diseased root apex.

3. **Chronic rarefying osteitis with suppuration.** The area is pus soaked and shows on the film as a blurred area of somewhat lessened density, with irregular and ill-defined margins into which the roughened tooth apex projects.

4. **Chronic rarefying osteitis with cyst formation.** This stage succeeds that of granuloma, the cavity being filled with clear fluid and often little soft tissue except a thin fibrous sac. In the film there appears a very clearly defined dark area involving the apices of one or more teeth.

In dental X-ray diagnosis two points of practical utility are worth noting: First, where shadows are superimposed, as of one root over another, the more clearly defined shadow is that of the root nearest the film. Second, when a shadow of a foramen or other cavity is shown projected over a root apex, try to follow the light line of the stratum durum around the root apex. If you can, the tissues are normal. This will be better understood when a slide is thrown on the screen.

So much for diagnosis. Let us assume that a correct diagnosis of infection has been made. What is the treatment? One of three methods is to be considered:

(1) Treatment through the root canal;
(2) Surgical removal of the diseased condition by root resection and curettement;
(3) Extraction and curettement.

Often teeth are condemned to extraction which could safely be retained by proper treatment, owing to lack of discrimination on the part of the physician. On the other hand the training of the average dentist does not permit him to grasp the broad pathological aspect of the question and he often attempts to save teeth which may be a menace to the life of the patient. Much depends on the dentist as to whether conservative or operative measures are to be advised. Unless the dentist is familiar with modern methods of aseptic root canal work and is guided in his operations by the X-ray, by far the safest procedure in the extraction of any tooth whose pulp chamber is entered by decay. If the patient is in the hands of a competent dentist with a sense of surgical asepsis and familiar with modern accessories, much can be done in saving many teeth which show evidences of infection. In this connection, I may say the method of treatment by ionization promises much but is yet too little used to warrant conclusions. The question of conservation or radical treatment should first be decided by the health of the patient. Often a tooth may be recommended for treatment in a healthy individual where in an invalid it would be extracted without hesitation. My one admonition in regard to a decision as to conserving or extracting an offending tooth is this, "When in doubt, extract." The risk of sacrificing a harmless tooth is a small matter when weighed in the balance against the life of the patient.

As regards the treatment of teeth involved in pyorrhoea, the following rules may be made:

Teeth, where the surrounding destruction involves more than one-half its support, should be extracted.

Multirooted teeth, in which the destruction has extended to the bifurcation of the roots, should be extracted.

Teeth, in which the suppuration from pyorrhoeal pockets resists persistent attempts at conservative treatment, should be exracted.

It is felt that practitioners carrying out the above line of treatment will escape the charge of ultra-conservation on the one hand and ultra-radicalism on the other, and will be following a sane middle course.

The treatment of maxillary infections is largely a dental problem and is at present the subject of much interesting study. Several factors must be considered in the choice of method, viz., adequacy and permanency of the result, the possibility of restoring masticating surfaces, and the time and expense to the patient. Time and expense often make extraction of teeth with infected roots the method of preference. Moreover, it is the safest and surest method of removing sepsis. Frequently, however, conservative treatment is justified, especially if the resulting systematic diseases are not serious and there exists no constitutional disorder such as diabetes, anemia, etc., which may lower resistance to infection and decrease the likelihood of success. The question of the best method of treatment might yet be considered an open one, and for the present at least, the method in each individual case might be based in part upon the apparent possibility of

eradicating sepsis by conservative means and in part upon the gravity of the systematic ill for which the teeth might appear to have been the contributing cause.

So far, we have considered the treatment of existing sepsis. We must not overlook the importance of treating defective teeth with a view of preventing sepsis. Let this also be remembered, that so long as a tooth remains vital it cannot become the seat of an apical abscess. It i s a real calamity when dental caries is allowed to progress to the stage of pulp exposure. It is usually the beginning of a chain of troubles often culminating in the death of the individual. Many a death certificate is registered as nephritis, myocarditis, cholecystitis or arthritis, which would be more truthfully recorded as "death from an exposed dental pulp." Under ideal conditions prophylaxis should begin in early childhood and should include the proper handling of every abnormal condition of the mouth, throat and nose which may give rise to mouth breathing, debility, infection, etc., and, in this way, interfere with the proper development of the architecture of the throat, nose, jaws and teeth. If the public, as well as physicians and dentists, were aware of the serious influence which defective teeth have on the development and health of the average individual, oral prophylaxis would hold the important place in preventive medicine that it so richly deserves and the result would be economy in time and expense to the patient, increased physical and mental efficiency, a greater average duration of life, better preservation of the tissues in old age and fewer chronic diseases.

Rosenow, of the Mayo Clinic says, "The relationship between dental infections and various systematic diseases is demonstrated. . . . . The eradication of these foci of infection, often symptomless, is indicated. The exact methods of ridding patients of existing dental foci of infection must be decided in each individual case. A closer affiliation of the medical and dental professions is called for. The dentist of the future should not be isolated in a small office over a drug store, his chief work being to devitalize and fill teeth without regard to the general health. Properly trained dentists should be a part of the public school system and hospitals. The dentist should be closely associated with a group of phyicians so that patients may be given the benefit of a co-ordinate group of specialists with a minimum loss of time and money. Moreover, it seems to me there should be started a public health propoganda so that the people may be fully informed of the dangers to their continued health, that arise from infected teeth and how to avoid them. Prophylaxis should be the watchword"!

The bearing of all this on the management of hospital cases is evident. Many a chronic case of rheumatism, heart disease, kidney disease or ulcer of the stomach is lying in the public wards, a charge on the institution, and a burden to themselves and their relatives, which could be sent out cured or greatly benefited if they were to have their teeth X-rayed for the discovery of focal infections at the root apices, and these foci of infection properly removed. No modern internest considers his diagnosis complete in such cases until the hidden lesions, brought to light by the X-ray are carefully examined by a competent dentist specially trained in the interpretation of the shadows cast on the films. This is not a simple matter and must be done by one familiar not only with the technique of making the radiograms, but quite conversant with the special anatomy, physiology and pathology of the teeth and jaws. This specialist should consult freely with the general pathologist in an effort to arrive at a correct diagnosis of the patient's ills. The sooner hospital trustees and superintendents recognize the necessity of employing a scientific dentist with what we might call a pathological sense, as a regular member of the staff, the sooner will be cleared up a multitude of the chronic ills with which the patients are affected.

MR. DAY—

I am sure we all have enjoyed Dr. Jones' paper, and thank him for the enlightenment he has given us on this subject. If there is any discussion we would like to hear it now.

If there is no discussion, I will now call on Mr. Grimmett for his paper on "Financing the Hospital."

"FINANCING THE HOSPITAL."

By Mr. M. L. Grimmett, Merritt, B. C.

In speaking to you this morning on this subject I wish you to bear in mind that I am speaking from a very limited experience—that comes from my connection during the last two or three years with the hospital at Merritt. I am here to learn rather than teach. At the same time I feel that the duty is incumbent upon me to convey to you whatever knowledge I may have derived from my experience. It is a trite saying that financial questions are trying, but the great importance of this subject should make it intensely interesting to those of us who have upon our shoulders the financing of the hospitals. I take it that I am to deal with the financing of hospitals as they exist at the present time.

The future of hospitals lies, in my opinion, in the direction of individual or municipal ownership and management. You heard last night about the Government of Alberta and Saskatchewan. I did not know that Saskatchewan had also legislated on the subject. I knew that Alberta had, and I have possession of a copy of the Act. Dr. Young told us that Alberta had already passed an Act making it possible for municipalities to maintain hospitals, a step that I am sure is in the right direction. I feel that in the near future British Columbia will have legislation of the same kind.

I will tell you what we do in Merritt. I have no new theories to advance as to hospital financing, but I can tell you how we are doing up there if I may be permitted, and it may add something to the meeting.

It is only the last few months that the hospital at Merritt has been on a paying basis. For years we were carrying a heavy debt there, for months the chairman went without his outlay being paid, even the staff had to wait for their salaries. I wish to say today, notwithstanding the high cost of living, notwithstanding the larger salaries we are paying there today, I am proud to say that the hospital at Merritt is paying its way, and if in the near future we can get a further grant from the Government, we should not only be able to pay our way but to improve our grounds and buildings, which is very necessary.

I want first to deal with our sources of income, then in the second place, deal with the collection and getting in of that income.

We have what is called the "contract system" in connection with men working in the mines, in the sawmills and in the logging camps. This system, I believe, is not in vogue in some hospitals. Men there pay us seventy-five cents a month for hospital treatment, but according to calculations, we find that at present we are just about breaking even along this line. We are seriously considering whether we shall not abolish this system entirely. We think that our income would be increased should we do so. However, the subject is just under consideration. Until the last three months we were receiving only fifty cents a month from these men. We found it entirely insufficient. We increased to seventy-five cents, realizing the large wages they were making, the increased cost upon every line, and they arose to the occasion and made no objection. We have what you all have—income from private source. We were charging up till recently $1.50 per day for the public ward, and perhaps it would be advisable for me at this stage to correct a wrong impression that was conveyed yesterday, namely, that we were limited to $1.00 a day for public patients. It is quite correct partially; in another way it is incorrect. Municipalities under the law can be made to pay for indigent patients. Under the Act that man is limited to $1.00 per day. That is the only instance that the Government has said we can only collect $1.00 per day. There is no limitation on the hospital in regard to fees, what they will charge. Recently we raised our rates from $1.50 to $1.75 for the public ward. Our rates now are:

$1.75 per day in the public ward, or $12.00 per week, to patients who are there longer than a few days;

Semi-private cases, $2.00 per day;

Maternity cases, $3.00 per day until treatment, after treatment, $3.75;
Private, $3.50 per day;
Operating room, $5.00;
X-ray, first plate $5.00, two or more plates of the same patient, $10.00.

We find that those rates are being cheerfully met by the patients, no objections raised whatever.

Now I come to the much talked of question of the Government grant. Unfortunately, our failure is one of lack of co-operation along this line. We are all of the opinion that the present grant in aid is not sufficient. The present grant was fixed some years ago. Again referring to the high cost of living and of labor, if that was a fair and equitable amount to grant us then, I say it is unfair under present conditions, and we have every reason for going to the Government and saying, give us an increase of twenty-five or fifty per cent. on your present grant, to meet conditions that exist now, that did not exist when that legislation was passed. We must make an effort along this line.

I want to refer to another source of income that we have, that is—we sell tickets, $12.00 per year, entitling the holder to certain privileges. We found that some persons were so generous toward the hospital that they came generously forward when they knew one of their family was to be ill, and purchased a ticket. Now we sell tickets only once a year, during the first week in July. However, we are continuing that privilege, and we are ready to grant it to those who appreciate it, but we do not like them to appreciate it in the way I have mentioned.

With reference to Indians, we have a number of Indian Reserves in our community. We get $1.00 per day for the treatment of those Indians from the Government. At the same time it was costing us $2.00 to $2.25 a day to treat these Indians. The Dominion Government did not give us a cent towards the maintenance of our hospital and the Board naturally asked the question, "Why should we treat Indians who are wards of the Dominion Government, without receiving any aid from the Dominion Government?" Under the regulations passed by the Lieutenant-Governor-in-Council we are entitled to receive no aid from the Provincial Government in regard to Indians, so that you can see how unjustly the hospitals in this country have been treated. The Indians have to be treated. We took the matter up with the Indian Agent in that district, and he agreed to pay us the actual cost of Indian patients, and we treat our Indian patients the same way we treat the white ones. We have never heard one protest about the admission of the Indian in the public ward, so they get the same treatment. We took up the question with the Agent, who agreed to allow us the actual cost, so we sent in one bill based on a cost of $2.12 a day. It was paid. We sent in the next bill and it was refused and certain correspondence took place. (Read letter from Indian Agent.) Now, you can see how very unjust it is that we should be asked to treat Indians at less than it is costing us per day. We are pleased to treat these Indians, we have a duty toward those Indian patients, a duty we are going to discharge to the best of our ability, but we have a right to be paid what it is going to cost us; consequently there should be united effort on the part of all of us, no matter what your cost in Vancouver, Kamloops or Salmon Arm, we should at least get from the Dominion Government the actual cost of keeping the Indians.

We have received aid, and I cannot speak too highly of the aid we have received from the Ladies' Auxiliary. These ladies have given devoted service; I need not explain what that service has been in regard to supplying linen for the hospital—in holding at Easter a public ball, giving them a great deal of trouble. We cannot speak too highly of the aid they have given us. I am pleased to say that we are getting into a position where our demands upon the ladies are not going to be so heavy, and the ladies have given the last Easter ball to the Red Cross. I would like to thank the ladies for their devoted work. They are now devoting their energies to another sacred and high cause—the aiding of our lads at the Front. God bless the ladies for their work!

Mr. Chairman, do you have any difficulty in collecting your bills in Victoria, or Dr. Gatewood, do you in Vancouver? There are some people

who are quite willing to leave their hospital bills unpaid, to leave their physicians bills unpaid, yet if you were to make them a direct offer of charity, they would feel insulted. Indirectly, they are ready to receive charity from the hospital and physician. Now, our finance committee meets once a month, they closely scan the current accounts and if they feel that there is a man on that list who is able to pay and won't pay, the account is at once placed in the hands of a solicitor. You have got to do this to educate the people that an hospital account should be paid as soon as the grocer's bill. The result is we are getting our bills in much better than we used to. We have $2,000.00 owing to us on open accounts but our collections have been increasing steadily. Those who are unable to pay we mark off our books. We find that it is necessary to present our accounts regularly to the patients. I understand some hospitals present their accounts every two weeks. I think that is right. If upon leaving the hospital the patient cannot pay, or if the patient be a lady, and her husband is not able to pay, get some acknowledgement of the debt, take a three months' note, take some evidence in writing of the debt, so that in future, if you have to put it in the hands of the solicitor, there can be no dispute. Be sure and follow out that principle of taking notes.

We have two committees in our hospital, a Finance Committee and a House Committee. In this connection there should be the closest co-operation between those two committees. The House Committee should not enter upon any expenditure of any magnitude without the approval of the Finance Committee. There must not be unlimited power placed in the hands of the House Committee with regard to buying.

In conclusion, let me say that this is the most important branch of our discussions, and consequently, I would like to hear a full and free discussion of this subject. I am here to learn and very anxious to find out what is being done in other hospitals. Any questions I shall be very pleased to answer, if I can.

DISCUSSION.

MR. MORDY—

I would like to know, Mr. Grimmett, before you raised your rates in the public ward or the contract rate to seventy-five cents per man, what was the actual loss per patient per day at fifty cents, and also I would like to know with regard to collection of accounts—what is the method of charging these accounts—are they payable week by week in the private wards, and are there any stipulations made as to the payment in the public wards on presentation of accounts? In Cumberland, we have a Finance Committee, Supply Committee and a House Committee, which look after the general welfare of the hospital. These three committees work hand in hand.

MR. DAY—

We collect all our bills in advance. If you go into a pay room in Jubilee Hospital you will pay one week in advance, and you must pay weekly thereafter; unless you go into a public ward.

The address to follow by Mr. Haddon is so much along the same line that I think we should have it before any further discussion. I will now call on Mr. Haddon for his address, "Hospital Accounting."

"HOSPITAL ACCOUNTING."

By Mr. Geo. S. Haddon, Managing Secretary of the Vancouver General Hospital.

One of the problems in all hospitals, however large or small, is that of providing a system of bookkeeping that will enable the directors and management to have at all times a simple but yet complete and comprehensive statement of the hospital's financial condition.

The importance of up-to-date accounting, as applied to hospitals, is becoming more and more apparent every day, and while I think that this important branch of hospital work has been somewhat overlooked, or possibly

neglected, in the past, nevertheless, it is pleasing and interesting to note that at most of the large hospital conventions held within recent years, particular mention has been made of the great need of more careful attention to the study of hospital accounting.

Many hospitals no doubt are handicapped to a certain extent through lack of staff, or otherwise, in having their statements and reports prepared in a way such as they would desire, and perhaps feel that is unnecessary from their point of view of keeping the detail necessary to permit of the publication of an annual report. This is unfortunate, for if the statements were published in a clear and understandable form, they would become of real and lasting benefit, not only to the hospital authorities, but also of great interest to the public and to other hospitals for the purpose of comparison.

The object of this paper, therefore, is not so much to elaborate upon a system of bookkeeping, but to outline as briefly as possible the headings that might be used in the hospital books, viz:—Cash Book, Voucher Journal and Ledger, as will permit of the preparation of a monthly statement so much desired and along the lines of that shown later in detail. And further, to offer a suggestion relative to the inauguration of a uniform system of hospital accounting as applicable to hospitals, not only in British Columbia, but preferably for the whole of Canada.

It is needless to say that if this were accomplished much benefit would result, as all hospitals using the system would be in a position to intelligently compare figures of cost of operating or otherwise, which is not possible at the present time.

Naturally, there are obstacles that would be encountered in devising such a uniform system to suit all hospitals, on account of the different conditions under which they operate. There is no doubt, however, in my mind but that any such difficulty could be overcome.

How much more interesting it would be to compare your own with other institutions from published yearly reports made out along similar lines. You all know how unsatisfactory it is to attempt to compare figures today. The expense headings in practically all hospitals are totally different. Capital charges in some cases are mixed with operating expenses and so on. In fact, there is no set rule, as there should be, to govern or guide in the distribution of all items of expense under their correct headings. A classification of all articles used in hospitals would tend towards overcoming this difficulty and would ensure that each item of expense is charged to its proper section.

A large number of hospitals make it a practice of showing the operation of their work in the form of Receipts and Disbursements. This is not so complete or so interesting as showing a statement of Income and Expenses. The former does not show the true state of the hospital's business for the year. For instance, very often considerable income is derived, such as Government and Municipal grants or otherwise, which is not received until after the close of the year, and further, disbursements are more frequently not made until several months after the accounts are incurred, and so on. It can therefore be seen how much more satisfactory it would be to show the income as against the actual receipts, and the expenses as against the actual disbursements or bills paid, which in the case of Income and Expenses will show any surplus earned or deficit suffered during that period, while that of Receipts and Expenses, the Cash Book Balance only.

This is mentioned for the purpose of showing the need of a uniform system of hospital accounting.

The Cash Book, Voucher Journal and Ledger headings which are detailed herewith, and the General Statement of Income & Expenses, more fully described, are, with slight modifications, similar to the system at present in use in the Vancouver General Hospital, and which have been found to work extremely well. With slight changes in the headings these can be adapted to any hospital and might be used as a suggestion or as a basis to form a uniform system of accounting.

Cash Book.

The Cash Book shall, of course, contain the various headings of possible revenue as shown on the General Statement form, and also the customary

columns for disbursements made. The disbursements need not necessarily be posted in the ledger to individual accounts, but as a lump sum to a ledger heading of Accounts Payable or other suitable wording. This will show, after making the postings from the Voucher Journal, the amount actually owing from time to time, saving as it does the time necessary to make a list of the balances of the individual accounts. A suggestion is offered which will considerably reduce the time necessary to post the individual receipts from the Receipt Book to the Cash Book. In the case of the Vancouver General Hospital, the number of receipts issued each day became so large (unfortunately the expenses increased to a like extent) that it was found necessary to make provision for a distribution of the receipts in a special place provided in the Receipt Book for the purpose, and posting to the Cash Book the total only of the distribution of the day's work, in place of the amount of each separate receipt. This proved a great factor in the saving of time and extra labor, but it is not particularly recommended, only when the separate posting of receipts becomes too heavy a task that it is necessary to inaugurate time and labor-saving schemes.

Voucher Journal.

The Journal or Voucher Journal shall contain a record of all accounts passed for payment by the hospital board. All vouchers or disbursement warrants when drawn up and so approved, must be entered in the Journal, given a consecutive number and distributed to the various departments to which they are chargeable.

A special combination voucher form and cheque is shown herewith and in actual practice has proven entirely satisfactory. The voucher is permanently retained in the office, the cheque only, which contains a record of the invoices called for in the voucher, being forwarded to the payee. The voucher form itself contains a complete record of the various headings of expense for distribution purposes before transferring to the Journal. All danger of losing the voucher, which very often happened under the old system of mailing the original voucher to the payee, is entirely eliminated.

THE VANCOUVER GENERAL HOSPITAL

Dr. To

Cheque is void if detached from statement of account or altered in any way.

No.....

Vancouver, B. C.,.....191.....

PAY TO THE ORDER OF.....

..... Dollars, $.....

in full settlement of account as per statement above.

THE VANCOUVER GENERAL HOSPITAL

To the .....

BANK OF MONTREAL Chairman

Vancouver, B. C. .....

Treasurer

Endorsement of this cheque by payee is sufficient receipt, none other is necessary.

Ledger.

The Ledger, of course, is drawn up to conform to the headings in the Cash Book and the Voucher Journal, with the customary Bank Accounts, Profit and Loss account and so on. The double entry system of bookkeeping is recommended, viz.—Debiting and Crediting all entries passing through the Ledger. This permits of a closer check on all entries and at the same time assists in proving the Trial Balance when taken at the close of the month.

General Statement of Income & Expenses.

The Statement of Income and Expenses is made up monthly and will show the deficit or surplus (if any) covering that period.

The Statement should be drawn up somewhat along the following lines, with any changes in the headings to suit, viz.:

For the month of.....,191.....

