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EXECUTIVE AND CLINICAL STAFFS

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Executive Assistant

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Neurologist and Neurosurgeon

WILDER PENFIELD

Honorary Neurologist

A. G. MORPHY, B.A., M.D.

Neurologist

*COLIN RUSSEL, B.A., M.D., C.M., F.R.C.P. (C)

Consulting Neurologist

FRED H. MACKAY, M.D., F.R.C.P. (C)

Associate Neurologists

⁽¹⁾DONALD MCEACHERN, M.D.

J. NORMAN PETERSEN, B.Sc., M.D., C.M.

ARTHUR W. YOUNG, M.D., C.M., F.R.C.P. (C)

Associate Consulting Neurologists

ROMA AMYOT, B.A., M.D. (Paris)

ANTONIO BARBEAU, M.D., Ph.D.

EMILE LEGRAND, M.D., Médecin Légiste (Paris)

JEAN SAUCIER, B.A., M.D. (Paris), M.D. (Montreal)

NORMAN VINER, B.A., M.D., C.M.

Clinical Assistants in Neurology

JOHN KERSHMAN, B.Sc., M.D., C.M., M.Sc.

⁽²⁾FRANCIS L. MCNAUGHTON, B.A., M.D., C.M.

Associate Neuropsychiatrist

MIGUEL PRADOS, M.D.

Clinical Assistant in Neuropsychiatry

KARL STERN, M.D.

Neurosurgeon

WILLIAM CONE, B.S., M.D., F.R.C.S. (C)

Associate Neurosurgeon

ARTHUR ELVIDGE, M.Sc., M.D., C.M., Ph.D., F.R.C.S. (C)

Clinical Assistant in Neurosurgery

ROBERT H. PUDENZ, B.S., M.D.

Roentgenologist

ARTHUR CHILDE, M.D.

Consulting Roentgenologist

CARLETON B. PEIRCE, B.A., M.Sc., M.D., F.A.C.P.

Clinical Electrographer

HERBERT JASPER, Ph.D. (Iowa), D. es Sci. (Paris)



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Third Row: G. MORTON, R. H. PUDENZ, M. PRADOS, J. SAUCIER, A. BARBEAU, N. VINER, H. H. JASPER,
W. D. ROSS, E. S. LOTSPEICH.

Second Row: R. AMYOT, F. H. MACKAY, J. N. PETERSEN, W. G. PENFIELD, W. V. CONE, E. LEGRAND, A. E. CHILDE.

Front Row: E. HURTEAU, W. H. BRIDGERS, P. LEHMANN, L. STEEVES, C. BERTRAND.

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ANDRÉ CIPRIANI, B.Sc., M.D., C.M.

Consulting Anaesthetist

F. A. H. WILKINSON, M.D., D.A. (R.C.P. & S. Eng.)

Resident

PETER LEHMANN, M.D., (Manitoba)

Internes

Neurosurgical: W. H. BRIDGERS, B.S., M.D. (Duke)
E. HURTEAU, M.D. (Iowa)
F. TURNER, B.S., M.D. (Vanderbilt) (1st trimester)
W. S. FIELDS, A.B., M.D. (Harvard) (2nd trimester)
J. K. MCCORKLE, A.B., M.D., C.M. (McGill) (3rd trim.)

Neurological: M. R. SHAVER, B.A., M.D. (Quecn's)

Supervisor of Nurses

EILEEN C. FLANAGAN, B.A., R.N.

Social Service Supervisor

MILDRED A. LANTHIER

Fellows of the Montreal Neurological Institute

Senior Fellow: ROBERT H. PUDENZ, B.S., M.D. (Duke)
CLAUDE BERTRAND, B.A., M.D. (Montreal)
EDGAR S. LOTSPEICH, A.B., M.D. (Louisville, Ky.)
GUY MORTON, M.D. (Alberta)
THEODORE RASMUSSEN, B.S., B.M., M.S., M.D. (Minnesota)
BERT STROWGER, B.S. (Oregon), M.A. (Stanford)

* Active Military Service.

(1) Acting Neurologist.

(2) Assistant Secretary.

NURSING STAFF

<i>Supervisor</i>	MISS EILEEN C. FLANAGAN, B.A., R.N.
<i>Assistant and Ward Teacher</i>	MISS BERTHA CAMERON, R.N.
<i>Night Supervisor</i>	MISS D. MAY COLLINS, R.N.
<i>Night Assistant</i>	MISS V. FLOYD, R.N.
<i>Operating Room Supervisor</i>	MISS RITA EDWARDS, R.N.