Income.

1. Grants—
   Government
   Municipal
   Other
2. Donations—
   Annual
   Special
   Other
3. Fees from Patients—
   Private wards
   Maternity "
   Semi-private "
   Infectious "
   Public "
   (Other) "
4. Special Departments—
   e.g.
   X-ray
   Laboratories
   Etc.
5. Other or Miscellaneous—

Expense.

1. Administration—
   (Salaries, Telephones, Printing, Stationery, Postage, Miscellaneous)
2. Medical & Surgical—
   (Salaries, Drugs, Medical Supplies & Renewals, Surgical Supplies & Renewals, Gauze, Dressings, Bandage Rolls, Rubber Goods, Wines & Liquors, Thermometers, Miscellaneous)
3. Nursing—
   (Salaries, Uniforms, Text Books, Diplomas, Pins, Miscellaneous)
4. Stores—
   (Salaries, Meats & Fish, Poultry, Eggs, Ham & Bacon, Butter, Bread, Milk & Cream, Fruit, Vegetables, Ice, Groceries, Miscellaneous)
5. Kitchen & Household—
   (Salaries, Hardware, Crockery, Dry Goods, Brooms & Brushes, Cleaning Compounds, Furniture Repairs, Renewals, Miscellaneous)
6. Engineering & Mechanical—
   (Salaries, Fuel, Gas, Plumbing Supplies, Repairs, etc., Electric Supplies, Repairs, etc., Elevators, Supplies & Renewals, Machinery, Boilers & Renewals, Lubricating Oils, Miscellaneous)
   (If power plant is not in connection with hospital, use heading of "Fuel & Light" (only)
7. Laundry—
   (Salaries, Gas, Supplies, Repairs & Renewals, Miscellaneous)
   (If in connection with hospital use these sub-headings)
8. Buildings & Grounds—
   (Salaries, Supplies, Repairs & Alterations, Miscellaneous)
9. Special Departments (e.g.)—
   X-ray,
   Laboratories
10. Miscellaneous—
    Rent
    Taxes
    Water
    Etc.

The above style might very easily be used by the majority of hospitals, after making slight additions or changes in the sub-headings to meet changed conditions. The consolidation of the monthly statement for the twelve months will give the yearly statement of Income & Expenses for incorporation in the annual report.

Per Capita Cost Per Patient.

The per capita cost per diem is the familiar and usual way of learning the cost of caring for a patient. It is not an entirely satisfactory manner of comparing one hospital with another unless it is known that both hospitals are operating under similar conditions. Some institutions, for instance, are exempt from taxation, water rates and the like, while others are burdened with these heavy charges. On the other hand, there are hospitals that may only treat public ward patients as against those treating all classes of patients. This has quite a bearing when using per capita costs for comparative purposes. Under a uniform system of accounting, this would be properly taken care of. The per capita cost per diem is arrived at by dividing the total monthly or yearly expenses by the total day's treatment of patients during the same period.

Patients Record and Ledger Book.

A permanent consecutive record of the admission and discharge of patients treated must at all times be available. The draft shown herewith provides also for the entry of payments received from patients and is a combination Patients' Record and Ledger.

The details should give:

Date of admission
Name
Age
Nationality
Religion
Address
Occupation
Where employed
Member of Lodges
Address of relatives or friends
Doctor in attendance
Date of discharge
Number of days stay
Rate per day charged
Extra charges, e.g.
  Operating Room
  Anaesthetics
  Special Medicine
  X-ray
  Laboratory
  Etc., etc.
Total amount of account
Payments made (under 12 monthly headings)
Remarks Column

Collections.

As to a collecting system, I think it can be said that the collecting of outstanding patients' accounts causes more worry to those in charge and at the same time, more adverse criticism of a hospital than positively anything else. It is therefore a question as to what is the best system to use or course to pursue in the collection of accounts without receiving the abuse that very often results from an attempt to collect a hospital bill.

The Vancouver General Hospital has tried several schemes, with more or less success, and is at present experimenting further in this direction, which promises to be even more successful. Before any results can be obtained, however, and before any definite recommendation can be offered, the public must first be educated to feel that obligations incurred at a hospital are justly in line with any other debt.

In conclusion, I have much pleasure in moving the following resolution:

> THAT a Committee be appointed by this Convention for the purpose of considering and devising a system, if possible, tending towards the uniformity of Hospital Accounting, and to report at the next meeting of this Convention.

Seconded by Mr. T. Mordys.

Motion Carried.

(Meeting adjourned to have group photo.)

(Discussion resumed.)

MR. GRIMMETT—

With reference to contract patients, as to whether they paid at fifty cents a month—according to the best calculations we could make, we found that they were not paying and that was why we raised the contribution to seventy-five cents. We made calculations during the last few months and we find that at the increased rate of seventy-five cents a month, they are just about paying. We do not collect in advance, probably we should. That is a matter that I will take up with the Board when I go back. Of course, there are cases where you cannot do that, but collection should be made in advance, if at all possible.

MR. GRAHAM—

With reference to this question of financing, I think that we all pretty well agree that it is one of the most important problems, if not the most important problem, that is,—financing the hospitals in British Columbia today. Now, I heard Mr. Grimmett's explanation in regard to the question of the hospital rates and public rates as provided by the Act, and I might say that that was also my interpretation—that you were at liberty to collect all you could from the patient. I must say that at the Cumberland Hospital, that is one thing that we have been up against there—the question of finances. I think I am safe in saying that the rates in Cumberland have been the lowest in British Columbia. We found that the rates being charged generally were higher, and the highest rate charged in our hospital was $2.00. We have made changes which are effective on the 1st of July; still our rates do not come up to the rates quoted by Mr. Grimmett.

With regard to contracts, practically ninety-five per cent. of our patients are employed in mining, and therefore, a contract would be a very good thing from our point of view. That method might not be suited to a city hospital, but in a community such as ours where we have on the payrolls of the coal companies fourteen hundred men, we figure if we could estimate the expenses of our hospital to a fairly close rate, that we would be able to get from these men a sum of money per month which would enable us to carry on the work. We had in mind seventy-five cents. We figured it out—the cost of operating this coming year and the number of patients on the average that we have been having (we have allowed for a slight increase), we figure that the sum of seventy-five cents per month would be sufficient. With regard to that, I am rather surprised at Mr. Grimmett stating that he didn't think that seventy-cents would be sufficient, and he was considering abolishing the contract. We have also under consideration the question of hospital tickets and we were rather doubtful about it. We have not done anything.

Financing in general—I think it is necessary for the Provincial Government or Municipality to come forward and do something towards financing the hospitals in general. It is only by the Provincial Government and the communities themselves coming through with the necessary amount that a hospital can be run efficiently, and it is absolutely necessary that it should be kept going in that manner.

I think this Convention will achieve a great deal of good if they will appoint a committee to meet representatives of the Provincial Government and take it up with the representatives from all the hospitals in British Columbia, and that is the only way in which the matter can be handled. If we go there one at a time asking for assistance, we will not get it, but if we go unitedly, I think that the chances of getting it are good.

DR. HENDERSON—

In regard to fifty cents per month, I would like to know what the individual gets for that—whether simply hospital treatment, or medical services as well.

In regard to the contract work, so far as Powell River is concerned, the men prefer that and would be sorry to see it changed to any other system. However, the contract system is liable to receive a severe jolt owing to conditions of the Workmen's Compensation Act. That part of the Act which refers to the supplying of artificial limbs and artificial eyes to any individual who may require them—that Act provides that these will be supplied to the patient. Either the company or the surgeon has got to comply with that

Act. For my part, I should be loath to contract with that individual for the rest of his natural life; such a contract would be a very poor asset to my heirs if they had to incur such a liability. I should refuse to enter into such a contract. The companies are loath also to enter into it. Companies such as the Powell River Company could hardly assume such a contract. The result is that the Board of Compensation would likely annul all the contracts and compel us to adopt the system as it is indicated in the Compensation Act, that is,—charging them one cent a day for treatment of injuries incurred only while they are at work. So far as we are concerned, I get the dollar per man and I think that is little enough, and I do not see how any institution can afford to take care of the men at the rate Mr. Grimmett suggests.

MR. GRAHAM—

The Compensation Act provides artificial limbs.

DR. HENDERSON—

The Compensation Act does not supply artificial limbs.

MR. GRIMMETT—

The Compensation Act does supply artificial limbs.

Replying to Dr. Henderson, I beg to say that in my desire to be brief I omitted any reference to the Workmen's Compensation Act. Our arrangement between the Merritt Hospital and the Board is that we get $1.50 per day. I think that the whole question should be taken up with the Board We might discuss it tomorrow when the Chairman of the Board is here to address us. Seventy-five cents a month entitles patient to contract treatment. He is entitled to free use of the operating room and has other privileges. As to his medical attention, he pays $1.00 per month for that to the doctor. I may perhaps have left a false impression on Mr. Graham's mind; I perhaps went too far when I said we were considering abolishing it. We are considering the whole question. It may be that our considerations may result in feeling that our arrangement is an excellent one. I am sure that at seventy-five cents a month, we are getting value received.

MR. MORDY—

What was the amount of loss which the hospital found themselves involved in under the old rate of fifty cents? We propose to enter into a contract at seventy-five cents at Cumberland, and as a member of the Medical Board at Cumberland, I find there is a considerable amount of opposition to seventy-five cents, and a feeling that fifty cents ought to be sufficient. Therefore, I would like to hear from Mr. Grimmett just how much they were actually in the hole.

MR. GRIMMETT—

So far as we have been able to ascertain, the fifty cents a month was not paying. The last three months have shown that the seventy-five cents per month is paying. Now to the credit of the men working in our mines and logging camps, there was not a single objection to this raise of fifty per cent. in the amount that they were paying, and Mr. Mordy may take that back to Cumberland—that the men in the mines at Merritt feel it their duty to pay this additional amount.

MR. WALTERS—

I was not clear with regard to the way in which to deal with the Indian question. I want to ask if it is not a fact that the Indians are supplied with hospitals in the district, but if they go into the public hospitals it is because they don't either like the hospital or the doctor. Doesn't the doctor in charge of the Indian Hospital receive a per capita grant for each patient? Does he receive a per capita grant from the Provincial or Dominion Government?

MR. GRIMMETT—

Mr. Walters has reference to a small hospital for Indians in the Nicola Valley. This hospital is not a public hospital, as we understand it was established by the Anglican Church. It is entirely under their management. Probably they have done good in the past but their means are limited. There is a feeling among the Indians that they receive better treatment in the Nicola Valley General Hospital. The Dominion Government

pays a physician there a small monthly salary for looking after the Indians. That does not in any way do away with the duty of our hospital as a public hospital to receive these Indians, and we have so far never refused admission to Indians applying. The Provincial Government, as I stated this morning, under the Act is not supposed to make any per capita grant for Indian patients. Of course, as I said before, the Dominion Government pay us nothing. However, we are doing the best we can to make the Government pay the cost of treating their wards.

MR. WALTERS—

With regard to indigent cases, I would like to know how the medical men treat these cases. Do they receive any remuneration for treating indigent cases? If a medical man treats an indigent case, does he send his account in to the Provincial Government and receive pay?

DR. MacEACHERN—

The medical man does not get anything from the indigent case, nor from the hospital, nor the Provincial Government.

MR. R. S. DAY—

Now, when the Government passed that Act brought in by Dr. Young, under which public hospitals can charge any municipality $1.00 per day for any patient, we were very grateful for it, but we recognized that it was not enough to cover the cost of the patient. We receive patients from Victoria, Esquimalt, Saanich and Oak Bay, and we asked them to give us $1.50 per day and they all cheerfully consented to that, and since that Act those municipalities have paid us $1.50 per day. Previously, they were treated and fell as a burden on the hospital, and eventually had to be paid for by the City of Victoria. We have waited upon them this year and have asked them to icrease that to $2.25 and it has been favorably received, and while no definite reply has come, we have every reason to believe that they will pay us $2.25.

There was another point that struck me during the conversation here. I lived some twenty-five years ago on the Diamond fields in South Africa. They had a system in force, helping hospitals. If I engaged a native, he was under contract system at once, he was contracted to me for a certain number of months; I had to take him down to the Government office; he paid a small fee, one shilling per month, to the Government for that contract, and that money went to the hospital and the native was entitled to free treatment in the hospital. It seems to me that the Government ought to make some arrangement with the Chinese for free hospital treatment, and we would reap a very large revenue from it.

MR. DAY—

I am sorry we have to stop this interesting discussion. Owing to an engagement which he cannot alternate, Dr. Carder has asked that his paper be deferred till to-morrow morning. I am therefore going to call on Dr. W. B. Burnett, Obstetrician to The Vancouver General Hospital, for his paper entitled "Maternity Work in the Small Hospital."

"MATERNITY WORK IN THE SMALL HOSPITAL."

By Dr. W. B. Burnett, Obstetrician to the Vancouver General Hospital.

In a country like British Columbia where distance is much more evident than population, and where what population there is is very largely at the reproductive period of life, we have some problem in Midwifery, not so common in the more thickly populated district where nearly everyone is within a very few hours of a large hospital or a nurse's registry. Truly our grandmothers got along mostly without a doctor, and were made very comfortable by some kind hearted old lady who took naturally to nursing maybe, or more likely by force of circumstances, and being considered qualified by having raised a large family herself when she was young. But, if we cannot do a little better than our forbears, then t'were appropriate that we should see Dr. Osler and receive the painless exit, making room for a

more progressive generation. However, without any doubt, the results of our maternity work are certainly a great improvement on that of a generation or two ago. The great war with its problems has rather supplanted that maddening motto, "Do it now," with the banner, "Efficiency," and if in our maternity work we are to give the greatest number of women the best care, then we must centralize and concentrate. Maternity work is surgical work with all its problems of asepsis and emergencies, with the same frequent surprises requiring the correction of diagnosis and reversal of treatment, calling for equipment and assistance not always obtainable in the home, and here is the opportunity for the small hospital. Every doctor, I believe, is a good maternity doctor because of the excellent practical training he received in this department as a student, and by dint of the two cases he handled all by himself while "Interne" in the surgical ward afterwards. But, unfortunately, not every good nurse is a good maternity nurse. A good maternity nurse any doctor will tell you is one who knows enough to call him always just in time that he may get his gloves to hold the head back a little, the last two pains. There are other qualifications also in which, in the few days allowed for special training in this department, in many of our large hospitals, no nurse could be expected to become proficient. Fortunately, special opportunities and inclination give certain nurses the experience to make them very expert. But if the community is to receive the most from them, then the patients must come to them at the centre rather than having them go out to scattered units on a wide periphery. That centre should be the hospital and the hospital should see that it has that kind of a nurse. By a hospital we mean a place equipped to care for the sick. As you have heard, we are coming to classify hospitals very rigidly, according to the degree of that equipment, and there seems almost no end to the requirements in a large general hospital today. The smaller and private institutions are nearly all likely to have more maternity cases than any other single class, and ought, if they take such work at all, to be thoroughly equipped to afford the attending physician every opportunity to do his best work, as he cannot always in the patient's home. Caesarean Section is not always a formidable operation, but the bed in the carpeted and curtained room is not the place to do it, and there is no reason in the world why the small hospital with anything worthy the name operating room should not, by affording the facilities in this line, become the savior of one, or perhaps two lives in many cases of Eclampsia, Placenta-Praevia, Contracted Pelvis, etc.

In the country districts more than in the cities no doubt cases will arise when the doctor is not called until the women is exhausted by prolonged labor, and already the child is dead. What a Godsend if she can be removed on spring and mattress in an express wagon to the hospital, where he can do a Craniotomy or other appropriate operative delivery and feel sure that she will have proper care thereafter.

Those of us who treat our Eclamptic cases only in hospital where noting the blood pressure, stomach lavage, phlebotomy, intravenous saline, etc., are convenient and instantly obtainable, where expert attendants can tell us by 'phone as we make our rounds just how the patient is doing, know little of the difficulties of treating these cases in the home, with no nurse and no 'phone.

Even in normal labor the birth of the first child is a matter of anxiety and it is not always easy to foresee just what circumstances may arise, calling for some extra help immediately. In the home the call is vain, you must do the best you can, but it is remarkable how busy these nurses can be kept, each at her own essential part, for a short time about as the baby is born.

The multipara when it comes to indicating the exact moment she intends to deliver that child, is a delusion and a snare. I have heard that good doctors, even after vaginal examination and close questioning of the patient as to how she feels, have gone away leaving a list of places where they could be found, but assuring the nurse that hours must elapse before they would be needed. Nevertheless he had not yet arrived at the first call when the baby was born. This I could hardly believe except for personal

experience. But if such a mistake must occur it might better be with a nurse in much experience, where at least she has some assistance, than in the home with the excited mother and husband giving advice to a nurse not too expert in the work.

You will have gathered that I approve of my patients going to a good hospital to be confined. I do, because I feel sure they will then receive much better nursing than is reasonably possible at home. Day and night the nurse is always awake and watchful, with every facility to give the best of care. If complications arise at any stage we can have at once sufficient help and all means of treatment.

In case the mother is unable to nurse her baby, skilled nurses enable us to get settled on a suitable modification of milk for the baby before the mother has it alone at home. Even the so-called easy labor is a severe physical and nervous strain, and the freedom from home worries (because truly "out of sight is out of mind" to a very large extent) is most desirable. And financially it is very much more economical.

These are good reasons, I think, why the maternity hospital or department of a general hospital should exist, and at the same time carry with them the demand that the hospital should supply the very best of equipment and nursing for this work.

Are there any objections? Many, by both doctor and patient. First comes the greater risks of infection in the hospital. With equal care I grant you that the hospital affords much the greater opportunity of infecting the patient with something other than what we might call an autogenous vaccine. Any hospital worthy the name always admits this danger and expects to get the full share of blame if trouble occurs. If the staff is competent then I believe that the extra care and means of guarding against infection by abundance of sterile swabs, towels, sheets, etc., etc., much more than compensate for the extra risk. But you must have the technic and the facilities which, unfortunately, are not found in every small hospital, whereas there is no excuse for the smallest place essaying to do this work being one whit behind the largest and most elaborate institution.

Next comes the risk to the baby from infectious disease. This is a real difficulty, rare, but much harder to overcome. Particularly does this apply to infection which, if it starts at all, is apt to spread even before the danger is recognized. The common bath tub is here, I believe, the greatest source of danger.

The patient's objections come chiefly from the very natural inclination to be at home when ill, and to the rapidly disappearing prejudice against the hospital as a very dangerous place full of groans and lamentations, and where many people die.

I believe then that one of the most important responsibilities in the small hospital, especially in outlying districts, is to supply the best of care for maternity cases. This means at least one head nurse of sufficient training and experience to give her dependable judgment as to the progress of labor, and as to what is normal and what is not, during the puerperium. he should be able to administer ordinary obstetric anaesthesia in an ordinary case, and be familiar with the ordinary technic of delivery in the normal birth. Those hospitals of fair size may also train up a good practical maternity nurse to fill in until the happy time when all cases go to the hospital and doctors have an eight-hour day.

It is the duty of the small hospital to equip itself to handle any obstetrical operation or complication, and as a teaching centre of artificial infant feeding. When this ideal cannot be reasonably approached, I doubt if the maternity hospital is an unmixed blessing.

MR. DAY—

I am sure this is a very interesting and practical paper.

I will now call on Dr. R. H. Mullin, Director of Laboratories, The Vancouver General Hospital, for a paper on "The Hospital Laboratory."

"THE HOSPITAL LABORATORY."

By Dr. R. H. Mullin, Director of Laboratories, the Vancouver General Hospital.

To adequately and properly discuss the hospital laboratory and the relation it should bear to the hospital as a whole, is not as simple or easy a procedure as would appear at first glance. All hospitals are not alike, so that it becomes at once apparent that any set type of laboratory will not necessarily fit all hospitals. To adjust the relationship which should obtain between the hospital and its laboratory, it is necessary to thoroughly understand the kind of hospital and its particular functions.

Hospitals may be grouped into four classes. First, the private hosuital of varying capacity, maintained by a practitioner or a group of medical men for their own convenience, and that of the patient. Such institutions are, of course, more or less commercial and, unless of large size and privately endowed, must be maintained with a keen eye to their financial aspect. Second, there is the exact opposite of this—a public hospital for the treatment and care of the sick poor. These are maintained usually by municipalities or central governments of some sort, for the care of the indigent sick. Naturally, their funds are, to a certain extent, limited by the generosity of the governing body which supplies the funds. There is a third group of hospitals, which is in reality the combination of these two, such as the ordinary municipal hospitals that maintain both public and private wards with the variations between the two. There is gradually coming into existence a fourth class of hospital connected with the medical schools, which have the added function of having their teaching facilities developed to a considerably greater degree than those hospitals which have no affiliation with teaching institutions.

Naturally, the functions of these different types of institutions vary to a considerable degree. In all, however, there is a common function—namely, the care and treatment of the sick, whether this be done as a commercial problem, as a charity or as a means of teaching medical students. Too often this function is developed at the expense, and to the exclusion of other functions which should obtain in every hospital. Every hospital should have an educational function and an investigational function, whether the institution is connected with a teaching body or not. Each institution should endeavor to add something to the sum of knowledge. This educational function should not be limited to the teaching of students. Every institution should be in a position whereby the attending medical staff, and of even greater importance, the patients themselves, may obtain an increased knowledge with regard to the proper practice of medicine. Likewise too, each institution should advance the science of medicine by investigation into the cause, treatment and effects of disease, otherwise they will be losing to a very great extent one of their very important functions. Unfortunately, the educational and investigational functions are to a very great extent dependant upon a sufficient budget for their adequate care. This is usually a matter of some difficulty.

In all of these functions the hospital laboratory plays a very important part, not only as a means of stimulating the desire for further information and research, but particularly since it occupies the position of being an instrument of precision. In the treatment of the sick the laboratory is of greatest importance as an aid in diagnosis, as affording indications concerning treatment and for the purpose of giving a more accurate prognosis in each case. In all of these, however, the laboratory should serve merely as an aid and not to be looked to as the sole means of arriving at a conclusion. Frequently in practice, clinical men will forget that they are the ones who should properly interpret laboratory results, since they are the ones who come in contact with the patient and are the only ones who can apply the results to the patient.

In recent years, and to an increasingly greater extent, the science of medicine is being divided into its numerous specialties. One of the first divisions is into clinical and laboratory medicines; each of these is further subdivided, so that we have now the various specialists on the clinical side

and—what is going to be recognized more and more—specialists in the various branches of the laboratory side. It is needless to say that for anyone specializing in the laboratory branches of medicine, additional training and experience over and above that ordinarily obtained in a medical school, is required. This training is becoming more and more differentiated so that we have pathologists, bacteriologists, serologists and so forth, all of whose work overlaps to a certain extent. Since all of these must have additional training and experience, it becomes at once apparent that the maintenance of a complete staff in a hospital laboratory is a matter of considerable expense and that such a staff can be maintained only where adequate funds are available.

Although it is impossible for every hospital to maintain a completely equipped and manned laboratory, nevertheless it is possible for every hospital to provide facilities for a certain amount of necessary laboratory work, such as is ordinarily undertaken by a few of the more energetic practicing physicians in their own office equipment. Often such laboratories are begun in hospitals of the smaller size by enthusiastic individuals, but frequently they drop into disuse, usually because no one is held responsible for their maintenance. It must be appreciated that laboratory technicians can be had who will undertake much of the tedious work necessary in the maintenance of laboratory facilities and equipment. This factor has added greatly to the possibility of having a satisfactorily run laboratory. It is accompanied by the important feature that such technicians can attain a remarkable degree of expertness in different fields and that they will work for a considerably smaller salary than a fully trained medical man. They must, of course, work under more or less constant supervision but if they have been adequately trained, they frequently acquire a dexterity and exactness sufficient to guarantee the accuracy of their results. Such workers can be advantageously employed by the smaller hospitals and will undoubtedly give more satisfaction than a recent graduate, who frequently looks upon laboratory work as more or less of a bore. Such technicians can take care of the ordinary routine urine analysis, of blood counts, the examination of stomach contents, the quantitative examination of urine and similar examinations.

It has been found that women will develop remarkably in this particular line; some of them having great adaption and liking for their work. Nurses are gradually taking up this line of work after their graduation from the training school. If the demand were greater, undoubtedly the training school would add facilities to their curriculum, so as to turn out nurses specially qualified for this work. If such an idea were developed, it might lend an easy solution to an otherwise more or less difficult problem. Our Province is more or less peculiarly situated. It is hemmed in on the East by the mountains, on the West by the sea, on the South by an international boundary line and on the North by a very undeveloped country. For its area it has comparatively small population. Much of this population, however, is condensed into municipalities of larger or smaller size. It would seem that there is sufficient wealth in the Province for the maintenance of one or more completely equipped laboratories if the mechanism for maintenance could be provided. It must be appreciated that in all cases an immediate diagnosis upon a given specimen is not absolutely essential. Certain specimens, too, readily lend themselves to being transmitted through the mails without damage if they have been properly prepared. This gathering is the beginning of what undoubtedly will become a permanent organization in British Columbia. Might it not, when its permanent organization is effected, consider the feasibility of establishing a co-operative system of laboratories, whereby a laboratory system completely equipped for all classes of examination, for investigation, for education and for research, might be maintained? The problem is not as difficult, nor as extensive, as we might at first surmise. It can be taken for granted that in the not too far distant future the Government of this Province will see the absolute necessity for establishing an adequately equipped Bureau of Communicable Diseases, in an effort to control this class of sickness. Such a Bureau must have as one of its chief agencies excellent laboratory facilities.

Although clinical laboratory examinations are not of the same character as those required in public health methods, yet much of the equipment used in the one can be applied and is useful for the examinations made in the other. It might be possible to persuade the Government to undertake not only the public health examinations necessary, but also the clinical laboratory examinations. The prospects for this are, perhaps, not as bright as might be desired by some. It would, in effect, be a step towards the socializing of medical practice, and for this reason might not appear desirable to some, although, undoubtedly, the Government could undertake such examinations at a minimum cost. Failing Governmental support in this regard, it might be possible, and it would certainly be desirable, for the hospitals to attempt a co-operative plan with the Government in establishing a combined laboratory. Such a plan would mean a considerable economy in overhead expenses, and in equipment and supplies needed. There should not be any very great difficulty in arranging for a pro-rated expense to each hospital which enters into such a co-operative plan. This plan would not relieve any hospital of all laboratory examinations, but only those in which specimens can be transmitted through the mails without deterioration, and where the equipment necessary is too expensive for the smaller hospitals to economically install to take care of the limited amount of work which they might have. Necessity for increased laboratory facilities in the Province must be plain to all. Undoubtedly, such increased facilities would add greatly to the stimulus towards a more scientific practice among the medical profession.

MR. DAY—

As we are by our time, I will declare the meeting adjourned till 2:30 p.m.

AFTERNOON SESSION—June 27th, 1918.

(Dr. MacEachern made some announcements about the evening entertainment.)

DR. GATEWOOD—

I am going to ask Mr. Charles Graham to take the chair this afternoon.

MR. GRAHAM—

The next two papers are along similar lines and therefore I think we had better have all the discussions together.

I will now call on Mrs. M. E. Johnson, Superintendent of the Bute Street Hospital, for her paper, "The Standardization and Affiliation of Training Schools in British Columbia."

"THE STANDARDIZATION AND AFFILIATION OF TRAINING SCHOOLS IN BRITISH COLUMBIA."

By Mrs. M. E. Johnson, Superintendent of the Bute Street Hospital.

Sixty years ago training schools for nurses were unknown. The first training school was established in St. Thomas, London, England. It was endowed by Florence Nightingale, $200.00 was provided for instruction. The theoretical work was in the form of lectures and bedside teaching. Twelve years later the first training school in America was established in the New England Hospital, Boston, Mass., by Dr. Susan Dimick. The course of training covered one year, three months medical, three months surgical and three months obstetrical, one month night duty, two months care of private patients. Twelve lectures were given by the medical staff and practical instruction given by Dr. Dimick.

Today there are training schools for nurses in almost every hospital of fifteen beds and over, but I am sorry to say there are few endowed schools

in this country. Almost every training school is carrying out its work under difficulty for lack of funds. Many of our schools and colleges are richly endowed, while our training schools for nurses are established by the hospitals with one main purpose, to carry on the nursing work of the hospital in return for instruction given to student nurses. The education of the pupil nurse is a secondary purpose. Is it right? If our boards of directors and hospital administrators are to have a true conception of the responsibilities which are assumed in attempting to direct, control and develop in an adequate way the education of the nurse in the training school?

If the nursing profession is to occupy the place it rightfully deserves among the profession, then education must be one of its first considerations; also the building of character and efficiency in the pupil, and creating a high standard of bedside nursing to the patient.

The Requirements of the Pupil Nurse—The hospital training schools are dependant, to a large extent, upon the high schools for applicants, some hospitals require high school graduates. Applicants should at least have one relationship with the high schools and training schools in the Province so that the preparatory course of physics, chemistry, biology, bacteriology, hygiene and dietetics could be taken up in the high schools. Thus fitting the student nurse to come to our training schools better equipped for practical work, then the training schools would be in a position to give a more thorough training in general and special work.

In regard to a standard curriculum for British Columbia. When asked to write this paper, I wrote to the Provincial Secretary for reports on hospital training school work in British Columbia, and was informed that there was no government supervision of training schools; so that it is unnecessary for me to emphasize the need which exists for standardization of training schools in this Province. Miss Johns, Secretary of the Canadian National Graduate Nurses Association, in her report last year on national standardization, recommends the following requirements for standard schools:

1. A daily average of patients.
2. A diversity of service sufficient to give experience in the main branches of nursing or suitable affiliation with other institutions.
3. A proper and adequate provision for the pupil as regards good lodging.
4. A trained teaching personnel and supply of teaching material.
5. Such regulations of hours off duty as to allow time for theoretical work.
6. A standard curriculum.
7. A standardized system of training school records.
8. Standardized admission requirements.
9. Training school inspection by a competent nurse inspector under provincial auspices.

The Graduate Nurses Association of British Columbia have been working for six years to have a provincial nurses registration bill, and I am happy to say it has been passed and made valid at the last session of the legislature. The bill provides for the following essentials:

1. State registration for graduate nurses by Act of Parliament.
2. A three years' term of grace for practicing nurses, already trained, after the Bill becomes law, during which time they can register without examination.
3. A uniform curriculum (or course of training) for training schools, arranged by affiliation if necessary, which already is in force in several B. C. hospitals.
4. A central examination for all nurses at the expiration of the three years grace.
5. All nurses graduating from recognized training schools, prior to the passing of the Act, may be registered without examination.
6. Nurses who are registered as trained nurses in other Provinces or countries having substantially like requirements for registration, shall be entitled to register in this Province without examination.

7. The Examining Board will be composed of two doctors and four nurses, graduates of recognized training schools, who have had at least two years' additional experience in nursing. It is the desire of the Association that the Examining Board be appointed by the Lieutenant-Governor-in-Council.

8. If an applicant shall pass a satisfactory examination and have the necessary qualifications, she shall be entitled to receive a certificate of registration and to append to her name the letters R.N., showing that she has been registered in accordance with this Act.

9. This Act shall not be construed to apply to the gratuitous nursing of the sick by friends or members, nor to any persons nursing the sick who do not in any way assume or pretend to be a registered nurse.

Acts having substantially the same requirements are already in force in five Provinces and in practically every State of the Union, and this Act has the endorsation of the Medical Association of British Columbia.

Section 21 of this Bill, in regard to British Columbia hospital training schools, reads:

> "After three years from the passing of this Act the following training schools only shall be approved by the Council as giving to their graduates sufficient training for registration under this Act, namely, training schools connected with a general hospital of at least fifteen beds (or a special hospital which is affiliated with an approved general hospital). The principal and night superintendent which are registered nurses or eligible for registration giving a three-year course of instruction and providing general training in the following departments of nursing: Medical, surgical, obstetrical and pediatric nursing; and which schools are registered by the Council under this Act as approved training schools.
>
> "Training schools which do not provide adequate opportunities in all the above departments shall not be registered as approved training schools unless they first become affiliated with institutions approved as giving such opportunities."

Now, if there are training schools in British Columbia which do not come up to the requirements of this Act, they will have to make the necessary changes in order that the pupils entering their training schools this year may be able to register when they graduate, three years hence.

In order that this registration bill may not work a hardship on the small special hospitals, provision has been made for affiliation, and I am glad to know that some of the smaller hospitals are already affiliating with the larger ones. Affiliation is the greatest blessing that ever came to the trained nurse trained in the small hospital.

In many ways the small hospital adequately equipped can give the pupil nurse a training specially fitting her for general or private nursing, but affiliation with the larger ones gives her a broader view point and a greater variety of experience. Could we not make one large hospital centre for affiliation with the smaller hospitals? It is practically impossible to suggest a uniform method for practical work of hospitals, but the same theoretical studies at the same time in the different affiliated hospitals would be a great advantage. I would like to see affiliation carried on in British Columbia to a large extent. Training schools in the mental, tubercular and military hospitals affiliating with a general, thus giving a good general training and raising the standard of our profession still higher.

For the small hospital who cannot affiliate, inadequate equipment need not be a source of discouragement. The minimum requirements for class work includes a lecture room, laboratory, reference library, inexpensive models, doll-charts, etc.

In regard to instruction, the superintendent of nurses in most small hospitals is too busy to do the required teaching, an assistant who has special training as a teacher would be invaluable. Very few small hospitals can afford a nurse instructor. Co-operation with high schools where some branches could be taught would be one way to gain instruction. Nurses who have prepared themselves for teaching might be obtained as visiting

Pre-requisite Studies for entrance to Training Schools.

instructors. One nurse in Massachusetts has sent out announcements that she is prepared to teach a course in each of the following:

Anatomy and Physiology	30	Hrs.
Materia Medica	16	"
Bacteriology	12	"
Chemistry	18	"
Hygiene	6	"
Municipal Sanitation	10	"
History of Nursing	10	"

At four dollars an hour.

Several hospitals in British Columbia might combine to engage a visiting instructor. University affiliation, when possible, is desirable and increasing. Some hospitals in the United States are combining a University course and Nursing course of five years. They give a B.A. degree and a Nurses' Diploma.

The world's upheaval of war is making many new demands in the field of nursing and our teaching must be directed towards these demands.

In Philadelphia last year the American National Association of Graduate Nurses recommended the following standard of minimum requirements for instruction in schools of nursing:

Recommendation of Legislative Committee.

Pre-requisite Studies Recommended for Entrance Requirements to Schools of Nursing.

1. Latin—One year.
2. English—Includes ability to speak the English language correctly and the power to write English in a correct, orderly and fitting manner.
3. Mathematics—Elementary Algebra (recommended)—Includes ability to deal with problems including fractions, percentage and the decimal system.
4. Chemistry—Includes elementary general chemistry with laboratory practice. Household Chemistry.
5. Biology—Includes the study of plant and animal biology sufficient to provide a foundation for the study of physiology and bacteriology.
6. Home Economics—Includes Domestic Science as cooking and household management, preparation of meals and food values.

The following graduation of educational requirements is recommended:

From January 1918 to January 1920, evidence of a successful completion of one year of high school work;

From January 1920 to January 1922, evidence of a successful completion of two years of high school work;

After January 1922, evidence of four years of high school work.

Minimum requirements for Theoretical Work. The following standard of minimum requirements for instruction in schools of nursing is recommended:

FIRST YEAR.

First Half.

Subject—	Hours
Nursing Technique	32
Bacteriology (Elementary)	16
Anatomy and Physiology	16
Elementary Dietetics	16
Elementary Hygiene	16
Ethics and History of Nursing	16
	136

Second Half.

Subject—	Hours
Nursing Technique	16
Anatomy and Physiology	16
Materia Medica	16
Bandaging	8
	56

SECOND YEAR.

First Half.

Subject—	Hours
Nursing in Medical Diseases	16
Materia Medica and Therapeutics	16
Urinalysis and Laboratory Technique	8
Advanced Dietetics and Laboratory Work	16
Nursing Ethics	8
	64

Second Half.

Subject—	Hours
Nursing in Surgical Diseases	16
Operating Room Technique	8
Orthopedic Nursing	8
Obstetrics and Obstetrical Nursing	16
Gynecology	8
Diseases of the Skin and Teeth	8
	64

THIRD YEAR.

First Half.

Subject—	Hours
Pediatrics and Infant Feeding	16
Communicable Diseases and Preventive Medicine	16
Mental Diseases	16
Eye, Ear, Nose and Throat	8
Hygiene and Sanitation	8
	64

Second Half.

Subject—	Hours
Ethics and Social Problems	16
Instruction in Special Branches of Nursing	16
History of Nursing and Nursing Organizations	16
	48

Minimum Requirements for Practical Work—

Medical	6 Months
Surgical	6 Months
Obstetrical	3 Months
(Or care of 10 patients, including labor and care of baby.)	
Children	2 Months
Diet Kitchen	2 Months
Night Duty	4 Months
Operating Room	3 Months
Special Duty	3 Months
Vacation	2 Months
Unspecified Duty	5 Months

MR. GRAHAM—

I will now call on Miss M. McLeod, Superintendent of Nurses, the Vancouver General Hospital, for her paper, "The Modern Trained Nurse."

"THE MODERN TRAINED NURSE."

By Miss M. McLeod, Superintendent of Nurses, The Vancouver General Hospital.

The nursing profession was called into existence by the real needs of suffering humanity. It is the only profession women can claim as their own. It is a profession exalted by intellect and culture. Yet we are told there is something wrong with the training schools of today.

The doctors claim that the trained nurse is not efficient. Superintendents of training schools say there is something wrong, and the lay public finds something radically wrong. If we could come to a satisfactory diagnosis of the case, I am sure among us we could establish a training school capable of training women such as John Allen described as "not existing on this side of the pearly gates."

I am not going to inflict upon you a history of the progress and growth of the nursing profession. Sufficient to say that the Montreal General Hospital can boast of the first training school for nurses in Canada. This school was opened in 1890, and Dr. R. E. McKechnie of this city, was among the first to lecture to the nurses. In the United States, the training school dates back fifty years, and during these years it has made rapid strides. A number of these schools now have University affiliation, preliminary courses, and almost all have paid instructors.

The duties of the student nurse in the large general hospital are quite the same as those in the small general hospital, so that if we have anything to offer for the information of the one, the same would be true of the other.

We shall consider first the relation of the training school to the hospital. Quite a number of training schools are organized under a separate charter, and operated under a different board of directors, and kept in every way completely apart from the hospital, except that the pupils in the training school are employed by the hospital under certain conditions to nurse the patients. The Illinois Training School of Chicago is an independent institution. The student nurses get their practical training in the Cook County Hospital on the basis of affiliation. In this instance, the plan has proven a success. There are several training schools under university management. In these schools the practical training is given in the hospital, while the university controls the other educational details, and the university, not the hospital, authorizes the graduation and issues the diplomas.

Any connection, however, of a hospital training school with a university, inevitably leads to the addition to the training school curriculum of an increased amount of purely technical work. This presents a problem of far-reaching significance. It must be appreciated that in her future profession, the earning capacity of a nurse is limited, and the renumeration ordinarily received not very high. Too much technical information in the training school is therefore not warranted by the subsequent renumeration which is to be expected.

Many hospitals are getting away from the ten-hour day which used to be in vogue. Recent investigation regarding the effect of fatigue upon efficiency has shown that after a ten-hour day the efficiency of the worker greatly diminishes. It would seem best, therefore, to reduce the time on duty per day from ten to eight hours. If this were done, then a sufficient amount of time would be left available for the increase in technical work which would be required by university affiliation. More time for the purely nursing part of the training could also be obtained by eliminating from the duties of the pupil nurse the ordinary house-keeping duties in connection with the wards. It has never seemed reasonable to expect pupil nurses to entirely assume all the housekeeping duties which usually are connected with hospital wards. These duties might better be undertaken by ward attendants or helpers who would receive adequate renumeration for the work they did. In this way the pupil nurses would be relieved of the monotony of doing certain tasks continuously throughout their training, which in reality have little or no bearing upon the actual teaching or learning of their profession. If such a procedure were adopted, more time would be available for the proper instruction in the actual principles and practices of nursing, and the pupil nurse would be in a more receptive mood for study.

Other changes in the curriculum of the training school might be considered. It must be appreciated that this is an age of specialization. The demand is becoming more and more acute not for the nurse with general training, but for a nurse who is qualified along special lines. For instance, it is of no particular value to a surgeon that a nurse is a fairly capable

general nurse. What he wants is a nurse who has special training in surgery. So too with the other specialties in medicine. According to the methods of training now in vogue, any specialist nurses are developed after they leave the training school from which they have graduated. All their training, therefore, in their specialty is undertaken without supervision and at the expense of the practice of their profession. How much better it would be if the various training schools would undertake to give the course in the specialty either as a part of the under-graduate course, or as a distinct graduate school.

If the changes already suggested in relieving the pupil nurse of some of her arduous work were adopted, it would be possible to find time for a more or less intensive course in a number of specialties. It must be appreciated that more and more a new field of opportunity is arising not alone in the special branches of medicine, but in some of the more closely related sciences, especially those related to public health activities. It might be possible to give courses which would fairly well qualify nurses to act as assistants in the X-ray department of the hospital, in the hospital laboratory, in a training school administration, and in the social service department. In the majority of Canadian hospitals the student nurses receive no training in the social service department. She gets her practical training in the wards of the institution, but has no actual knowledge of the conditions which have placed the ward patient in the hospital. Today all nursing work points towards educating the public to avoid causes of disease, rather than alleviating the suffering. This branch of the work should be given a place in the curriculum of our training schools. The nurses should be graded in the work, and an examination given. One worker in the social service department could give eight or ten lectures to the pupil nurse in her second year, and as well the pupil nurse could spend one or two weeks in the social service department visiting poor families, thus learning the causes responsible for sending the patients to the hospital. Other special branches demanding workers in their particular line are diseases of infants, infectious diseases, school nurses, visiting nurses, etc. It would seem that it might be possible to rearrange the work in the training school so as to allow the pupil nurses to elect any one of the special branches for the intensive work in the last six months of their training.

In this way, specialist nurses would be developed to meet the demand which is surely coming in a very urgent manner.

DISCUSSION.

DR. MacEACHERN—

This Association will find itself in the same position as the International soon—in which we find that we have to divide it into sections, as—Nursing, Dietetic, etc., in order to cover the work properly.