Assistant Operating Room Nurses:

MISS VIVIAN POWERS, R.N.	MISS LUELLA DOWNING, R.N.
MISS JUNE POWER, R.N.	

Head Nurses, Wards:

MISS ADELAIDE HAGGART, M.A., R.N.	MISS RUTH GOUINLOCK, R.N.
MISS MARION BARROWMAN, R.N.	

General Staff Nurses:

MISS M. THIBODEAU, R.N.	MISS L. POTVIN, R.N.
MISS B. COLLINS, R.N.	MISS M. CAVANAUGH, R.N.
MISS M. EGAN, R.N.	MISS J. CHARRON, R.N.
MISS B. DAVIS, R.N.	MISS J. HILL, R.N.
MISS E. SAWDON, R.N.	MISS L. MCAULEY, R.N.
MISS M. COMEAU, R.N.	MISS F. TAYLOR, R.N.
MISS D. McBEATH, R.N.	MISS A. JOHNSON, R.N.
MRS. V. FROST, R.N.	MRS. M. CURRIE, R.N.

TECHNICIANS AND LABORATORY ASSISTANTS

MISS DORIS BROPHY, B.A., L.Sc., <i>Chemistry</i>	MISS RITA BESSETTE, R.N., <i>Electrophysiology</i>
MISS M. B. GOURLEY, R.T., <i>Chemistry</i>	MISS ISABEL DICKSON, R.N., <i>Neurophysiology</i>
MR. LEWIS HENDERSON, <i>Electrophysiology</i>	MR. H. S. HAYDEN, F.R.P.S., <i>Photography</i>
MR. G. PELADEAU, <i>Neurophysiology</i>	MRS. L. LAFORTUNE, <i>Neuropathology</i>
MR. W. WHITEHOUSE, <i>Roentgenology</i>	MR. F. PUTT, <i>Neuropathology</i>

SECRETARIAL STAFF

MISS A. DAWSON, *Departmental Secretary*

MISS E. FANNING, <i>Manuscripts</i>	MRS. B. RIVETT, <i>Electrophysiology</i>
MISS M. A. NESBITT, <i>Neuropathology</i>	MISS M. MARTIN, <i>Administration</i>
MISS B. VOSSNACK, <i>Roentgenology</i>	MISS P. SHEEHAN, <i>Office</i>

Appointments held in General Hospitals of Montreal by Members of the Staff of the Montreal Neurological Institute.

ROYAL VICTORIA HOSPITAL

DEPARTMENT OF NEUROLOGY AND NEUROSURGERY

<i>Honorary Attending Neurologists</i>	A. G. MORPHY
	COLIN K. RUSSEL
<i>Neurologist and Neurosurgeon-in-Chief</i>	WILDER PENFIELD
<i>Neuropsychiatrist</i>	J. NORMAN PETERSEN
<i>Neurosurgeon</i>	WILLIAM V. CONE
<i>Associate Neurologists</i>	JOHN KERSHMAN
	DONALD MCEACHERN
	FRANCIS L. MCNAUGHTON
	MIGUEL PRADOS
	*ARTHUR W. YOUNG
<i>Associate Neurosurgeon</i>	ARTHUR R. ELVIDGE
<i>Clinical Assistant in Neurosurgery</i>	ROBERT PUDENZ

Resident Staff (January 1st, 1942)

<i>Resident</i>	PETER LEHMANN
<i>Internes</i>	W. H. BRIDGES
	E. F. HURTEAU
	J. K. MCCORKLE
	M. R. SHAVER

* Acting Psychiatrist-in-charge, Dept. of Medicine.

MONTREAL GENERAL HOSPITAL

DEPARTMENT OF NEUROLOGY

<i>Neurologist</i>	FRED H. MACKAY
<i>Associates</i>	ARTHUR R. ELVIDGE
	NORMAN VINER
<i>Assistant</i>	FRANCIS MCNAUGHTON
<i>Consulting Neurosurgeons</i>	WILLIAM V. CONE
	WILDER PENFIELD