In all my hospital administration I have always endeavored, and it is the duty of every superintendent, to give the superintendent of nurses and the training school every possible support in the work. One of the pleasures which I get out of my work is the interest which I take in the training school. We have seen in our training school here many advances in the past few years and we are still making advances. We have affiliation and post graduate courses now here. I also understand the Provincial Jubilee gives a two-year affiliation. Our affiliation is one year. The nurse from the smaller hospital may take her final year in the Vancouver General Hospital and finish her course through the special branches as—Operating Room, Obstetrics, Pediatrics and Dietetics. She may graduate from our platform but she receives her diploma from the hospital from which she came, and is recognized as a graduate of her own hospital. The post graduate courses are in Operating Room Technique, Obstetrics, Dietetics and Pediatrics.

Personally, I feel that the time will come when the University of British Columbia will have a Chair of Nursing and with it all the training schools in British Columbia will be affiliated. The University will supply the theoretical teaching and the various hospitals throughout the Province, the practical teaching.

MRS. CAMPBELL—

Don't you think it is hard on the small hospital to take the nurse away in the third year? We in Vernon object on this ground.

DR. MacEACHERN—

To the nurses, it is a decided advantage; to the hospitals, I suppose, a disadvantage. It is too bad we cannot make such an arrangement as would be advantageous to both. The nurse from the smaller hospital during her first two years should receive as good training as the nurse from the large hospital, all other things being equal, and there is the advantage which she may have of having had more individual instruction. In the third year, by affiliation, she gets the advantages of the courses in the large hospital, which comprises Operating Room Technique, Obstetrics, Pediatrics and Dietetics, and this gives her a good rounding off for her profession. It is a question whether we are going to let the nurse or the hospital suffer. Personally, I do not think we should let either suffer.

DR. MULLIN —

There are some things in our training schools as they are carried on today, which are fundamentally wrong from every standpoint excepting service to the hospital. The nurses used to get all their instructions at night, after they had completed a day lasting from seven to seven, with a few minutes off, and Sunday morning. If the hospitals are going to occupy a position of more or less public health centres, it seems to me that it is up to the hospitals to begin the practice right in their own institution.

Another point that Miss McLeod brought out was that the remuneration they are receiving is not very high. In the United States, I think the most they receive for ordinary cases is $35.00 a week. Perhaps in Canada, it is not quite as high, perhaps $30.00. Even at $35.00, that gives you a maximum income of $1,800.00 a year. If you work anywhere from twelve to twenty hours a day for fifty weeks in the year, how much training is allowed, how much training will be justified by the subsequent remuneration? This is something that I think needs a certain amount of consideration—that is, we cannot expect the nurses to have a very extreme grade of efficiency so far as the extensiveness of their course is concerned, under present conditions. There should be some definite amount of training required and the subsequent remuneration that is to be expected should be accordingly.

From a laboratory standpoint, we find in laboratory work that certain types of nurses are specially adapted to undertake some of the technical details of this work, not only in the hospital laboratory but also in the laboratories of physicians who have offices down town, so that if the training schools could establish a mechanism whereby the nurses could obtain this information, either during their course or immediately after it, as a post graduate course, a great need would be fulfilled. I think the want of this is very keenly felt at present. It is practically impossible to get medical men to stay long at this work; they refuse to work for the salaries which hospitals and others can supply for the work which is demanded.

Something has been said regarding the fact of university affiliation with training schools for nurses. I was at one time connected with the University of Minnesota where they had this affiliation, and they found it tc work out excellently. The actual nursing work was taken in the University school, with co-operation between the work of the hospital and the University. All the nurses seemed pleased with that course.

Dr. McEachern at this point read the following letter from Dr. C. H. Vrooman, Medical Superintendent King Edward Sanatorium, Tranquille, Kanmlops, B. C.:

"Dear Dr. MacEachern:—

In connection with the Hospital Convention, there is one subject I would like to have brought up at the Round Table Conference, this is giving nurses a training in nursing cases of pulmonary tuberculosis. This subject was discussed at the recent conference in Toronto and at the Med-

ical Meeting in Hamilton. A resolution was passed urging that the general hospitals make arrangements to give nurses in training a course in sanatorium nursing at the nearest sanatorium available. It was felt that in general hospitals at the present time they do not get a complete training in this particular branch. Nurses are largely ignorant of what is meant by sanatorium treatment and Sanatoria had constant difficulty in securing nurses for their institutions. There is a prejudice among the nurses to taking positions which is largely due to ignorance of the life there. The increasing importance of the Tuberculosis problem makes it necessary that nurses receive training along these lines, and it was felt by practically all the superintendents of Sanatoria whom I met, that it would be greatly in the interest of the Anti-Tuberculosis work if the hospitals could be got to co-operate with the Sanatoria and send their nurses for a short period and receive treatment in this important subject.

I am sorry I cannot be there and present the matter, but I hope you will be able to get someone to do so.

With kind regards,
I remain,
Yours very truly,
C. H. VROOMAN,
Medical Superintendent."

DR. MacEACHERN—

Hospitals are compelled to take in tubercular cases. Would a nurse get sufficient training during her course for this work?

MRS. CURRIE—

Yes, but they are compelled to take in advanced cases. Apparently, the nursing for the advanced tubercular case is a little different from the incipient. The incipient gets a special line of exercise and treatment. The advanced case is practically a bed case and treated as an ordinary bed case, excepting for the fact that it is an infectious case, where she will have to administer a certain line of technique, which she should know in her ordinary training course. Our hospital has an exchange—we sent three nurses up and received three in exchange—and this was mutually advantageous.

DR. MacEACHERN—

Seems to me this is a question for a committee or for future consideration. Possibly we could discuss it at the round table conference tomorrow.

MR. GRAHAM—

If there is no further discussion, I'll call on Miss E. Kinney, Chief Dietitian to the Vancouver General Hospital, for her paper on "The Hospital Dietary."

"THE HOSPITAL DIETARY."

By Miss E. Kinney, Chief Dietitian to the Vancouver General Hospital.

Today, scientific feeding is being recognized as an important part of hospital routine, with great co-operation between physicians, hospital superintendents and staff. Four years ago, a prominent medical man, writing for the Modern Hospital, stated that there were not at that time three good dietitians in the United States. Three months ago, writing for the American College of Surgeons, he states that now, "thanks to the co-operation of physicians, there are fifty good dietitians with many more fully qualified to take up the hospital training necessary for scientific management of hospital dietaries."

The fault has not all been that of the dietitians, however. For a matter of some eighteen years Domestic Science has been sending out graduates well equipped to assume the responsibility of institutional food administration; and for perhaps fifteen years of that time, these girls have been filtering into hospitals; at least for the instruction of the nurses in invalid cookery; later, for the added duty of private tray service; of later years, working with the physicians in diseased metabolism, and taking from the

housekeepers and stewards more and more responsibility until now in many hospitals the dietitians are taking charge of food, from ordering to final distribution, conducting the work of instruction along broader lines, utilizing the preliminary training for work with physicians in diseased metabolism, and supplying for the hospital staff a standard diet that aims to please, as well as satisfy.

Considering a hospital dietary, we must think of three phases:

1. Its physiological requirements;
2. Economy;
3. Its educational function;

any one of which would furnish material for many papers. It is our present purpose to discuss these requirements in general only, and that briefly—Miss Sinclair will be able to treat at least one of these much more specifically.

A standard hospital dietary must provide meals for at least four classes of people, all of whose food requirements are radically different,—patients, doctors, nurses and help.

First for the patients—food for those who are seriously ill is a matter of vital importance, for the life of the patient often depends upon the maintenance of strength during the acute period of disease—or on the recovery of power during convalescence. The food must be abundant, plain, simply prepared, inexpensive.

While it seems impossible even in a moderate sized hospital to plan dietaries filling the caloric requirements of each patient; yet bearing in mind that a well man lying quietly in bed, requires from 1,600 to 2,000 calories a day, that if the body is being wasted by disease, he may require a great deal more—and that during convalescence, if the body has lost weight, food must be given for rebuilding in addition to the ordinary daily needs—we can plan a diet which will furnish 2,000—2,200 calories daily average portion; and by judicious variation in portions, and addition of eggs, etc., as nourishments, adapt this dietary to the individual need.

Caloric needs are not all that a hospital diet should satisfy; we must supply a well balanced diet which will also please and satisfy capricious invalid appetites. With a limited variety allowed, this must seem difficult, but a little time and attention can accomplish wonders. For example, fish and eggs, staple items of invalid diet, especially of public ward patients, if served boiled repeatedly, must become unappetizing, and yet there are at least six simple, digestible ways in which these foods may be prepared and served at the cost of a little time and attention.

But there can be no fixed law for details—each locality, each class of patient is a case by itself; in fact, the person responsible for the hospital diet should hold herself ready to study the requirements and idiocyncrasies of the individual—at the same time false ideas as to the character of food necessary for health should not be encouraged in patients.

Here let us mention that planning a diet and preparation of the food is the least part of the problem. All is lost if the food service is poor. Service of food is one of the most important parts of the nurses' training in dietetics. Fault is often found with the diet; if such complaints were sifted, a large percentage would be found to relate to the methods of serving food after leaving the kitchen. The old dictum hot's-hot and cold's-cold cannot be over-emphasized. Too much pains cannot be taken in serving food. The fact that it is not the quantity or quality of the food which provoke criticism, but the method in which it is served, should be borne in mind.

In connection with patients' diet, it is difficult to mention special diets briefly. Special diet slips, revised yearly by physicians and surgeons, are doubtless of great help. Yet the day of the standard special diet has undoubtedly passed and the problem of individual metabolism is the one with which we most commonly have to deal. There are many good special diet lists easily available, and any one here I might give would be quite superfluous.

The diet for the nurses has been a phase of the hospital dietary often much neglected. The staff, doctors and internes have usually fared better —and yet the nurses are daily coming into as close, if not closer, contact

with disease; are working hard through long hours. A caloric requirement of at least 2,700 daily does not seem too high; and again too much emphasis cannot be laid upon variety and good service. The staples—meat, soups, and the breakfasts cannot be varied greatly; but with the many appetizing lunch or supper dishes available and a variety of deserts, an attractive daily menu can be arranged which need not repeat for at least fifteen days.

The diet for the help is the third big item in the hospital. The employees are usually recruited from people accustomed to a bulk rather than a variety, who like their "three squares" a day, and view with distrust the equivalent for a meat dish, or the most appetizing dish made from left-overs. The dinner is not as hard to plan as the supper. A bulky meat equivalent and a relish, such as pork and beans with pickled beets, seem to help meet this difficulty. Again comes the need for studying locality. An Irish-Jewish staff in an Eastern hospital presents a totally different problem from the Scotch-English staff of a Western Canadian.

The old laborious method of computing caloric values has been much simplified by the introduction of tables showing hundred calory portions. I have with me such a table which can be duplicated.

The problem of cost and waste may be divided into two branches: that connected with the food before it reaches the kitchen, and that connected with its preparation until it reaches the patient.

It is not my purpose to express any opinion as to the former—except that it is never an economy to buy an inferior grade because the price is lower; no poor quality should be received is axiomatic. At the same time the most expensive grade is not always the best. Judicious buying and careful checking of contracts can save any hospital yearly.

The question of waste in the kitchen is answered by the one word, "supervision." Constant supervision of preparation, checking of service, and the careful use of left-overs, can work wonders in saving. This means a larger staff, but the resultant economy seems to justify the extra salary expenditure. Women cooks are more economical than men, but we often hesitate to use them as they are harder to manage.

The question of waste does not end with the kitchen—we come again to our question of service. It is useless to set portions and send out diets accordingly—unless the service is followed up and the same portion used on the ward. To check the return trays of a chartered special diet is an eye-opener. To inaugurate a system of bedside service, which gives the patient small portions before him and a return for second service if wished, is a bigger one. Patients as well as nurses can be taught economic habits in dealing with food. They should not be allowed to see food wasted. Too much praise cannot be given to nurses who are careful to conserve food supply.

An excellent means of reducing the cost of food supply is in standardizing per capita allowances and in following these allowances and a standard diet carefully in ordering. We have ready a standard per capita allowance list and a standard diet to submit. I would criticize the diet for patients as supplying an evening meal which is far too heavy; but an attempt nine months ago to make this meal lighter resulted in such a clamor of complaints from public ward patients that we have returned to the heavier menu —trying to achieve the same results by serving light dishes and small quantity portions.

In conclusion, the training of nurses in dietetics is of the greatest importance. Most training schools can be criticized that this part of their training is too short. May I quote from Doctor Joslyn at the American Hospital Association:—

"Nurses are already given courses in dietetics; but the need for more instructions is daily apparent, because treatment in hospitals is more and more based upon quantative variations. Experience alone will enable nurses to carry out orders properly. Nurses may know more about diet than the older physicians, but they do not as a rule know as much as the present younger group of doctors. All nurses working in institutions should have demonstrated to them the necessity for the avoidance of waste. They should be familiar with the caloric value of food."

In thinking of my subject, "The Hospital Dietary," it has occurred to me that our experience, with every advantage of equipment and supply, would be quite aside from that of those working in smaller more isolated hospitals. With that in mind, I have written only briefly, thinking that it might be of more profit to you to spend the remainder of my time in trying to answer your questions.

DISCUSSION.

MR. DAY—

I must congratulate Miss Kinney on her very excellent paper. The dietary question for all hospitals is vastly more important than ever, especially now when more scientific feeding is being carried on. I congratulate Miss Kinney on her admirable paper.

MR. GRAHAM—

I want to add my word of congratulation to what Mr. Day has said. The next paper on our programme is "The Food Problem as it Affects the Hospital," by Miss G. Sinclair, Superintendent, Royal Columbian Hospital, New Westminster. Owing to her voice having failed her through a sore throat, Dr. J. McKay of New Westminster will read it for her.

THE FOOD PROBLEM OF TODAY AS IT AFFECTS THE HOSPITAL.

By Miss G. Sinclair, Superintendent of the Royal Columbian Hospital, New Westminster.

As this topic covers so many every-day problems of hospital work, I shall endeavor to bring before you briefly the factors which seem to me most important.

In all lines of hospital supplies and equipment we are using substitutes or inferior grades, but in none of these do we have the problem that we meet in the food situation. Even when everything that money could buy was available, the proper feeding of patients has always been one of the most important branches of hospital work. Then there was no question of where or how the materials had been prepared as long as they satisfied; now the problem is to make the best of the limited supplies which are obtainable. We are asked to conserve principally wheat flour, fat, bacon and sugar, the commodities which have always been indispensable to the hospital dietary. Until this War brought it before us, we never realized in what luxury and extravagance we lived day after day.

Due to the shortage of wheat, we are now obliged to buy our cereals in bulk instead of neatly prepared packages as formerly, so that some of the favorite breakfast foods are unobtainable. Practically the only choice we have now is corn meal and oat flakes, neither of which are popular during the Summer months, but during the Winter could very well take the place of the substances used previously.

The bread we receive today has not the same amount of substance or nourishment, because the bakers are attempting to make the same profit when their expenses are so much higher, so that somebody is loser and he is the customer. Very few hospitals are in a position to have their bread made in the institution, so must be supplied from the bakers. Then there is always the waste of bread. The only way to overcome this is to ration every person in the institution except the patients, and serve to them as much as they care for, but, if possible, no more. After serving a tray a few times, a nurse knows about how much a patient is likely to eat, and no more need be served unless requested. Instructions regarding the serving of bread and butter should be posted in each serving kitchen, so that the young nurse will know how to serve her patients without wasting, and yet let everyone have enough. Substitutes are now being prepared from rye, potato and barley flour which are very healthy and palatable and are being used extensively that wheat flour may be conserved.

The use of sugar is one of the most difficult to regulate in an institution without actually rationing every individual, which is practically impossible. One means of reducing the amount of sugar used is the use of a plain sugar syrup on cereal, etc. In some of the Eastern institutions it was found that the amount of sugar consumed in one week was reduced one-third, and this plan might be applicable to the hospitals to be used in the domestics' dining-room and public wards. Such a syrup may be kept in the diet kitchen for use in all beverages which require sweetening, as it adds flavor and conserves sugar.

It is also a very difficult matter to observe the food regulation regarding meat today. We are asked to conserve beef and bacon. During the summer months it is not hard to manage without bacon; but in hospitals, beef is so very essential—broth, beef tea and stock are continually in demand and must be supplied. The supply of other meats such as mutton and lamb is very limited as it is purchasable in large amounts such as is required in an institution only at certain times, because practically all the mutton that is now used in British Columbia is being imported from Australia.

Canned fruit and vegetables are not being prepared as palatable as formerly and must be remedied in some way. This is probably accounted for by the fact that such large quantities are prepared in the canneries in a short time as the fruit must be attended to as it ripens. Some of the fruit is over ripe at the time of canning and it is during the rush period that the large cans, much more used in hospitals than the smaller ones, are prepared. Such fruit as pears are hard and tasteless and must be cooked again and more sweetening and flavor added. The string beans are much coarser and the strings have to be removed before they can be served, which entails a great deal of extra time in their preparation.

Water glass eggs have proved a great resource during the winter months; and except for the large supply put away during the summer, in spite of the prevailing high prices at that time, it would be impossible to keep up with the demand.

These are only a few instances of the problems that arise today in the hospitals. Besides the ever increasing prices and the absolute lack of certain articles, the ones now supplied require more time spent in preparation, which leads to another great source of worry which is in very close relationship with the food question, that is, the help. In every department, it is less efficient than ever before, as the more capable women are filling the places of men throughout the country. So having obtained what supplies are available even at fabulous prices and planned our menus, the preparation must have the closest supervision so that everything is used to the best possible advantage and the most rigid economy enforced.

Conservation in a hospital is a most difficult problem; but as managers of institutions and heads of various departments, we must endeavor to have everyone under our supervision understand of what vital importance it is to our Empire. There are many who would willingly serve their country overseas if age and circumstances permitted, who fail to realize what great service can be rendered at home in their every day work.

Cannot we, who are in charge of institutions where waste has been almost proverbial, do our duty by conserving to the greatest possible measure and thus share in the pressing needs of our Empire?

MR. GRAHAM—

I am sure we all thoroughly enjoyed this paper, and all realize what a problem it is today.

If there is no further discussion, we will pass on to the next paper, "The Assistance of Publicity to Hospitals," by Mr. R. S. Somerville, member of the Board of Directors, The Vancouver General Hospital. This paper will be read by Dr. MacEachern in the absence of Mr. Somerville.

ASSISTANCE OF PUBLICITY TO HOSPITALS.

By R. S. Somerville, Director of the Vancouver General Hospital.

Thanks to the War, the world is experiencing a radical transformation in ideas and ideals. There has been a great levelling, but also a great uplifting. A censorship prevails in regard to important war plans and movements of troops, but in most other aspects of the gigantic struggle every facility of modern communication is utilized to keep the people well informed. There are special correspondents and even departments of propaganda to discuss war topics and progress. At no time and in no other war has the physchology of publicity been made so much of.

The present conflict has to its credit a remarkable contribution to general knowledge and to the solution of scientific problems. Take, for instance, the mastery of the air, achieved since the outbreak of the war; or take, what is perhaps more appropriate at this Convention, the development of medical science in the treatment of wounds and blood-poisoning cases; or, if you like, the remarkable advancement in the efficiency of war hospitals during the past four years. Thanks to the wide publicity given to everything connected with the war, these matters have become household topics. The man in the street and the pupil in the public school know all about the "nose-dive" and the "circus" formation of the war airmen; they know how the medical men have solved trench fever and nerve shock; they are familiar with the marvellous cures accomplished in the base hospitals, and the stupendous advance in the providing of effective substitutes for lost and torn limbs.

It is undeniable that the great majority of persons in this Province know more about the work being done in the base hospitals at the front than they know about what is being done in the hospitals of the Province. This seems a remarkable condition, and there must be a reason. The reason is that their interest has been enlisted in the base hospitals because of the many stories written and told about them. For one item they read about a civilian hospital, they probably see twenty dealing with war hospitals. Naturally the war is the supreme topic today as it has been for four years, but civil activities of all kinds must be carried on just the same, and as far as the public hospitals of this Province are concerned the war has added to the financial burden in the form of higher prices for commodities, drugs and equipment, and has most assuredly not lessened the number of patients. They are in greater need of support than ever.

Support is largely based on two things: knowledge and confidence. If any of our hospitals are unable to stand the test of taking the public into their confidence as to their work and affairs generally, there is something lacking.

Perhaps the reason why some hospitals seek no publicity is that they have enough sense to keep their mouths shut. But one feels sure that such hospitals are not represented here today, nor do they exist in this progressive Province.

Publicity does and will do two things for hospitals: it educates and it enlists support. There can be no question that both aims are worthy and both are closely related. The popularizing of knowledge as to the work being carried on in an hospital in the treatment and cure of diseases is as necessary and legitimate as it is for an industrial concern to advertise its wares. It means securing support in both cases. Most of the hospitals in British Columbia are public hospitals which have to depend on public grants and voluntary gifts. They cannot collect all they earn because they are at all times dealing with the poor and unfortunate. The public can always be induced to give to worthy objects.