HÔPITAL NOTRE DAME

DEPARTMENT OF NEUROLOGY

<i>Assistant Neurologists</i>	ROMA AMYOT
	JEAN SAUCIER

HÔTEL DIEU

Consultant Neurologist EMILE LEGRAND
Neurologist-in-charge ANTONIO BARBEAU

CHILDREN'S MEMORIAL HOSPITAL

Consultants FRED H. MACKAY
..... WILDER PENFIELD
..... COLIN K. RUSSEL
Neuropsychiatrist ARTHUR W. YOUNG
Assistant Neuropsychiatrist FRANCIS MCNAUGHTON
Neurosurgeon WILLIAM V. CONE
Neurosurgeon pro tem ARTHUR R. ELVIDGE

ST. MARY'S HOSPITAL

Physicians in Neurology NORMAN PETERSEN
..... ARTHUR W. YOUNG
Consultant in Neurosurgery ARTHUR R. ELVIDGE

JEWISH GENERAL HOSPITAL

DEPARTMENT OF NEUROPSYCHIATRY

Chief of Service NORMAN VINER
Associate JOHN KERSHMAN
Consultant WILDER PENFIELD

WOMAN'S GENERAL HOSPITAL

Neurologist JOHN KERSHMAN
Consulting Neurosurgeon WILLIAM V. CONE

ADDRESS OF THE DIRECTOR

Read at the Annual Meeting of the Staff, May 13th, 1942.

RESEARCH AND CLINICAL CARE IN 1942.

A year ago the form of our annual meeting was altered and we met together, all of us, from the clinical, the nursing, the secretarial and technical staffs as we do today. At that time, a year ago, I discussed with you the alteration in neurological research made necessary by this war. We re-examined our scientific work with a view to weeding out peacetime researches in order that our maximum effort might be devoted to specific problems, the solution of which might conceivably aid our army, navy and air force.

We must now take stock to see what we have accomplished and what we yet may hope to accomplish in our scientific effort. Furthermore, we have urgent clinical readjustments to make in order to cope with the greater flood of patients.

When I addressed the annual meeting twelve months ago, I was expecting myself to leave the Institute for service overseas in No. 1 Neurological Hospital to relieve Dr. Cone. Owing to factors, over which I had no control, this was prevented. However, as the result of our urgent request, the Director General of Medical Services allowed Lt.-Col. William Cone and Major Arthur Childe to return to take up their essential work here.

Last summer I spent two months investigating medical conditions in Great Britain for the Research Council of Ottawa. I can assure you that however efficiently hospitals may be run over there to meet their practical needs, however well they seem to have readjusted their medical services, they are in a position much inferior to ours when it comes to carrying out practical, thoughtful research.

New problems in medicine have now emerged. This Neurological Institute has the facilities, the resources, and the protection to make important contributions, and we, here, may yet serve in some significant manner if we are alert to the new problems, aware of our own opportunities, and ready to work long hours.

The problem of *blackout* in pilots who are subjected to high degrees of acceleration has received exhaustive study on an experimental basis at the hands of Dr. Jasper, Dr. Cipriani and Dr. Lotspeich. This work has already yielded results and will go forward in the coming year with the further help of Dr. Rasmussen.

Seasickness, a disability of considerable practical importance to the United Nations, has been studied during the past year and an effective machine for its production, far from the smell of the salt and the thunder of the surf, is now in operation in our squash court. A summary of the literature on this condition has been compiled by Dr. McEachern, Dr. Lehmann and Dr. Morton, and the condition is being studied in man and animal by Dr. McEachern and his associates with the help of Professor Meakins, Professor Babkin, Dr. Dworkin, Dr. William McNally, Dr. Stuart, and Surgeon Lt. Fields, who has been seconded to this problem from the Royal Canadian Navy.

In the treatment of *wounds*, new work with sulphonamides is under way by Dr. Cone, Dr. Elvidge and Dr. Pudenz. The effectiveness of sulphonamides upon the brain has been reported by Dr. Hurteau, and work on the effectiveness of membranes to prevent meningocerebral adhesions has been completed by Dr. Pudenz and Dr. Odom.

Work has been undertaken by Dr. Jasper upon the recognition of third degree *burns*, in association with Dr. R. R. Fitzgerald and Dr. Arthur Vineberg.

The work on *psychoneurosis*, which was carried out by Dr. Harrower-Erickson before she left us last autumn, resulted in the development of a group Rorschach method for preselection of military personnel. She outlined by means of the method the personality structure which characterizes those liable to psychoneurosis. This work, ignored in Canada, is being given extended trial in the American Naval Air Service.