Hospitals, whether in large or small centres, carry on a work of vital importance to the community. The work is absolutely essential to the public welfare. The chief asset of a community is its health. The work of alleviating pain, healing the broken and restoring the sick to health and vigor is not only of prime importance but is never ending. Institutions of this kind can have no holiday nor declare a walk-out. Public hospitals cannot refuse the sick admission. With these facts in mind, there is no reason why an apologetic attitude should be assumed in inviting support.

These institutions must be maintained at a constantly increasing state of efficiency, and this costs money.

This attitude of hospital managements generally has undergone a marked change in the past few years in regard to publicity. The absolute need of it is recognized. Not so many years ago the interior of a big hospital was as unknown to the average man as the inside of a penitentiary is to us. It was a close corporation, with the result that ignorant gossip had full play. The Vancouver General has had its own experience along this line, and even yet one occasionally hears the most absurd stories downtown. I suppose that is inevitable, but constant and well directed publicity will consign most of these fairy tales to the garbage heap.

On the advent of Dr. MacEachern to the general superintendency of this hospital, he inaugurated a new order of things which has borne much good fruit. He has always found time to talk to a newspaper reporter and to send him on his way rejoicing. He has made friends with the local newspapermen, with the result that he is able to command much valuable publicity in the press. He has also been able by this means to put a quietus to many yarns which had no foundation in fact.

Public support will follow public interest. Once a man or woman becomes interested in the hospital, the next step which is almost certain to follow is that he or she will support it in some form or another. With the exception of patients and their friends, there is little direct contact between the individual and the institution. Publicity bridges the gap between the two. Outside of what may be regarded as self-interest on the part of the management, the latter is under moral obligation to provide full information as to the work of the hospital. It is a duty to the public. One effect of hospital publicity is that it today attracts hundreds of patients who formerly were treated at home, much to their own detriment in many cases. The more that is known about hospital work and its steadily increasing efficiency, the better it is for the whole community.

Some definite person should be in charge of publicity. There are a thousand and one incidents during a week at an hospital which, if told, would excite interest and comment. Neither humor nor pathos are lacking. Under a constant routine, hospital officials are apt to grow blind to the features that have new values—that are unfamiliar to outsiders, picturesque, humorous, pathetic, and romantic. Here is where a friendly news writer may well be called upon to assist, and in every community such an individual may be found. The admitting officers, house staff, the nurses, the social workers and others connected with the hospital should be encouraged to notice and report anything of a possible news value.

All this refers to articles in the press, which, after all, is the most direct and most successful of all publicity. But many other avenues for reaching the public should be utilized with advantage. Publication of monthly and annual reports should be insisted upon, care being taken not to make them too technical or lengthy. Letters of appeal are an effective means of publicity. Illustrated folders for direct distribution in public gatherings and public places are likely to do much good in calling attention to the equipment and achievements of the hospital. These might also be mailed to prominent citizens. Occasional receptions direct attention to the personnel of the institution and extend the circle of well wishers. Last, and best of all, are the enthusiastic eoniums of former patients on the way the hospital is conducted. By their united verdict an institution must stand or fall.

The success of this Convention is itself a striking testimony to the effectiveness of publicity.

I cannot do better, in closing, than to quote some remarks of a well known New York hospital authority on this subject. In a recent address he said:

"Cultivate good-will. It is too much to expect that the general public will retain many statistics about your hospital. People read so much and so carelessly that their minds become like sieves, often with big holes in them. But though they do not retain many facts, they do retain impressions, and it is their impressions on which they act. See to it, therefore, that, with the facts to justify it, you establish a reputation for doing a

large work, vital to the community and permeated with genuine sympathy. There is a widespread impression that an hospital is a cold, cheerless, impersonal place, wrapped in officialism and tied up with red tape. As a matter of fact, a hospital is a place where people come in pain and find relief, come in weakness and go forth strong, come despondent and return with courage. There are few families that do not have grateful memories of what a hospital has done for one or more of their circle. Capitalize this feeling."

DISCUSSION.

MR. GRIMMETT—

It may be said that one ought to go slowly in spreading abroad the good work that he is doing, but I think in this matter it is our bounden duty to let the general public know the work that is being carried on in the community in which the hospital is situated. A well conducted hospital has nothing to fear, but everything to gain from public criticism, public reports of its proceedings and generally it is better to have the public informed of all that takes place. In this connection it gives me much pleasure to pay a tribute to the local press of the town from which I come. The publisher of that newspaper favors every meeting of the Board of Directors with a reporter, and in the report of our proceedings I have never found our confidence abused. I find that if you treat the members of the Press properly and in confidence, that they will repay you in confidence.

I mentioned yesterday that we have in view the erection of a Home for the Nurses. Considerable opposition has developed in regard to carrying out the intended proposition at the present time. I was greatly delighted on taking up the last issue of the local paper to find that its leading article was devoted entirely to the advancement of this problem, pointing out the absolute necessity from the nurses' standpoint that the building be erected, so that while the public press can render us aid that cannot be estimated, we should in our attitude to the Press be unreserved, and, as I said before, they will not abuse any confidence that we may impose in them.

The meeting adjourned and the delegates and friends assembled in front of the Nurses' Home where a large number of cars were waiting to convey them over the Capilano Canyon Drive to the hotel, where over two hundred guests of the Board of Directors of The Vancouver General Hospital, sat down to dinner. During the dinner music was furnished by the Weaver Orchestra, and a few speeches made by Mr. Devine, Dr. Riggs, Dr. MacEachern and Mr. Grimmett. Mr. Devine proposed a toast to the delegates and friends which was very enthusiastically responded to by Mr. Grimmett who very forcibly commended the Superintendent and Board of Directors of the Vancouver General Hospital for the splendid success of this Convention. Dr. Riggs proposed a toast to the Graduating Class of Nurses who were also guests. This was responded to by Dr. MacEachern for the nurses. The remainder of the evening was spent in seeing the Canyon and in dancing. All returned home by midnight, having had a most enjoyable and sociable outing.

MORNING SESSION—Friday, June 28th, 1918.

DR. GATEWOOD—

I have pleasure in calling upon Mr. J. J. Banfield, one of the members of the Board of Directors of The Vancouver General Hospital, who has loaned his assistance very materially to making this Convention a success. Ever since the first suggestion Mr. Banfield was very interested in seeing this Convention a realization

as we see it today. I will now call upon him to take the chair for the morning session.

MR. BANFIELD—

I will now call on Mr. E. S. H. Winn, Chairman of the Workmen's Compensation Board, for his address.

THE WORKMEN'S COMPENSATION BOARD."

By Mr. E. S. H. Winn, Chairman of the Workmen's Compensation Board.

It is indeed gratifying to our Board to be favored with this opportunity of meeting with you in a general discussion of the different phases of the Workmen's Compensation Act insofar as it applies to hospitals. We believe that a great deal more can be achieved in a get-together session such as this than could be done in years by correspondence. As I go along different questions may arise in your minds which require an explanation. Will you be good enough to make a note of those questions and ask me for an explanation when I finish this talk. This is the time, therefore, that affords you an opportunity of asking our Board and my answering you on the Board's behalf of all matters upon which you seek information. Then, again, getting together as you are means that each of you will be able to take up different phases of the questions and possibly adopt some uniform system in the handling of your particular work which will possibly be more satisfactory than has been in the past. From our Board's standpoint we particularly wish to thank the hospitals for their active co-operation during the past year, for their uniform courtesy in promptly answering our inquiries, and for the care and attention which they have as a whole satisfactorily given to those workmen who were unfortunate enough to have met with accidents.

You will, of course, understand that the handling of the Hospital Department of the Medical Aid Department is but a very small portion of the work of this Board. When you consider that, roughly speaking, we are dealing with 75,000 workmen, 6,000 employers, approximately 400 doctors, 2,000 nurses, 250 druggists, 200 dentists, steamboat companies, electric and steam railways, liveries, auto transportation and every other means of transportation available or used in the transportation of an injured workman to the nearest hospital or doctor, you will begin to realize the enormity of the work. Roughly speaking, we have 60,000 files containing in the neighborhood of a million documents, a good many of which have called for answer. We have a staff of forty-seven handling this work.

Then, again, the fact that the Act is new and comprising many new features in workmen's compensation measures, and particularly as affecting hospitals by way of unlimited medical aid, it just means that all those with whom we come into touch must receive a certain amount of knowledge as to the means necessary to collect moneys owing to those affected, as well as to a knowledge of the procedure necessary to collect claims. We have paid out by way of compensation to injured workmen, and created by way of reserve for pension for permanently disabled workmen and dependents and children of deceased workmen, approximately $1,300,000.00. The amount paid out in medical aid, which would include doctors, hospitals, nurses and druggists, in the neighborhood of $185,000.00, $75,000.00 of which was paid to hospitals. The payment of this amount necessarily shows how vitally interested you are in our work.

In looking over the medical aid files this morning we believe that one out of every twelve injuries that happen to workmen, where there are three days' lost time, is a hospital case. Under old conditions, your right to collect existed against the injured workman. You still have that right, together with the additional right of collecting from our Board, in the event of our Board being satisfied that the injured workman has **suffered personal injury by accident, arising out of and in the course of his employment.** The Act requires us to be satisfied on those questions, and that being so our Board has no authority to make payment until those particular conditions are met. This new legislation does not in any way interfere with or change

your old right of action against the workman, but it does mean that our Board is interjected into the arrangement as a third party, and as a third party we are to pay as soon as we are satisfied that the accident has arisen as mentioned.

Under the Act there are two means whereby medical aid is furnished, one is where, for example, one cent per day is deducted from the workmen's wages and paid direct to the Board, and the other is known as the approved medical plan. Where the one cent per day is deducted the employer is required to pay this amount to the Board, and the Board in turn pays from the money so obtained all hospital and doctor's accounts, etc. In the other case the approved plan must be complete within itself, in other words, under an approved medical plan, for example, say where a dollar month is deducted from the workmen's wages, this amount either goes to the hospital or the doctor, and the hospital or doctor in either case is required to do all those things and to provide all those medical appliances that the Board would have to supply if that particular injured workman came under them; in other words, the approved medical plan takes the place of the Board with this exception, that the Board has a supervision over the carrying out of the requirements of the Act insofar as the plan is concerned. If we find that the workman is not receiving the proper treatment, we have authority to transfer that workman to some other doctor or hospital, and thereupon those receiving the workman's money are required to pay the hospital and doctor their respective accounts. When a dollar per month is deducted from the workman's wages it means that no part of that goes to the Board, and the Board has therefore no means wherewith to pay accounts. That is why we say that the approved medical plan must be sufficiently broad and comprehensive as to cover all such things as we would cover if we administered the funds.

The Board holds that if the injured workman requires a private ward then that private ward must be furnished to him. If the ward is furnished under an approved medical plan, then the approved plan must take care of the expense. On the other hand, if the workman has been the contributor of a cent per day, as above stated, then the Board would pay for the private ward expense. We take the position that an injured workman is entitled and shall receive the best medical and hospital treatment available.

We have endeavored to arrive at a uniform scale of hospital rates. We realize that an outside hospital cannot be operated as advantageously or as cheaply as a city hospital, and that therefore they are entitled to more remuneration.

Our Chief Medical Referee, Dr. G. A. B. Hall, will speak to you when I finish, and will deal more particularly with some of our troubles with you.

It may be that some of you think you have grievances. If you have that feeling, then we would appreciate it very much if you would make it possible to call at our offices and discuss that grievance with a member of the Board before leaving this city. You can quite understand that there is no individual or set of individuals who could remember the contents of the sixty thousand files that I have referred to, and it is for that reason that it would be impossible for me at this time to deal with any particular case without having the file before me.

Our Board also wishes to extend to you a hearty invitation to visit our offices and get an idea as to how this work is being handled. I am sure that you will go away firmly convinced that the work is being handled expeditiously, economically and equitably. If at any time you feel that you are being unfairly treated and can satisfy us on that question, we never hesitate to reopen it and adjust. If we have underpaid you, you are at liberty at any time to take up the question of shortage, and if your position is justified you will be promptly paid. We would appreciate it, too, that if at any time you are not certain as to the attitude of the Board on any question, that you write us, and if you do I can assure you that you will receive a prompt and courteous answer. We welcome enquiries, and we urge that where a difficulty arises that that difficulty be not permitted to remain any length of time, but that it be promptly taken up. Delays are dangerous,

not only in the way of creating a certain amount of unrest, but in the way of our closing our accounts in the different accident cases.

Permit me, on behalf of the Board, to most heartily thank you for the opportunity that you have given our Board to be present with you and to be given the opportunity of answering any enquiries that you may make, and if possible to set at rest any misunderstanding that you may have. We want you to feel that we are endeavoring to conscientiously and honestly carry out the requirements of the Act, and we ask your heartiest co-operation. Your co-operation with that of the others effected means that the Act will be a success—to be successful means that your interests will be safeguarded.

ADDRESS

By Dr. G. A. B. Hall, Medical Officer of the Workmen's Compensation Board.

It devolves on me to make a few remarks concerning some of the difficulties connected with the administration of the Workmen's Compensation Act relating to hospitals. In this, as in all other new departures, difficulties are bound to arise, more often through misunderstanding and lack of knowledge than otherwise. It always requires a certain length of time for organization which is essential in any undertaking in life. The difficulties might be placed in two groups: First, the grievances of the hospital authorities against the administration of the Act, and, secondly, the grievances of the Board regarding accounts as presented to them.

One of the objections from the hospital authorities has been regarding the payment of their accounts, and while there undoubtedly was some ground for such, shortly after the Act was brought into force, I think there is very little cause for complaint in that direction at the present time. We now have an agreement with practically all the hospitals throughout the province for a flat rate for the treatment of patients coming under the Workmen's Compensation Act, and all accounts are now given prompt attention, if in order when presented.

Another grievance has been in the case of men coming from outside points and being treated at the hospital, the hospital authorities believing that they came under the Workmen's Compensation Act, and afterwards finding out that such was not the case so far as medical aid was concerned, the companies for whom the patients were working having had a private hospital arrangement approved. In this class of cases, the Board is not liable for accounts for medical aid, and it is a matter between the hospital, the patient, and the company for whom he was working at the time of the accident, for the settlement of accounts. Considerable thought has been given this matter to devise some means whereby not only the hospitals, but the doctors as well, might be notified of this fact, and though many suggestions have been offered, as yet no practical scheme has been brought to light. However, we are always willing to provide whatever information we can give concerning this class of cases if the office is communicated with, and in any event, the hospitals still have the same recourse to collecting their accounts as they did before the passing of the Act, as has already been made clear to you by the Chairman.

A further objection from some of the smaller hospitals is regarding their accounts being cut, where they have charged for the day of admittance as well as the day of discharge. However, the explanation that the principle of not charging for the day of discharge, where the day of admittance has already been charged for, has been adopted by all well-governed institutions, appears to be satisfactory, and now we are seldom troubled with complaints of this nature.

Regarding the second group, we find great difficulty in full information not being given in rendering accounts. You can readily understand how confusion would arise, when you know, as explained by the Chairman, how large a number of claims we handle daily. When accounts come in for patients of the same or similar surnames, many of the names being foreign, unless accurate spelling and full information is given, it is very

hard to tell which claims the accounts refer to. If the number of the claim were put on each account, it would greatly facilitate the work of the clerks in the office.

Another objection has been in the case of a patient remaining too long in the hospital. It not infrequently has happened that a patient has left the hospital and gone to work on the day following. A case in point is where a man had a compound fracture of the great toe, and was in the hospital for a period of approximately six weeks, commencing work three days after he left. I am quite aware that the hospital authorities are not responsible for many such cases, as the doctor in charge of the case should discharge his patient when he feels that he no longer requires hospital treatment, but some hospitals have control of the doctor treating the case and it is more particularly to this class of hospital I now refer. I think that the hospital authorities would be quite justified in drawing the attention of any medical practitioner to a patient who may appear to be using the hospital as a boarding house rather than for the purpose for which it was intended.

Furthermore, accounts have been presented for X-ray plates where the accident was most trivial and where an X-ray would appear on the face of it to be entirely unnecessary. Many such accounts have been rejected.

Confusion sometimes arises by hospitals sending in bills as "To account rendered." We make it a rule not to pay such, and in the event of an account not being paid in full, a letter referring to the same would receive immediate attention. In other cases the dates of the patient's stay in the hospital are often omitted.

The Chairman has already pointed out that we will be prepared to answer any questions.

DISCUSSION.

MR. MORDY—

I would like to ask Mr. Winn concerning payment for artificial limbs under the approved plan. Does it mean that whatever moneys that are paid in in connection with it must contemplate the supplying of everything?

MR. WINN—

Before the Board approves of a plan under Section 21 (4) of the Act, it is necessary that that plan supply all the requirements that the Board would be bound to supply in the event of the workmen not coming under that plan, the meaning of that being that where there is an approved plan that approved plan must take care of artificial limbs. Inasmuch as no moneys paid under an approved plan comes to the Board, the Board is therefore without funds to supply those things which the approved plan is required to supply.

MR. SUTTON—

Dr. Hall made reference to reports being sent in from the hospitals. In the small institutions the doctor's attitude to the hospital is almost like a wife to a husband, and the doctor's influence and his attitude is really predominant in the institution, and his wishes practically governed by his knowledge in the particular instance. Therefore, I can hardly think that that would improve things. Coming to X-ray work—the doctor mentions about an X-ray becoming almost "like a toy in the hands of children." This is a work that belongs to the doctor, and he is responsible for the working of that X-ray. I know of instances where the Board has been charged more than they should have been for X-ray work. I know in our institution our doctors try to help the men by taking more than one plate. I believe that the Board is only responsible for the payment of one plate.

MR. WINN—

The Board depends upon the attending physician to see that the treatment is efficiently carried out. We do not desire to do anything which will deprive the doctor of every possible means available to supply necessary and efficient treatment, but we do say that the X-ray should not be used as a toy, and by that I mean the taking of unnecessary plates. We have cases on record where it was deemed advisable by the attending physician to take five different sets of plates. These the Board paid for.

MR. MORDY—

I would like to ask Mr. Winn in regard to regulations to be adopted by the Workmen's Compensation Board in reference to industrial communities. As a member of the Board of Health, I understand that the Board is adopting some regulations. May I ask if that is so?

MR. WINN—

We have authority under the Act to add to the list of diseases already enumerated therein such other diseases as we would hold were industrial diseases. So far we have added three, namely, Cedar poisoning, Sulphur poisoning, and Trinitrotoluene.

MR. MORDY—

In regard to air space—does the Board undertake to regulate that?

MR. WINN—

No. We have no authority. That is a matter that comes under the Factory Act.

MR. MORDY—

The reason I asked was that I was consulted by some of the representatives of labor, who informed me that the Board intended drawing up regulations.

MR. WINN—

My friend's informant was in error, as the Board has no authority to deal with ventilating conditions.

MR. SUTTON—

We would like to pay—we are trustees of certain funds, and those funds are for the payment of necessary medical treatment only.

MR. WINN—

Mr. Sutton knows that he can go after the doctors if they play too much with that toy.

MR. GRAHAM—

Supposing that there cannot be an approved plan got out, that is, a plan submitted favorably to the Board. What action can be taken?

MR. WINN—

Under Section 30 of the Act the employer is authorized and required to retain from the moneys earned by each workman in his employment the sum of one cent per day or part of day the workman is employed, as a contribution towards the cost of medical aid and to pay the amount so deducted to the Board. In the event, however, of the one cent per day not being sufficient, then the Board has authority, under Sub-section 2 of Section 30, to levy an assessment upon the employers generally, except those having an approved medical plan, the idea being that the employer not having an approved plan shall supply the deficit, if any, in the carrying out of the medical aid requirements outlined in the Act.

MR. BANFIELD—

I am sure there is yet a great many questions we could ask Mr. Winn and Dr. Hall, who have been so good in coming here this morning; but we must move on, as we have a long programme yet.

I will therefore call on Dr. E. D. Carder, Physician to the Infants' and Children's Wards of The Vancouver General Hospital, for his paper on "Infectious Diseases and the Control of Same."

"INFECTIOUS DISEASES AND THE CONTROL OF SAME."

By Dr. E. D. Carder, Physician to the Infants' and Children's Ward, The Vancouver General Hospital.

You are all familiar with the general characteristics of infectious diseases.

They are caused, or presumed to be caused, each by a specific germ, some of which have been discovered and can be identified, many of which,

however, are as yet unknown. The chief common characteristic of them all is that they may be communicated from one person to another.

This communication is in the majority of cases by direct contact between a susceptible person and another who is suffering from the disease, or infective material cast off by that person. Such infective material may be conveyed occasionally through the medium of a third person or through clothes, books, toys, bed linen, towels, etc.

However, it is not my intention to dwell on these facts, which are well known to all of you, but simply to remind you of some of the difficulties in regard to infectious diseases that a hospital has to face, and to suggest some means by which these difficulties may be minimized—it is too much to expect that they can be removed altogether.

Though adults are far from immune, yet the bulk of our patients suffering from infectious diseases are children, and any hospital admitting children to its wards must necessarily face the problems arising from this fact. My own experience would lead me to say that most of our troubles with infectious diseases, as far as concerns the hospital, arise from four main sources:—

(1) Incorrect diagnosis;
(2) Patients admitted for some complaint while incubating some infectious disease—this fact being unknown to the physician;
(3) Infection conveyed to patients in hospital from outside sources;
(4) Cross infections.

Any community, to deal at all effectively with infectious diseases, must have an isolation hospital specifically for those cases, or isolation wards which may serve the same purpose.