Clinical studies of the *posttraumatic head syndrome* are still needed badly. Dr. Elvidge and Dr. Lehmann have reviewed a series of patients treated here by air insufflation. Dr. Cone, while in England, explored the effect of graded exercises upon such men. The armed forces, British and Canadian alike, are encountering many men who complain of headache. The causes are multiple and must be more clearly analyzed. In the meantime the organic factors are not being separated adequately from the functional. This is a subject in which I would like to elicit the cooperation of this staff. Dr. Donald Ross, with the help of Dr. Francis McNaughton, will study these cases intensively by psychological and physiological means.

I would ask, therefore, that sufferers from headache following injury be referred here to a posttraumatic head syndrome clinic, from the various hospitals of Montreal and from the Department of Pensions and National Health, for intensive study and for therapeutic recommendations.

Brain oedema still calls for intensive work from a histological and physiological point of view. This condition is responsible for death, and complication after head injury, after obstruction to cerebral vessels, and after brain operation. Some advance in understanding of the vascular mechanism involved has been achieved by Dr. Prados with the help of Mr. Strowger. There is work to be done on this subject in the x-ray department, for encephalography shows the mark left upon the brain of man by this process.

Methods of identification of *ruptured intervertebral disc* still call for standardization, and clinical proof is needed that men can be continued in service in a high percentage of cases after disc operation.

The uses of the electroencephalograph as a prognostic aid in *acute head injury* has received the attention of Dr. Kershman, Dr. Jasper and Dr. Elvidge. The practical aspects of this study call for more critical analysis.

The *nursing problem* here is always a difficult one. As a group, our nurses are giving superlative service. If I may make a suggestion, it is that there is needed an extra-professional society in this Institute, somewhat like the Society of the Fellows, organized by nurses themselves and electing their own officers. Such a society might well call for speakers whom they would find interesting. They might study and make recommendations regarding neurological nursing problems. They might inform themselves of advances in other clinics.

Dr. Petersen has discussed the practical problems of the care of patients. He has referred to the help and leadership which come to us from Dr. Stephens. The insistent demand for more beds has become acute. This is felt in other hospitals as part of wartime activity and the high level of employment. But here there is also an increasing call for beds to accommodate patients with severe head injuries (unwelcome by-products of mechanized speed up), and a demand for more accommodation for patients from the Department of Pensions and National Health. This last demand will doubtless steadily increase as men continue to return to Canada from overseas.

We are always beyond our bed capacity. The Institute's halls as well as wards are often filled, and the nursing staff headed by Miss Flanagan work willingly and long, but some new adjustment must be made. Porches may be closed in as a stop gap. But, if this Institute is to give the service of which it might be capable to the broken men of the army, navy and air force, I can see no way of avoiding more radical enlargement. We do not seek permanent enlargement of this unit for any other reason and we have no means of temporary building. Our facilities, however, might be made available to the Department of Pensions and National Health if they were to build an adjacent temporary structure to be maintained by them until this national emergency is over.

ADDRESS OF THE ACTING NEUROLOGIST

Read at the Annual Meeting of the Staff, May 13th, 1942.

DONALD MCEACHERN

This is a fitting time to point out certain needs and opportunities that face the Neurological Service, and to report changes of organization that have been made in the past year. The service is designed to care for patients with diseases of the nervous system other than those susceptible of surgical therapy. The patients come not only from Montreal and the Province of Quebec but from all parts of Canada and the United States. For those unfamiliar with the field embraced by the term Neurology it may be said that these patients suffer from a wide variety of organic and metabolic diseases affecting the nervous system and muscles. These include such conditions as meningitis, brain haemorrhage, infantile paralysis, neurosyphilis, peripheral neuritis, epilepsy, intractable headache, migraine, disseminated sclerosis, muscular atrophy, etc. In addition there is a considerable number of cases of functional nervous disorder and neurosis. A small number of border-line psychiatric cases are admitted for observation.

The chief of the Service, Lieutenant Colonel Colin Russel, is on active service, and his kindly and inspiring influence is greatly missed. The Service is organized to give opportunity and responsibility for direction of the Wards to various members of the staff. For six months during the teaching session the Acting Chief of the Service is in charge. During the remainder of the year the wards are under the direction of other Staff members for periods of two months each. I wish to thank Doctors Young, Petersen, McNaughton and Kershman who have conscientiously and efficiently carried this responsibility. One interne is attached to the service for the care both of public and private patients. On several occasions during the past year this burden has proven too much for one man to handle.