But from the purely hospital standpoint, the great necessity, and absolutely the sine qua non, is an observation ward or wards, according to the requirements of the hospital and the population it serves. I should like to emphasize the necessity, and I am sure Dr. MacEachern will bear me out, as one that saves a hospital superintendent many grey hairs, and, moreover, from an economic viewpoint, pays for itself many times over.

Now, as to the difficulties which I have mentioned:

(1) Wrong Diagnosis:

We must admit that as diagnosticians, none of us are infallible, and some of us are careless, but we must not forget that the doctor has at times to diagnose the rash presented to him under very adverse conditions—bad light, dirt, unhygienic surroundings—that tempt one to make a long distance diagnosis if possible. Many, too, do not strip the patient, and it is always precarious to diagnose from the appearance of one isolated area of the body. Moreover, it is still more precarious to diagnose a rash by artificial light.

The hospital must take all these things into consideration, and it is no reflection on the physician but merely the part of prudence for the hospital to suggest that cases of the etanthemata be detained at home until morning unless serious—and that if possible the diagnosis be confirmed by daylight. Moreover, on admission, the hospital staff should strip and examine under the possibly more favorable hospital conditions every case, and if the diagnosis is not agreed with, the patient should be placed in the observation ward until consultation shall determine the nature of the disease.

(2) As to cases admitted for some non-infectious complaint but which are incubating an infectious disease.

These are a source of continued trouble in the children's wards. Every child admitted (or its parents) should be (1) closely questioned:

(a) As to what infectious diseases it has had and when;
(b) Are there any others sick at home;
(c) Or any known exposure to infection.

(2.) Thoroughly examined for a rash, sore throat, discharging ears, Koplik's spots in the mouth; swabs taken from nose and throat; swabs, in case of female infants and young children, from vagina. They should then be admitted to an incubation ward and kept there for a period up to two weeks if their stay in hospital necessitates it—and if the hospital possesses

such a desirable adjunct as a ward of this nature. If not, I should like to emphasize the importance of small wards instead of one large one for children, because in this way it is possible to limit at any rate the number exposed at a time. Moreover, all cases with respiratory symptoms should be segregated at all times as a matter of precaution.

All cases with an unexplained rise of temperature should be immediately isolated, and no drugs, which may produce a rash, given, until the nature of the disturbance is diagnosed.

(3) Infection from outside sources,

It is possible, as I have said, that infection may be conveyed by means of books, toys, clothes, etc., but the main source of outside infection is through contact with visitors who have, or have recently had, or are just developing an infectious disease. Therefore, no children under twelve should be admitted as visitors to a children's ward. Visiting hours should be few and limited. Visitors to each child should be limited to parents. The visitors should wear gowns.

(4) Cross Infections.

The most effective method of minimizing these is by having the wards subdivided into cubicles and by observing a strict nursing technique. Further, as I have already mentioned, all cases with respiratory symptoms should be segregated and those with any unexplained rise of temperature or other untoward symptoms.

Thus very briefly indeed I have attempted to outline some of the difficulties of hospital administration in dealing with infectious cases, and to suggest some means of meeting these troubles. If these remarks succeed in promoting some profitable discussion, or in creating suggestions along this line, I shall be satisfied.

DR. MacEACHERN—

In the Round Table Conference to take place this morning there will be ample opportunity for discussion along the lines of this excellent paper, as there are questions dealing on it.

MR. BANFIELD—

I will now call on Dr. T. H. Lennie, Chief Anaesthetist to The Vancouver General Hospital, for a paper on "The Administration of Anaesthetics."

"THE ADMINISTRATION OF ANAESTHETICS IN THE VANCOUVER GENERAL HOSPITAL."

By Dr. T. H. Lennie, Chief Anaesthetist to the Vancouver General Hospital.

This paper is not intended to be a treatise on Anaesthesia, but rather some practical points upon the administration of anaesthetics in the Vancouver General Hospital, in the hopes that our experience here over an extended number of cases may be of some help to those who are not favored with the same facilities as we.

Doctor Flagg, Anaesthetist to the Roosevelt Hospital, New York, recently published an excellent work which he calls, "The Art of Anaesthesia," which title we think exceptionally apt, as the administration of anaesthetics is fast taking its legitimate place as a specialty in the practice of medicine.

Let us briefly consider some of the essentials an anaesthetist should possess in order to assume a safe and sane administration:

1. He should be familiar with the anatomy and physiology of the Respiratory and Cardio Vascular System;

2. He should know something about physical diagnoses, particularly as they refer to the Respiratory Cardio Vascular and Renal Systems;

3. He should be able to recognize condition of Shock, Haemorrhage and Asphyxia;

4. He should have some idea of the physical properties of the different anaesthetics.

For these reasons, and with the belief that the administration of anaesthesia belongs to the practice of medicine, this hospital does not feel that nurse anaesthetists are at present desirable. Of course, we realize that in smaller centres it is sometimes impossible to secure the services of a medical man to give the anaesthetic; under these circumstances, the operator must assume full responsibility.

A glance at some of the clauses in the coroner's catechism of England will convince one of the necessity of a medical man anaesthetist in case death should result from the anaesthetic, as here the whole responsibility is placed upon the administrator, and not upon the surgeon. Of the twenty-one questions all are of this nature:

What was the condition of the heart, lungs and kidneys prior to the administration of the anaesthetic?

What influenced you in your choice of anaesthetic?

How much time did you take to induce Anaesthesia?

Was the induction period hurried, and if so, for what reason?

The general anaesthetic of choice universally employed at present is ether.

In this hospital, ether is administered in the great majority of cases by the open method, and I think from experience it has proven the most satisfactory. In conjunction with ether we almost invariably use a starter of ethyl chloride. This latter anaesthetic we find an extremely nice way of starting—5 to 10 cc. are used by the drop method (and not pushed). The loss of consciousness is rapid and there is little evidence, or not at all if properly given, of a suffocation sensation. Ethyl chloride we sometimes use for such short operations as myringotomy, extraction of teeth, opening abscess, etc.

Another method in which we use ether is the junker—a very simple apparatus. The ether vapor is introduced into the pharynx by means of a catheter through the nose, and air pumped through the ether by a hand or foot bellows. This is a particularly desirable method in tonsil operations and has gained universal commendation by operators. The main points to be noted are:

1. The patient should be well induced before the junker is started, as a concentrated vapor will produce coughing and gagging.

2. Sufficient air should be allowed to pass through the air passages. We also use this method in operations about the head and neck, where the anaesthetist might be in the operator's way.

We do not possess an expensive intratracheal apparatus, but find we can get along very well without it by using the junker.

In regard to ether. It is probable that contraindications of its use are not so numerous as formerly believed, and in my experience ether pneumonia is extremely rare. Some have even advised ether in the treatment of pulmonary tuberculosis.

As a preliminary medication with adults in ether cases we use as a routine, morphia grs. 1-6, atrophin grs. 1-150 by htpo., half an hour before operation. I am very fond of this procedure as it brings the patient to the operating room in a composed state of mind; this combined with a little reassurance from the administrator, has a great deal to do with the smoothness of the anaesthetic, the struggling period is considerably lessened, and in some cases hardly noticeable. There is practically no trouble with mucous, and the breathing in the majority of cases is quiet.

Chloroform with us is used sparingly and only in cases where there is some pulmonary indications, or where the patient has been very sick following some ether anaesthetic and there is no contraindication to its use.

Chloroform and ether we use fairly frequently, equal parts, some times as a starter when ether chloride is unobtainable, and frequently when there has been a history of bronchitis. We find that large muscular people, plethorics and alcoholics do well on this mixture; it should always be administered by the drop method on an open mask.

Nitros Oxide and Oxygen.

For the past few years we have administered nitros oxide and oxygen in a great number of cases, and often mixed with ether. In selected cases it is an ideal anaesthetic. It can be given to all ages, and we have used it for from a few minutes to three hours. Recovery is very rapid. It is very refreshing to remove the mask and have complete consciousness in about sixty seconds. We find this an admirable anaesthetic in all chest cases either pulmonary or pleural, where ether is contraindicated, in conditions where shock, toxaemia or failing of circulation is evident, and in mastoids. With this apparatus oxygen is always at hand and can be administered if necessary. We frequently use nitros oxide oxygen with ether when relaxation is required. This anaesthetic should only be administered by trained anaesthetists. The patient requires constant attention, and with these conditions the anaesthetic is very safe. The morphine and atropin preliminary is here used three-quarters of an hour before operation. If the patient is muscular, morphia grs. 1-4, atropin grs. 1-100.

Spinal Anaesthetics.

We owe all our findings in spinal anaesthesia in this institution to Dr. Riggs, who has successfully used it in hernias, hydroceoles, varicocles, varicose veins, amputation of the lower extremities, etc. Stovaine 5% and glucose 5% is used. The patient's head should be raised and the puncture is made in the region corresponding to the nerve supply of the part to be operated upon. Blood pressure is always taken during the operation, as this is the important point. It is almost invariably lowered. We formerly gave drinks of hot coffee and other stimulants such as strychnine, camphor, etc. The stimulant which we found most valuable is adrenalin MX., hypodermically, and this has invariably brought about the desired reaction. Probably we have not had sufficient experience to speak with authority concerning spinal anaesthesia, but the theory of the thing is that shock is prevented by nerve blocking.

Stimulants.

The stimulants which we find of most use upon the operating table is normal saline given either intravenously or subcutaneously. An intelligent use of saline puts the hypodermic needle in the discard. We do not find very frequent necessity for stimulation, but when stimulants are required, then intelligent use will often save the life of a patient. A very favorite method with us, when the operation is to be prolonged, when there will undoubtedly be considerable shock as in bowel resection, partial gastrectomy, amputations, etc., is to start an interstitial saline as soon as the patient is under the anaesthetic. The needles are introduced through the pectoral muscles into the axillae and saline allowed to flow at about the rate of twenty ounces to the hour. In this way fluids are introduced before shock is present and according to the theory of shock, enough fluid is present in the body to take the place of that which is carried to the splanchnic area. In these major operations with interstitial saline we frequently see no evidence of shock at all during the operation. The patient leaves the table in as good or better condition than when he appeared before operation. Shock may develop later and salines should again be given. If it is evident that saline is needed at once, an intravenous should immediately be given.

Carrying a Patient Through an Anaesthetic.

You are all familiar with the stages of anaesthesia, such as loss of consciousness, struggling, surgical anaesthesia, etc., also pupillary signs. While these are very essential in the teaching of anaesthetics, yet it is my belief that the more experience one has in the administration, the farther these fall into the background. Anaesthesia resolves itself into induction and maintenance and that maintenance to be light, medium or deep according to the nature and stage of the operation. For instance, exploring the abdomen requires deep anaesthesia, bowel suturing, medium, and suturing of the peritoneum, deep anaesthesia again.

Induction.

The induction should commence by (1) gaining the confidence of the patient by reassuring words and manner, a quiet room with pleasant surroundings, preferably away from the actual operating room. (2) The administration should at first be slow; this assures against suffocation. When this stage is past, the anaesthetic can be pushed to the surgical stage, or stage of maintenance.

When the neck is short, the patient muscular, the chin receding and hard to hold forward, a rubber tube or Connell's metal tube introduced to pharynx will often produce an even and unobstructed breathing. The mouth gag and tongue forceps habit is a pernicious one and is in most cases extremely unnecessary.

It is hard to explain what makes a good anaesthetist. Any amount of teaching will not make some men good anaesthetists, while others grasp the art very quickly. For this reason, it is an art, and the artist finds it difficult to teach this to another. He does not lay too much stress upon the pupillary signs, nor is he continually watching the respiration, but he is in constant touch with the patient and guides him through a difficult storm as a pilot through a perilous sea. There seems to be something in merely being in touch with the patient which enables him to anticipate trouble and apply the necessary treatment 'ere it is too late.

DISCUSSION.

MR. GRIMMETT—

The last two papers are highly technical to us who are not nurses or doctors. You mentioned that the last speaker was an expert. I would like to put an adjective before that word—I would like to call him a "poetical expert." The manner in which he has expressed himself has been highly attractive. I don't think my attention wandered for one moment listening to this paper. Perhaps the paper preceding was more practical to some of us, perhaps more useful to outlying districts—Infectious Diseases and the control of same. In small places where we just have the one building, the question of isolation is a difficult one, and I was pleased to hear Dr. Carder say that it was possible to isolate these people by means of private wards. I can assure you that I am highly benefited by both of these papers.

DR. FEWSTER—

What measure is usually taken with reference to that form of poisoning which we sometimes see following the use of chloroform?

DR. LENNIE—

We do not use chloroform very much, but we do have to deal with acidosis. We make a routine examination of the urine prior to the anaesthetic. This report is found in the operating room half an hour before we commence the operation, which shows if there is any sugar or acetone in the urine. If it is absolutely necessary to give an anaesthetic we prefer to use gas.

DR. FEWSTER—

I think possibly that the term "ether pneumonia" is a misnomer. Pneumonia that develops after an operation very often is due to other causes than the anaesthetic.

DR. LENNIE—

In the Vancouver General Hospital we are fortunate that we have the means of heating the blankets while the operation is proceeding.

MISS AITCHISON—

I would like to ask Dr. Lennie if he uses the A.C.E. Mixture.

DR. LENNIE—

No, we don't use it. In mixing the three things, alcohol, chloroform and either in different amounts, it is hard to tell how much of each you are giving.

MISS AITCHISON—

In Summerland it often falls to my lot to give anaesthetics, and I use the A.C.E. Mixture.

MR. BANFIELD—

I will now call on Mr. E. Hall, Pharmacist to the Vancouver General Hospital, for his paper, "The Hospital Pharmacy."

"THE HOSPITAL PHARMACY."

By Mr. E. Hall, Pharmacist to the Vancouver General Hospital.

In this paper we shall confine our discussion to the institution which is not sufficiently large to employ the services of a dispenser continuously.

Experience has shown that the following points must be considered essential in conducting a well equipped or well managed pharmacy:

1. Your stock; its arrangment and storage.
2. The dispensing of extemporaneous prescriptions, and the manufacturing of stock prescriptions, stock solutions and galenicals.
3. Your buying.
4. Economy in all matters.

In public and private institutions we all strive to the same end and to the same extent as a commercial enterprise; at all times, therefore, at the outset make provision for expansion, as the proper arrangement of your stock depends largely on available space. To this end it might be suggested that when having your pharmacy designed, the services of a pharmacist be sought. One having experience in this branch of your service might in all probability make suggestions which would save time and trouble, and expense in proportion.

In regard to the storage of your goods, your pharmacy must of necessity be kept cool and dry—drugs and sundries alike are less apt to deteriorate, and working conditions are much more pleasant.

From a professional standpoint, your dispensary and its work are second to none in importance of any department of your institution. The dispensing must be performed accurately and with pure drugs and chemicals, if the confidence of your physicians is to be maintained and therapeutic results obtained. This also applies to manufacturing of all descriptions.

In the case of all hospitals, large or small, much may be said in favor of a hospital pharmacopoea. It serves two important purposes, viz.:

1. The elimination of much wasted material.
2. The economy of labor by elimination of numerous extemporaneous prescriptions.

No doubt, it also gently leads the physician from the path of proprietary and patent medicine prescribing, which path is easily trod in pleasant dispensaries where the dispenser is unknown. I have no doubt but that the Superintendent of the Vancouver General Hospital would be pleased to supply to those who desire it, a copy of the pharmacopeoa—a book which has undoubtedly been proven to be a success in regard to the above mentioned points, as well as pleasing to the physician who has made use of it.

Your dispensary, as in other departments, can be the source of unlimited waste if proper check is not kept on your stock. This is true from the time the orders are given till they are used in whatever form necessary by the institution. The buying of your drugs and sundries needs the same careful consideration as to price and quality as does your surgical instruments or edibles. These are two methods usually followed in buying: in the first place, you can give your order without comparison of prices, for one hundred dollars worth of goods; or in the second place, you buy the same goods, the same quantity and the same quality for eighty-five dollars. This branch of our work is too extensive to go into detail, suffice to say that to buy right a great deal of time and attention is necessary to thoroughly understand conditions which effect the source of supply, which in turn effects the price. Competition and manipulation are causes also to be considered.

The following rules may govern to some extent your buying:

Buy as lightly as possible without allowing your stock to run too low. (Let the wholesale house carry your stock.)

Do not allow the salesman to stock you with what you do not need or more than you need for a definite period; determined, of course, by con-

ditions such as the available supply, the distance you are removed from your dealer, etc.

During the present strenuous conditions more than usual attention to these matters is necessary.

If you will consider the four points which I have here tried to present as concisely as possible, you will perhaps understand more fully the advantages of a pharmacist to your work. If you will permit, I would suggest that any hospital of one hundred beds or more, could quite profitably entertain the advisability of having a dispenser on the staff.

In the case of smaller institutions, consider the advisability of having your buying done by some one experienced in the work, on a salary or margin basis. If you have a druggist in your vicinity, you might profitably arrange to have your stock prescriptions and stock solutions manufactured on the premises, or arrange with him for your supply, the alternative being your wholesaler.

ROUND TABLE CONFERENCE.

MR. J. J. BANFIELD—

You have all had in your possession a questionaire of thirty-six questions. These have been left in the hands of Mr. Mordy whom I am going to ask to conduct this Conference.

MR. MORDY—

Our committee appointed took charge of these questions and have grouped them into the various classes:

Organization—7, 10, 11, 12, 13, 15, 23, 36.
Administration—5, 6, 16, 19, 26, 28, 29, 31, 32, 33, 34.
Medical—14, 17.
Nursing—20, 21, 24, 30.
Public Health—1, 9, 18, 22, 25, 27, 35.
Financial—2, 3, 4, 8.

We have arranged with certain members of the Convention to be prepared to speak on each of these, but I am afraid we cannot cover them all. However, what we cannot finish today, we'll make further arrangements about.

Organization—7, 10, 11, 12, 13, 15, 23, 36.

MR. GRAHAM—

Organization is the main thing in running a hospital or in business, but I am not going to deal with the question of organization itself, for each hospital represented here must have their own organization suitable to the institution in question. We will, therefore, take the questions as they come.

Question 7—"Government or City rest rooms in a private hospital in a town of four thousand five hundred, where there are no rest rooms in connection with the stores or the Y.W.C.A."

The opinion of the committee is that the hospital is not the place for a public rest room, and under no consideration should it be connected with the hospital.

Question 10—"What suggestions or advice would you give for the removal of prejudice against a privately owned hospital which is in need of home support?"

We are rather doubtful as to what is meant by "home support." We presume this means keeping patients from going to other hospitals. Let the people know what the hospital is doing, and what it is capable of doing. Give it a full line of publicity.

MRS. CURRIE—

Whoever owns a hospital, finds it is her daily bread, and she must have a doctor or certain doctors favoring it. Through them the public could be educated to know that the hospital was worth while sending their patients to.

DR. MacEACHERN—

We have in Vancouver a few very successful private hospitals and one of the most popular hospitals in the city is the "Bute Street," under the able management of our good friend, Mrs. M. E. Johnson. Therefore, I think Mr. Chairman, she could answer this question best of all.

MRS. JOHNSON—

I try to send all my patients home satisfied, making sure they have been comfortably and well taken care of, and also well fed. Then they will tell somebody else about it.

DR. MacEACHERN—

The solution to this question is the personal element of the hospital to a great extent, the personality of the superinendent and staff, who show to the patient kindness, sympathy and careful attention. Mr. Somerville's paper covers this point on publicity, and Mrs. Johnson has sounded the key note.

Questions 11, 12, 13—"The organization of a cottage hospital," "The raising of funds for the management of a cottage hospital," "A practical layout for a cottage hospital."

MR. GRAHAM—

These questions all have bearing on the cottage hospital. Any discussion?

DR. MacEACHERN—

Mr. Chairman, these questions were to have been answered by two of our delegates who are running cottage hospitals, viz: Mrs. Schultz of North Vancouver and Mrs. Newton of the Grandview Cottage Hospital. I do not think either of these ladies are present.

MR. GRAHAM—

If there is no discussion on these questions, I'll pass on to the next.

Question 15—"Hospital Propoganda."

I do not think we can deal any more effectually with this than refer the delegates to Mr. Somerville's paper on "Publicity Work" in hospitals. We will now pass on to the next.

Question 23—"Isolation hospitals for small centres to be established by the Government."

The committee thinks that the Government should be called on to establish isolation hospitals in small centres, that is, not to serve any particular small town, but to serve a district such as referred to in Dr. Young's paper the other night. If it is just a question of transportation, it is not a very difficult matter to move a patient quite a few miles; it can be done in a very short time. The committee was of the opinion that this Convention ought to pass a resolution calling on the Government to furnish isolation hospitals in the rural districts of the Province and the municipalities to either furnish them or compel the municipalities to furnish isolation hospitals.

MR. MORDY—

The point is that the Government should be asked to furnish isolation hospitals. I would like to ask Dr. Young what power or means there is of preventing the carrying of infectious diseases by a community such as a Chinese section from their homes when they are taken to a hospital for some other reason, such as a fracture or sickness which is not of an infectious nature, and whether there are any Government rules or regulations governing the inspection of such districts which are very thickly populated and are not in the very best sanitary condition.