The number of consultations given by members of the staff to public services of other departments of the hospital numbered 313. Serious delays in the delivery of requests for consultation have been taken up with the Resident Physician, Dr. McKenna, and after discussion with Dr. Meakins and Dr. Stephens a new system is being inaugurated which should prove more efficient.

Through the mediation of Dr. Kershman the Neurological Out-patient Clinics have moved to more satisfactory quarters in the Surgical O. P. D. We welcome Dr. Dorothy McNaughton and Dr. H. A. Cave, who are working with us as voluntary assistants.

A new era for the care of patients with syphilis and neurosyphilis was established in the hospital in January, 1942, when all patients under treatment in the Neurological Clinic were transferred to the Syphilis Clinic. This move, which had been under consideration for several years, was decided upon after Dr. McNaughton and Dr. Kalz had explored the problem and drawn up a suitable plan. A neurological Consultant attends the Syphilis Clinic one day each week and also advises on cases of neurosyphilis in the Wards. Patients requiring intraspinal or fever therapy are admitted to the Neurological Service. This new arrangement was made in order to unify the treatment and follow-up of patients with syphilis, and in recognition of the broad principles of public health which underlie the problem of syphilis control. It remains a high responsibility for all concerned to make certain that complications involving the nervous system are recognized and skilfully cared for.

A number of problems of greater or lesser urgency faces us. Undergraduate teaching of Neurology is far from satisfactory and demands a change from our present didactic methods to a truer understanding of Osler's philosophy — the Student working in the Wards and at the bedside. The more advanced training necessary to produce able young neurologists has also been neglected. Facilities are available but reorganization is required to establish a progressive course of training in laboratory and clinical branches like that offered in so many places for the training of the Neurosurgeon. The time is not suitable for such changes but they should be faced with vigor at the end of the war.

The most serious problem facing the service is that of survival. For several years the Institute has been filled to capacity and it has frequently been impossible to admit all patients for whom admission has been recommended. In the past year the shortage of beds has become acute and a large waiting list has developed. Surgical "emergencies" are perforce admitted ahead of cases from the waiting list and the number of beds available for neurological cases has steadily dwindled. During the first two months of 1942 an average of twelve beds were devoted to neurology whilst thirty-four beds were occupied by neurosurgical cases. Every effort has been made by our staff to reduce the period of bed occupancy for each and thus to speed turn-over. On one recent occasion public neurological cases numbered only four.

Figures presented to the Executive Committee of the Institute in February, 1942, showed that of 190 cases placed on the waiting list in the preceding twelve months, 71 had failed to gain admission. Some had been waiting nearly a year and many for over two months. During the two and a half months preceding this report (May 13th, 1942) 57 cases have been placed on the list, and of that number 38 have not yet been admitted. The causes of this situation need not be discussed here. They have been considered by the Executive Committee but no effective remedy has yet been found. If such conditions continue it is only fair that prospective patients be acquainted of them and encouraged to seek help

elsewhere. The lack of beds is a serious threat to our service which bears the responsibility of training nurses, students and internes in the principles of neurology. It also means that we are unable to serve the needs of the neurologically ill of the City and Province.

In conclusion may I take this opportunity of thanking the Interne, Nursing and Secretarial Staffs for their ever-ready and willing co-operation.

ADDRESS OF THE NEUROSURGEON

Read at the Annual Meeting of the Staff, May 13th, 1942.

WILLIAM V. CONE

It may seem incongruous for me to speak for the surgical service at this Annual Meeting when I have been on leave of absence, not only this last year but for the preceding one too. It is your great interest in No. 1 Canadian Neurological Hospital that provides the only justification.

Two years ago this week Dr. Russel and I sailed for England. For a long time, we fretted and stewed about hospital sites, equipments and plans. Finally, five months after we arrived, the personnel of No. 1 Canadian Neurological Hospital was collected at Hackwood House, near Basingstoke, and work began. The amusing makeshift arrangements necessary at first were gradually given up and the set-up developed into one we were pleased with and proud of. Then Dr. Russel was taken to headquarters to assume bigger responsibilities. Dr. Childe and I were returned here to work.

The organization we left is a going concern. It is very well staffed and well equipped to handle the neurological and neurosurgical casualties of our active service force. They are doing excellent work at No. 1 Neurological and are making a name for Canadian neurology and neurosurgery in England. We from the Montreal Neurological Institute and the Royal Victoria Hospital claim a big stake in the Unit. Dr. Russel, as a result of his experience in the last war, felt such a Unit was essential and dreamed the dreams of its organization. Then he implemented the dreams until the Unit took form. All of us here had a part in helping him plan it.