DR. YOUNG—

In regard to the carrying of infectious diseases by patients being brought in, that is something that we cannot safeguard against. Dr. Carder referred to all that in his paper. If there is an epidemic in the community or probably in the house from which the patient comes, doctors would take every precaution.

As regards the Chinamen being brought to the hospitals—this question of the Chinese quarters in each town in British Columbia is really a good deal of a public one. In going over the situation I do not see that you

can lay at the door of the Chinamen any more cause for the spread of infectious diseases than you can against the uneducated whites. It is quite true that the sanitary conditions of Chinatown are very low. They are accustomed to living in a different manner than we do, but if you will go carefully over the statistics of the infectious diseases in British Columbia, you will be very much surprised indeed to find how very few cases of infectious diseases you will find in Chinatown.

The supervision of these quarters is in charge of the local Health Officers in Vancouver and the same in Victoria. I have never had from Dr. Underhill or Dr. Price of Victoria any complaint in particular as regards these places. It is to be regretted, of course, that their gathering together in the way they do is in our opinion a possible source of infection, as in our view the conditions existing would be favorable to the development of infectious diseases.

The handling of these cases in regard to hospitals and isolation hospitals is one that is in the making in British Columbia. The Government heretofore has assisted at some places in the establishment of hospitals, but in the small community the question of an isolated hospital is one of very difficult solution. It may not have a call for a year or two; on the other hand, you don't know the minute, especially in a moving population such as we have in a new country, when you may have to use it. The building is supposed to be always ready to receive a patient. Those in charge of hospitals know what that means. You have to have the whole equipment ready, to have the nurses to take complete charge, to discontinue all their other work. In small places we cannot do it. The suggestion which I made a few years ago and which I endeavored to carry out, of building isolation hospitals, was begun in the Province, but unfortunately, like vaccination, there is nothing done when no one is sick. If the hospitals can be placed at any point, taking into view proper distribution of population, then I think this Convention could very advisably submit this scheme to the Government. At the same time (I am not speaking for the Government, but speaking as a medical man), I believe the suggestion might be entertained. At the same time, a suggestion of that kind would be entertained much more favorably by the authorities if it were supported by the fact that the municipalities would also lend their assistance.

As regards the maintenance. An isolation hospital was built in Victoria, and one of the terms that I made with the authorities in Victoria was: A patient coming from the unorganized districts, the Government would pay, but that that hospital was obliged to receive them, though it was immediately under the care of the Jubilee Hospital. The maintenance for these patients from outside of the city was paid by the Government, and from other municipalities, of course, charged as against that municipality. The question of maintenance might be threshed out with the Government and a per capita allowance granted on the same basis as the per capita allowed in public wards.

We have been very fortunate in the last few years in escaping many epidemics. Look at the situation—the boundary line to the South of us and the seacoast to the West—these are the chief causes of epidemics. The United States authorities freely admit that their people are not very strict about carrying out rules. I think those connected with hospitals should bring more forcibly before the Government the necessity of looking out for these cases. If we are going to insist on quarantine for all infectious diseases, then we have got to provide the means for carrying out the enforcement we insist upon. This should come from those representing hospitals.

Moved by Mr. Mordy, seconded by Dr. Rogers:

THAT this Convention call on the Provincial Government to furnish isolation hospitals in rural districts and to provide for the maintenance, also to compel municipalities to maintain them in their particular district.

Resolution Carried.

MR. GRAHAM—

In connection with the expense, if the Government carries out this resolution the Province would be put to an enormous expense. Why not build collapsible hospitals, moving them from district to district as the disease might appear?

DR. FEWSTER—

How are you going to make the people in the outside districts send their loved ones to these isolation hospitals? If we are going to build our isolation hospitals there should be some means by which home ties will not be entirely severed. It is the case of the protection of the community infringing on the sanctity of the home. I know perhaps that I have not the sympathy of this Convention with me. If a child is taken sick, better to die in a house even if their loved ones die with it, than have it go to another place where it would be left alone. I have always felt very strongly on this isolation question. Isolation hospitals are usually very badly administered.

DR. MacEACHERN—

We have got to get in this Province up-to-date infectious hospitals. If you want to see an isolation hospital where you can converse with friends, see the smallpox hospital of the City of Vancouver. Often patients come in to our isolation hospitals dying, simply because they were prejudiced against isolation hospitals. There is the life of the child on one hand and the separation from home on the other. In my opinion, the life of the child should come first.

DR. MULLIN—

Every case is not predestined to die. It seems to me that if the sympathetic manner of treating patients is going to be carried out in the future as it has been done too much in the past, that we will never get to the point. There is too much sympathetic treatment extended to the families and not enough to the community. I think that the attitude of the community, which has been expressed by the last speaker, is due entirely to the fact that in the past cases of infectious diseases were taken to a hospital which was temporarily arranged and temporarily equipped and temporarily staffed. The nurse in charge very often is not a trained nurse and possibly the doctor attending doesn't visit his patient as often as he might have done. I think it is a rare instance in these days for infectious cases to die unless the epidemic is a very severe one. Eradicate this idea that all infectious cases are fatal. The only way is by building a hospital which will be an up-to-date institution with an up-to-date staff. Arrange to have a nurse go from a general hospital to attend.

MR. MORDY—

When I came to Vancouver I was to have been met by my eldest son. The first word that I got was that he was laid up in bed. The first thing that I did was to get a doctor. He diagnosed the case as "measles." I sent him to the Vancouver General Hospital. I don't see why there should be any objection to an isolation hospital.

DR. MULLIN—

All of these infectious diseases are not individual diseases, they are communicable diseases, that is, if a case of infectious disease occurs it is not that household alone which is affected, it is every individual. The rights of that household must be superseded by the rights of a community as a whole.

DR. MacEACHERN—

One suggestion—to get over the objections raised by Dr. Fewster, put in a telephone and let the extension be long enough to allow the patient to speak to the people at home and everybody will be happy.

MR. BENZIE—

The isolataion hospital is somewhat costly, owing to necessary arrangements. A proper cottage hospital arranged to hold five or ten cases would cost about $10,000.00. The plan shown yesterday could be used or elaborated for any of the ordinary small hospitals.

MR. GRAHAM—

Coming now to Number 36:

Question 36—"The value of a central information bureau for all hospitals in British Columbia."

This is a splendid suggestion. We need it, as we are all going back to improve and develop our hospitals. There is information we will want.

DR. MacEACHERN—

So far as we can, I am sure we'll be glad to give any information, advice or assistance to any hospital in British Columbia at any time. Write me any time. If I haven't got the information, I'll try and secure it as soon as possible.

MR. GRAHAM—

This ends our first series of questions. We will now take up those classified as Administration or Management.

Question 5—(Answered in Round Table Conference Wednesday afternoon.)

Question 6—(Answered in discussion following Miss McKenzie's paper on Wednesday afternoon. See Mr. Wilke's discussion.)

Question 16—"What is the best way to deal with old soft wood floors that are very worn and splintered, and walls cracked and soiled?"

MR. BENZIE—

You may "scrape" or "plane surface" of floor either by hand or by electric planing machine—if the floors are not too badly destroyed. Possibly, it would be necessary to lay a new floor. Some have covered such a floor with a filler and linoleum. The cracks in the wall can be filled with plaster and painted.

Question 19—"What is found the best way of regulating the diet in a small hospital, and is a dietitian or a practical housekeeper found the most economical and efficient?"

MRS. M. E. JOHNSON—

In regard to the dietitian or practical housekeeper, in my own hospital I have been very fortunate in having my sister. I think in the small hospital a housekeeper would be more practical than a dietitian and the most efficient. In large hospitals, as the Vancouver General Hospital, the dietitian is necessary.

Question 26—"Annual Reports for Hospitals."

MR. COOK—

Annual reports are of very great importance as far as the hospital is concerned. We have had several remarks from different sources on the value of publicity. I think that the value of publicity to a hospital, either large or small, can hardly be exaggerated. I think it would be well that the different details that the hospital has to deal with in every year, from the financial standpoint, should be adequately put forth in an annual report in such a way that the public can see at once our source of supply or income, the annual expense that we are up against, the actual income received and the actual disbursements; and there is also another thing frequently overlooked in the small hospital, that is, a valuation of the hospital, its plant, furniture and all accessories, with a proper amount allowed for depreciation. I think that the annual report should be made out in intelligent form and published regularly.

MR. GRAHAM—

We will now pass on to Number 28.

Question 28—"The Hospital and Aesthetics."

DR. MacEACHERN—

Every hospital should pay particular attention to the color scheme and decoration of their hospital. Remember the sick patient lying there all day. Make it as easy as possible on the eye, and pleasing. Add to your wards and rooms such features as will make them more homelike. Careful study should be given the color scheme throughout. In the hospital here we use light tints, as many of the days are very dark.

MR. GRAHAM—

We now come to the next question.

Question 29—"Local buying at a loss."

DR. MacEACHERN—

Naturally, we should patronize home dealers, and they have to charge more. You will recall Mr. Leders' paper where he emphasized two things—Standardization, Centralization. If our local dealers knew they were handling a standard line and one not likely to change, then they could give us a better price. Let us work to the principles involved in that paper.

MR. GRAHAM—

Passing on now to,

Question 31—"The best way to deal with cockroaches."

MR. MORDY—

Use Keating's Insect Powder. Use rhubarb leaves around the room.

DR. MacEACHERN—

Get rid of old wooden floors. Cement, Terrazo or tile instead.

MR. GRAHAM—

Question 32—"A standard list of furniture for private room."

DR. MacEACHERN—

One bed with back rest
One mattress
Two pillows
One bedside table
One washstand
One dresser
One wardrobe
One rocker
One easy chair
One plain chair
One reading lamp
Two floor mats
One toilet set
Window shade, hangings, etc.
For linen, see standard in Mr. Leder's paper.

MR. GRAHAM—

Question 33—"Should all hospitals keep medical records?"

DR. MacEACHERN—

All hospital should keep medical records, no matter what the nature of the hospital is. In small hospitals this can be done as well as large.

MR. MORDY—

I desire to move the following resolution:

"THAT this Convention fully believe they should keep accurate and systematic medical records in their hospitals, and that they ask the Executive Committee to draw up standard forms of reports which shall be suitable for all the hospitals in British Columbia, and that these be standard."

DR. MacEACHERN—

I have much pleasure in seconding the resolution.

MR. BANFIELD—

I declare the motion carried.

MR. GRAHAM—

Coming now to

Question 34—"How to make green soap."

Can anyone answer this?

DR. MacEACHERN—

The following is the answer: Take one pound caustic potash to four pounds of raw linseed oil and add enough chlorophyl to give it a greenish shade. Place the caustic potash in a vessel, pour over it enough water to cover and boil until all dissolved. Then pour in your oil and chlorophyl. Boil slowly until it becomes soap, then add sufficient water at times until vessel is filled. The longer the material is boiling the better the soap. Be very careful not to add any more water to material other than dissolving potash before you get soap or your material is wasted.

MR. GRAHAM—

This ends our second series of questions.

DR. MacEACHERN—

Mr. Chairman, the morning is now well spent and we have to leave for New Westminster at 2:00 p.m. Therefore, I fear we will have to drop our questionaire and take up the business which is yet unfinished. I would suggest that these questions be gone into later and answers sent to the various hospitals.

MR. BANFIELD—

I will therefore declare the discussion closed and we will proceed with the unfinished business.

MR. GRIMMETT—

Owing to the foresight of Dr. MacEachern, our duties have been very light. We found prepared for us a draft of Constitution and By-laws, which have been altered very slightly. I have much pleasure in presenting this report.

CONSTITUTION and BY-LAWS
—for—
THE B. C. HOSPITAL ASSOCIATION.

Article 1.—Name.

The name of this Association shall be "The B. C. Hospital Association."

Article 2.—Purpose.

It shall be the purpose of this organization:

(a) To serve as a means of intercommunication and co-operation between the hospitals in British Columbia,
(b) To establish, maintain and improve standards of hospital work.
(c) To promote the efficiency of all hospitals in the Province,
(d) To stimulate intensive and extensive hospital development,
(e) To make all hospitals of more community service.

Article 3.—Officers.

The officers shall be:

Honorary President,
President,
Vice-Presidents,
Secretary,
Treasurer,
Executive Committee of Ten.

Article 4.—Membership.

The members shall be all persons connected directly or indirectly with hospitals paying the membership fees hereinafter mentioned, and such members shall be classified as follows:

(a) Active,
(b) Associate,
(c) Honorary,

(a) "Active" members shall include all who are actively engaged in hospital work, and this means on the regular staff of the hospital.
(b) "Associate" members shall include all who are engaged in hospital work but are not on the regular staff, and shall include attending doctors, nurses, members of trustee boards and hospital auxiliaries,
(c) "Honorary" members. Active honorary members shall be the active and associate members who have ceased to take an active part in hospital work after years of faithful and recognized service.

Article 5.—Election of Officers.

This shall take place at the annual meeting each year, and shall be by ballot. All officers shall be elected for a term of one year.

Article 6.—Executive Committee.

The Executive Committee shall be composed of the officers and ten other members, elected from the Association at the annual meeting.

Article 7.—Quorum.

Five members shall constitute a quorum of the Executive Committee, which shall meet at least once a year, and at other times at the call of the chairman or any five members. Ten per cent. of the members shall constitute a quorum of the whole Association. The Executive Committee shall carry on the affairs of the Association during the year and report to the Association at the annual meeting.

Article 8.—Meetings, Time and Place.

The annual meeting of the Association shall be held at the time of the Hospital Convention, notice of which shall be sent out to each member one month in advance. The place at which the annual meeting and convention shall be held will be decided on at the annual meeting or convention of the previous year.

Article 9.—Amendment to By-laws.

By-laws may be amended at any regular meeting by a two-thirds vote of members present.

Article 10.—Recommendations.

All recommendations and suggestions must be sent in in writing to the Secretary of the Association, who shall lay same before the Executive for discussion and consideration previous to the annual meeting of each year.

Article 11.—Membership Fees.

All hospitals paying the following fees shall be entitled to membership in this Association:

1. Hospitals of 10 beds or under, $5.00 per annum,
2. Hospitals of ten to twenty beds, $10.00 per annum.
3. Hospitals of twenty to fifty beds, $15.00 per annum,
4. Hospitals of fifty to one hundred beds, $20.00 per annum,
5. Hospitals over one hundred beds, $25.00 per annum.

DATED at Vancouver, B. C., this twenty-eighth day of June, A.D. 1918.

(Each By-law was taken up separately and voted upon.)

DR. GATEWOOD—

I beg to move that the Constitution and By-laws be adopted as a whole.

MR. GRAHAM—

I second that motion.

MRS. J. D. BROOM—

I think there should be an individual membership for such people as are not attached to any particular hospital but interested in them. Of course, we understand that the hospital membership may include a great many.

DR. MacEACHERN—

I would like to move an amendment to the Constitution and By-laws to be added to Article 11 in regard to membership fees. This motion is: "That individual membership be obtained on paying a fee of Two Dollars per year."

MR. MORDY—

I have much pleasure in seconding that.

The amended Constitution and By-laws—Carried.

MR. BANFIELD—

The next order of business is the election of officers.

DR. MacEACHERN—

I would like to move that the same Committee as drafted the Constitution and Bylaws draft a slate of officers.

DR. WHITING—

I second that motion.

MR. BANFIELD—

Is there any further business to take up while the Committee is out? I think Dr. MacEachern wants to make some announcements.

(At this juncture Dr. MacEachern explained the arrangements made for the afternoon trip to New Westminster and the Colony Farm.)

MR. BANFIELD—

I will ask the Committee for their slate of officers for the coming year.

MR. GRIMMETT—

I have much pleasure in submitting the following slate:

LIST OF OFFICERS
of
"THE B. C. HOSPITAL ASSOCIATION"
for
THE FIRST YEAR.

Honorary President.....Hon. J. D. McLean, Victoria
President.....Dr. M. T. MacEachern, Vancouver
1st Vice-President.....Mr. R. S. Day, Victoria
2nd Vice-President.....Mayor Gray, New Westminster
Secretary.....Mrs. M. E. Johnson, Vancouver
Treasurer.....Dr. C. H. Gatewood, Vancouver

Executive Committee:

Dr. F. X. McPhillips, Vancouver
Miss M. McMillan, Nanaimo
Mr. C. Graham, Cumberland
Miss L. S. Gray, Chilliwack
Miss Pitblado, Kamloops
Mr. M. L. Grimmett, Merritt
Mr. D. G. Stewart, Prince Rupert
Dr. H. C. Wrinch, Hazelton
Miss B. E. Langley, Fernie
Miss H. Campbell, Vernon

MR. GRAHAM—

I move that this list of officers for the coming year be adopted.

DR. GATEWOOD—

I second the motion.

MR. BANFIELD—

(After putting the motion.) I declare these officers elected.

On behalf of the Convention, I beg to extend to Mr. Grimmett and his Committee their hearty thanks for the good work done.

DR. MacEACHERN—

I beg to move that Victoria be selected as the place for holding the next Convention.

DR. GATEWOOD—

I have much pleasure in seconding that.

MR. BANFIELD—

(After putting motion.) I declare the motion carried.

MR. GRIMMETT—

Mr. Chairman, I have very much pleasure in moving the following resolution:

> "That the very heartiest thanks of this Association be tendered Dr. M. T. MacEachern, the Board of Directors of The Vancouver General Hospital, the Staff of The Vancouver General Hospital, the ladies and gentlemen who furnished their cars for our entertainment, including also the cars for this afternoon, and the University for the use of the Convention Hall."

MR. MORDY—

I have great pleasure indeed in seconding this resolution.

MR. BANFIELD—

(After putting motion.) I declare the motion carried, and our new Secretary will see that a letter of thanks is sent on to each.

DR. MacEACHERN—

It gives me great pleasure to move a most hearty vote of thanks to the Press representatives here who have so ably, so enthusiastically, given publicity to our proceedings. The Press of the city always do things right.

MR. GRAHAM—

I have much pleasure in seconding Dr. MacEachern's motion.

MR. BANFIELD—

(After putting motion.) I declare the motion carried, and our Secretary will act accordingly.

MR. MORDY—

Permit me to move another vote of thanks, and that is—to Dr. Gatewood, Chairman of the Convention; Miss McKenzie, Secretary of the Convention; and to all who gave papers, addresses, and took part.

MR. GRAHAM—

I have much pleasure indeed in seconding that motion.

MR. BANFIELD—

(After putting motion.) I declare the motion carried.

DR. GATEWOOD—

On behalf of the Directors of The Vancouver General Hospital, I am sure we feel admirably repaid in the splendid and enthusiastic manner in which you have responded and helped to make this Convention a success. Anything the Board of Directors of The Vancouver General Hospital has done, I assure you, has been a great pleasure.

MR. BANFIELD—

As a citizen of Vancouver, I can assure you that your coming here and taking part in the Hospital Convention has been greatly appreciated. Without your presence the Convention would not have been the success it is, and, besides, we have met many fascinating ladies and clever gentlemen, and we can say the Hospital Convention has been the means of bringing those together. It has been very gratifying to the citizens of Vancouver, and on their behalf I thank you for your attendance, and I hope we shall see you other years and we will be glad to meet you all again.

MRS. JOHNSON—

On behalf of the Graduate Nurses' Association I want to say a few words. We have scarcely had a chance to welcome the visiting nurses—our programme was so full we have been unable to arrange it. However, I shall be glad to meet any who have time, at the Bute Street Hospital, this afternoon or tomorrow.

DR. MacEACHERN—

I want to thank you most sincerely for the great favor you have conferred on me in electing me first President of The B. C. Hospital Association. This has come to me rather suddenly and so I am not prepared to make a speech, but will defer same till we meet in Victoria next year. However, I must say that it has been the greatest pleasure that I have had in connection with anything—this Convention. There has been a splendid response to our few letters sent out. What pleases me and delights me is not alone because we have had a large number of doctors and nurses present, but that we have had a large attendance of lay people, men and women in business and various walks of life, who have come here and taken the greatest interest and entered into the most intelligent discussions that I have ever heard on the different subjects. I have heard that one of the largest international Hospital Associations was commenced with a mere handful at their first few conventions, whereas ours started off with approximately one hundred delegates. I was very pleased indeed to represent The Vancouver General Hospital at Cleveland last year, but this year I will be more delighted to represent The British Columbia Hospital Association at the American Hospital Association at Atlantic City.

MR. BANFIELD—

This brings our proceedings to a close. You will meet in front of this building at 2:00 p.m. to leave for New Westminster and Colony Farm. I will therefore declare this Convention closed.

"God Save the King."

TRIP TO NEW WESTMINSTER, ROYAL COLUMBIAN HOSPITAL, AND TO PROVINCIAL MENTAL HOSPITAL AND COLONY FARM AT ESSONDALE.

Some hundred delegates left the Auditorium at 2:00 p.m., Friday, June 28th, and had a very delightful drive. They first went to the Provincial Mental Hospital at Essondale, where they were received by Assistant Superintendents Drs. Crease and Ryan. They were escorted through this magnificent and interesting institution. After this a visit was made to the Colony Farm, where the visitors were shown about. The trip was delightfully interesting and delegates were loud in their praise of the hosts. After this the visitors proceeded back to The Royal Columbian Hospital, where they were hospitably received by His Worship Mayor Gray, Miss Sinclair, Superintendent, and Staff, and a Committee of ladies. Afternoon tea was served in the Board Room and then a very extensive tour of the institution was made. This was of great interest to the delegates who took time to make careful note of matters pertaining to equipment and administration. After spending two extremely interesting and profitable hours the party returned home most delighted with their afternoon.

Nurses' Graduation of The Vancouver General Hospital at 8:00 p.m., June 28th, 1918, was largely attended by a large number of delegates, being invited guests of the occasion.

On Saturday, June 29th, the delegates remaining in town visited many of the Vancouver hospitals.

EXHIBITS

Instruments and Hospital Supplies
By B. C. Stevens Co., Ltd., and Chandler & Fisher, Limited

Beds, Mattresses, Hospital Furniture
By Restmore Manufacturing Co., Ltd., and Alaska B. C. Bedding Co., Ltd.

Maternity and Surgical Belts
By Mrs. Foster

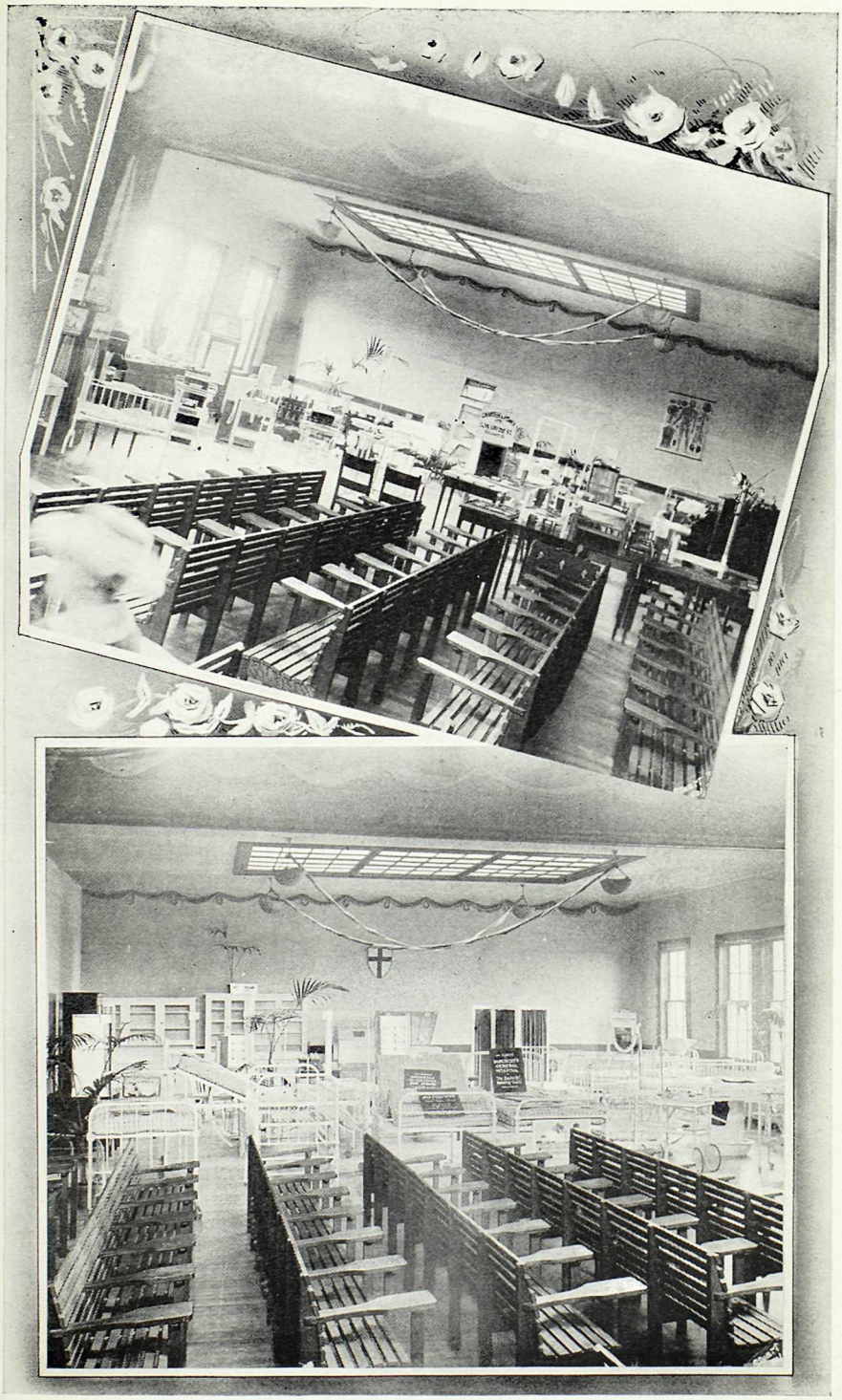
Hospital Paints
By Hunter-Henderson Paint Co., Ltd.

Soaps
By The Armour Soap Company

A most extensive and elaborate Exhibit of "home-made" appliances was shown by the Vancouver General Hospital.

The Exhibits were of great value and interest to all.

FINIS.



The following questions remained unanswered—Nos. 1, 2, 3, 8, 9, 11, 12, 13, 14, 17, 20, 22, 24, 25, 30, 35:

1. Methods of fumigation and disinfection for rooms, clothing, etc.
2. The petitioning of the Provincial Government to levy a hospital rate for rural hospitals, on the same principle as rates now levied for school taxes.
3. Compulsory uniform charges in all hospitals receiving Government aid.
8. What amount of money would be required for the permanent or yearly endowment of a bed in a hospital (the condition being a private hospital in a small city with outlying country towns).
9. All hospitals receiving Government aid are now required to take in tubercular cases, incipient or advanced. Would it not be best to have compulsory segregation of all, or, at least, advanced cases?
11. The organization of a Cottage Hospital.
12. The raising of funds for the management of a Cottage Hospital.
13. A practical layout for a Cottage Hospital.
14. Should maternity cases have a separate building or wing, or should they be all under one roof?
17. What form of universal fracture treatment apparatus will be the best for a hospital to acquire having in view modern frames for the treatment of all kinds of fractures?
20. What is found to be the ideal way of running a hospital ward for the first three hours in the morning, with reference to the duties of nurse, orderly or ward nurse—washing, sweeping, cleaning, etc.?
22. What risk is run in admitting typhoid patients to the general ward, and is it sufficiently great to warrant refusal to a case that has not home facilities?
24. A short course of training in orderly work (preferably returned soldiers) in large hospitals for work in small hospitals.
25. Ventilation and location of lavatories and toilets in hospitals.
30. The special nurse and the diet kitchen.
35. The preventing of sepsis in the hospital wards.

OUT OF TOWN DELEGATES.

Name	Representing	Address
Aitchison, Miss	Summerland Hospital	Summerland, B. C.
Andrews, A. M.	Chemainus Hospital	Chemainus, B. C.
Bass, Mrs. Mary	Bass Maternity Hospital	Victoria, B. C.
Beattie, Miss	Military Hospital	New Westminster, B. C.
Bent, Miss E.	Bent Sanatorium	Cranbrook, B. C.
Broom, Mrs. J. D. D., R.N.	M. H. M. H.	Hanover, N. H.
Campbell, Mrs. H.	Vernon Hospital	Vernon, B. C.
Campbell, Miss J.	Victoria Infirmary	Glasgow, Scotland
Campbell, Miss K.	General Hospital	Cumberland, B. C.
Clark, Mrs. W. A.	Local Council of Women	Merritt, B. C.
Cook, E. M.	Chemainus Hospital	Chemainus, B. C.
Currie, Mrs. A. B.	Salmon Arm General Hospital	Salmon Arm, B. C.
Day, Robert S.	Provincial Jubilee Hospital	Victoria, B. C.
Dobbs, Miss Mary E.	Royal Columbian Hospital	New Westminster, B. C.
Down, R.	Down Maternity Home	Kamloops, B. C.
Forrester, Mrs.	Royal Columbian Hospital	New Westminster, B. C.
Garner, Mrs.		Fernie, B. C.
Girlig, Miss	Government Civil Hospital	Hong Kong, China
Graham, Charles	Cumberland Hospital	Cumberland, B. C.
Gray, A. W.	Royal Columbian Hospital	New Westminster, B. C.
Gray, Mayor	Royal Columbian Hospital	New Westminster, B. C.
Gray, Miss L. S.	Chilliwack Gen'l Hospital	Chilliwack, B. C.
Grimmett, M. L.	Nicola Valley Hospital	Merritt, B. C.
Hayes, W. H.	Summerland Hospital	Summerland, B. C.
Henderson, Dr. A.	St. Luke's Hospital	Powell River, B. C.
Henderson, Miss A. G.	King's Daughters Hospital	Duncan, B. C.
Hughes, Miss	Lady Minto Hospital	Ashcroft, B. C.
Langley, Miss Bell E.	Fernie Hospital	Fernie, B. C.
Leitch, Miss		Victoria, B. C.
Letts, Annie	V. O. N.	New Westminster, B. C.
MacAllister, Miss L.	Royal Columbian Hospital	New Westminster, B. C.
MacMillan, Miss	Nanaimo Hospital	Nanaimo, B. C.
MacNaughton, Dr. G. K.	Cumberland Hospital	Cumberland, B. C.
McCue, Miss	Royal Columbian Hospital	New Westminster, B. C.
McKenzie, Miss J. F.	Provincial Jubilee Hospital	Victoria, B. C.
McLean, C. G.		Mill Creek, B. C.
McNamara, Miss	Great Northern Hospital	Liverpool, England
Menzies, Bell, R.N.		Great Falls, Mont.
Menzies, Edith		Pitt Meadows, B. C.
Miles, Miss	M. P.	Brainerd, Minn.
Mordy, T.	Cumberland Hospital	Cumberland, B. C.
Mowett, Miss		New Westminster, B. C.
Patton, Mrs.		Chilliwack, B. C.
Pitblado, Miss	Kamloops Hospital	Kamloops, B. C.
Richards, Mrs. J. R. A.	Salmon Arm General Hospital	Salmon Arm, B. C.
Robertson, Miss E.	King George Hospital	Winnipeg, Man.
Rogers, Dr. H. B.	Provincial Jubilee Hospital	Victoria, B. C.
Rose, Mrs. W. M.	V. O. N.	Marpole, B. C.
Schultz, Mr. F. C.		Chicago, Ill.
Selkirk, Miss	Philadelphia Gen. Hospital	Philadelphia, Pa.
Sinclair, Miss G.	Royal Columbian Hospital	New Westminster, B. C.
Sloan, Miss	Governm't Civil Hospital	Hong Kong, China
Smith, Mrs. Paul	Royal Columbian Hospital	New Westminster, B. C.
Smith, Mrs. T. H.	Royal Columbian Hospital	New Westminster, B. C.
Stewart, D. G.	Prince Rupert Hospital	Prince Rupert, B. C.
Stewart, Kate E.		North Vancouver, B. C.
Sister Mary Claudia	St. Joseph's Hospital	Comox, B. C.
Sister St. Edmund	St. Joseph's Hospital	Comox, B. C.
Sister Mary of Nazareth	St. Mary's Hospital	New Westminster, B. C.

Name	Representing	Address
Sister Mary Catherine	St. Joseph's Hospital	Victoria, B. C.
Sister Mary Modeste	St. Joseph's Hospital	Victoria, B. C.
Sister Mary Peter	St. Joseph's Hospital	Victoria, B. C.
Sister Mary Anna	St. Joseph's Hospital	Victoria, B. C.
Wickham, Miss L.	St. Bartholomew's Hospital	Lytton, B. C.
Wilson, Mrs. M. M.		South Framingham, Mass.
Wilkes, Dr.	Nanaimo Hospital	Nanaimo, B. C.
Wrinch, Dr. H. C.	Hazelton Hospital	Hazelton, B. C.
Young, Dr. H. E.	Provincial Board of Health	Victoria, B. C.

VANCOUVER DELEGATES.

Name	Representing	Address
Arent, Miss M.	Vancouver Gen'l Hospital	Vancouver, B. C.
Archibald, Miss L. G.		Vancouver, B. C.
Ashworth, James		Vancouver, B. C.
Banfield, J. J.	Vancouver Gen'l Hospital	Vancouver, B. C.
Benzie, Mr. J. A.		Vancouver, B. C.
Benzie, Mrs. J. A.		Vancouver, B. C.
Berkinshaw, Mrs.		Vancouver, B. C.
Bone, Miss		Vancouver, B. C.
Breckon, J. T.		Vancouver, B. C.
Breeze, Miss		Vancouver, B. C.
Brown, Mrs. E.		Vancouver, B. C.
Brydone-Jack, Dr. F. W.	Vancouver Gen'l Hospital	Vancouver, B. C.
Bufton, Mrs. A. L.		Vancouver, B. C.
Burd, F. J.		Vancouver, B. C.
Burnett, Dr. W. B.		Vancouver, B. C.
Buttle, Mrs. M.	Vancouver Gen'l Hospital	Vancouver, B. C.
Cameron, Geo. H.		Vancouver, B. C.
Casselman, Dr. V. E. D.		Vancouver, B. C.
Carder, Dr. E. D.	Infants' Dept., Vancouver General Hospital	Vancouver, B. C.
Carter, Miss	V. O. N.	Vancouver, B. C.
Clark, Miss I.	Vancouver Gen'l Hospital	Vancouver, B. C.
Clement, Miss N.	V. O. N.	Vancouver, B. C.
Cleveland, Miss		Vancouver, B. C.
Cole, Miss		Vancouver, B. C.
Colthard, Dr. W. A.		Vancouver, B. C.
Curlin, T. V.		Vancouver, B. C.
Day, C. L.	Chandler & Fisher, Ltd.	Vancouver, B. C.
Devine, H. T.	Vancouver Gen'l Hospital	Vancouver, B. C.
Dickie, Mrs.		Vancouver, B. C.
Ditmars, W. C.	Vancouver Gen'l Hospital	Vancouver, B. C.
Drainie, Miss A. N.	Vancouver Gen'l Hospital Military Annex	Vancouver, B. C.
Duncan, Capt. G. E.	Vancouver Gen'l Hospital	Vancouver, B. C.
Effinger, C. E.	Vancouver Gen'l Hospital	Vancouver, B. C.
Elmer, Mrs. S. C.		Vancouver, B. C.
Esplen, Miss F.	Vancouver Gen'l Hospital	Vancouver, B. C.
Esselmont, Miss	Vancouver Gen'l Hospital	Vancouver, B. C.
Ewart, Miss		Vancouver, B. C.
Fewster, Dr. E. P.		Vancouver, B. C.
Ford, Miss	West End Hospital	Vancouver, B. C.
Forget, Rev. L.		Vancouver, B. C.
Forshaw, Miss	V. O. N.	Vancouver, B. C.
Fraser, Mrs.		Vancouver, B. C.
Gatewood, Dr. G. H.	Vancouver Gen'l Hospital	Vancouver, B. C.
Green, Mrs. Roland		Vancouver, B. C.
Griffin, Mrs. W. H.	Vancouver Gen'l Hospital	Vancouver, B. C.
Haddon, Geo. E.	Vancouver Gen'l Hospital	Vancouver, B. C.

Name	Representing	Address
Hall, E. H.	Vancouver Gen'l Hospital	Vancouver, B. C.
Hall, Dr. G. B.	Workmen's Compensation Board	Vancouver, B. C.
Hamilton, Miss A. B.		Vancouver, B. C.
Haskin, Miss C. M.	Medical Librarian	Vancouver, B. C.
Henry, Miss F.	Vancouver Gen'l Hospital	Vancouver, B. C.
Hodges, Miss Alma	Vancouver Gen'l Hospital	Vancouver, B. C.
Hooper, Edgar	18th Field Ambulance	Vancouver, B. C.
Howell, Enid	St. Paul's Hospital	Vancouver, B. C.
Jackson, Annie	St. Paul's Hospital	Vancouver, B. C.
Johnson, Mrs. M. E.	Bute Street Hospital	Vancouver, B. C.
Jones, Dr. Milton		Vancouver, B. C.
Judge, Miss Ruth		Vancouver, B. C.
Kennedy, H. M.		Vancouver, B. C.
King, Rev. Harold G.		Vancouver, B. C.
Kinney, Miss E.	Vancouver Gen'l Hospital	Vancouver, B. C.
Lamarque, Mrs.		Vancouver, B. C.
Langdon, Miss		Vancouver, B. C.
Leders, R. B.	Vancouver Gen'l Hospital	Vancouver, B. C.
Lennie, Dr. T. H.	Vancouver Gen'l Hospital	Vancouver, B. C.
MacEachern, Dr. M. T.	Vancouver Gen'l Hospital	Vancouver, B. C.
McGibbon, Miss Helen		Vancouver, B. C.
MacKay, Miss	City Health Department	Vancouver, B. C.
McKechnie, Dr. R. E.		Vancouver, B. C.
McLeod, Miss Maud	Vancouver Gen'l Hospital	Vancouver, B. C.
McLennan, Miss	V. O. N.	Vancouver, B. C.
McLennan, Miss	School Nurse	Vancouver, B. C.
McPhillips, Dr. F. X.		Vancouver, B. C.
McIntosh, Mrs. H. H.		Vancouver, B. C.
Making, Mrs.	Grosvenor Nursing Home	Vancouver, B. C.
Mahony, Dr. D.	Vancouver Gen'l Hospital	Vancouver, B. C.
Manning, Lottie	St. Paul's Hospital	Vancouver, B. C.
Mills, Miss		Vancouver, B. C.
Moody, Miss E. M.		Vancouver, B. C.
Mowett, Miss		Vancouver, B. C.
Mullin, Dr. R. H.	Vancouver Gen'l Hospital	Vancouver, B. C.
Murray, Miss E.	Convalescent Home	Vancouver, B. C.
Murray, Miss M.	Convalescent Home	Vancouver, B. C.
Newton, F. E.	Grandview Hospital	Vancouver, B. C.
Newton, Mrs.	Grandview Hospital	Vancouver, B. C.
Noble, Miss		Vancouver, B. C.
Oke, C. F.	Chandler & Fisher, Ltd.	Vancouver, B. C.
Onney, Mrs. A. S.	Grosvenor Nursing Home	Vancouver, B. C.
Pedden, Miss	V. O. N.	Vancouver, B. C.
Pearcy, Mrs.		Vancouver, B. C.
Pearson, Dr. J. M.		Vancouver, B. C.
Perriton, Mrs.	St. Luke's Home	Vancouver, B. C.
Prince, Judith	St. Paul's Hospital	Vancouver, B. C.
Procter, Dr. A. P.		Vancouver, B. C.
Ramsay, Miss	St. Paul's Hospital	Vancouver, B. C.
Riggs, Dr. H. W.		Vancouver, B. C.
Robinson, Miss B.		Vancouver, B. C.
Robson, Mrs. C. E.	Women's Auxiliary	Vancouver, B. C.
Rogers, Dr. E. E.	Vancouver Gen'l Hospital Military Annex	Vancouver, B. C.
Rose, Mrs. J.	Grosvenor Nursing Home	Vancouver, B. C.
Sainsbury, Mr.		Vancouver, B. C.
Schultz, Mrs. Maude D.		Vancouver, B. C.
Scott, Miss A.	Kitsilano Private Hospital	Vancouver, B. C.
Seldon, Dr. G. E.		Vancouver, B. C.
Sheffield, Mrs. Alfred	Winters Maternity Home	Vancouver, B. C.
Stevens, Miss B.		Vancouver, B. C.
Sister Frances	St. Luke's Home	Vancouver, B. C.

Name	Representing	Address
Sister Mary Alphonsus	St. Paul's Hospital	Vancouver, B. C.
Sister Mederic	St. Paul's Hospital	Vancouver, B. C.
Takahara, Dr. K. S.		Vancouver, B. C.
Tolmie, Mrs. H. G.	West End Hospital	Vancouver, B. C.
Tomley, Mrs.	Grosvenor Nursing Home	Vancouver, B. C.
Turnbull, Dr. H.		Vancouver, B. C.
Walker, Miss Margaret		Vancouver, B. C.
Walters, Joseph		Vancouver, B. C.
Warner, L. B.		Vancouver, B. C.
Waterman, Miss May	Infants' Dept., Vancouver General Hospital	Vancouver, B. C.
Weld, Dr. O.		Vancouver, B. C.
Webb, Mrs.	South Vanc'r Maternity Hospital	South Vancouver, B. C.
White, Miss E.	Vancouver Gen'l Hospital	Vancouver, B. C.
Whitelaw, Dr. W. A.	Vancouver Gen'l Hospital	Vancouver, B. C.
Whiting, Dr.	Vancouver Gen'l Hospital	Vancouver, B. C.
Wilkes, Mrs.	St. Paul's Hospital	Vancouver, B. C.
Wilkinson, Miss G.		Vancouver, B. C.
Wilson, Miss Mary		Vancouver, B. C.
Wilson, Miss	Infants' Dept., Vancouver General Hospital	Vancouver, B. C.
Winter, Mrs. J. B.	Winters Maternity Home	Vancouver, B. C.
Winn, E. S. H.	Workmen's Compensation Board	Vancouver, B. C.
Witt, Nurse		Vancouver, B. C.
Wright, C. H.		Vancouver, B. C.
Wright, Miss H.	Vancouver Gen'l Hospital	Vancouver, B. C.
Underhill, Dr. F. T.	Medical Health Officer	Vancouver, B. C.