There have been many changes in the original staff. Dr. Stewart, however, is carrying on in neurosurgery. Dr. Eaglesham has taken over in Radiology. Miss Bossey, Miss Hudson, Miss Winter, Miss Swartz, Miss Gillespie, Miss Roach, Miss Jones and Miss Sharpe are there now and where in this wide world could a better group of specially trained nurses be found? The Unit will miss Miss MacKay and Miss Kendall who were such balance wheels for all of us over there. We are pleased to have them back in Canada. The Unit will miss Dr. Hanson and Dr. Humphreys who have been transferred to the American forces to serve as neuropsychiatric and neurosurgical consultants respectively. Dr. Jekill has been transferred to the Air Force and Dr. Franklin to the Canadian Plastic Unit. Their contributions to the treatment of severe basal skull fracture with jaw and face injuries were superior.

In the other ranks we have as representatives Sergeant Ellis in charge of the operating room orderlies, John Gilbert, Fred Bulgin and Jimmy Tsubota. Tsubota has been adopted by us as a representative of the Institute because of the way he took care of Dr. Russel and me and because he is doing such a good job as a soldier.

Speaking of adoptions, we claim Captain Boulden as one of our representatives. He is from Montreal and I hope his congregation here will not object to our claim. Padre Boulden with good common sense and leadership is a practical psychiatrist and is doing much to keep the Unit straight. He can be dangerous though. The Unit lost one of its valuable members through his activity when he married Nursing Sister Etta Jones to Lt.-Col. C. A. McIntosh, chief surgeon of No. 14 Canadian General Hospital. However, we forgive the padre and rejoice in the prospects for much happiness which the future holds for two such splendid people.

No. 1 Canadian Neurological Hospital is carrying on vindicating Dr. Russel's dreams of its necessity and establishing its value and we of the Montreal Neurological Institute are well represented in the Unit.

While the establishment of a special hospital to treat neurologically ill and wounded casualties was an innovation in the Canadian Army Medical Corps, the value of specialized hospitals was established in the last war. Through Sir Robert Jones's efforts, orthopaedic centres were established over England and ultimately were able to house over 30,000 wounded men. At the beginning of the war, Sir Robert had found the treatment of wounded soldiers with orthopaedic injuries deplorable. He pointed out that everybody was operating and everywhere hardly a single surgeon had the opportunity to follow up his cases. He insisted that without segregation of cases, and treatment in continuity by specialists, that there was the danger of scrapping thousands of cases who possessed the potentialities of recovery. We all are familiar with the accomplishments of the orthopaedic units in the last war and it was due to them that communities had so relatively few dependent war cripples to care for. The highest professional efficiency and team work of these special centres made the splendid record possible. Sir Robert Jones when he began his crusade for the orthopedically wounded soldier faced the depressive attitude "Lose the war and we lose all." The attitude of our Director General of Medical Services when No. 1 Neurological Hospital was established was "Win the war, care for the men who are sacrificing to make victory possible, justify the establishment of this special hospital." Now having left the Unit, I can say that at No. 1 Neurological Hospital there is the highest professional efficiency and team work and that with the continued understanding, support of the Director General of Medical Services in Canada and the Director of Medical Services Overseas, the good work will go on. We hope here at the Montreal Neurological Institute to do our part in providing for the treatment in continuity of the disabled soldiers they see and care for, initially, over there.

FINANCIAL REPORT OF THE EXECUTIVE ASSISTANT

JOHN KERSHMAN

The remarkable annual increase in the number of patients cared for since the Institute opened (which is described elsewhere in this Annual Report) has taxed our facilities to the full and created many serious problems from the standpoints of equipment, staff, space and financial status. At the beginning of 1941 the financial problem had reached urgent proportions. In 1935 the annual deficit was \$3,800.00 but in 1940 the annual deficit was \$14,700. Since the hospital has no endowment funds upon which to draw for financial assistance, these deficits constituted a serious threat to the continued operation of the

hospital on the same high level of achievement which the staff had set for it, and threatened to make serious inroads into the facilities for scientific research which are an essential part of the activities of the Institute.

It should be pointed out that practically all of the increased bed occupancy was due to the increased number of *public* patients in the hospital. This is demonstrated in the following table:

	<i>Patient-days:</i>	<i>Public</i>	<i>Semi-private</i>	<i>Private</i>
1936		12,501	2,426	2,740
1941		15,258	2,529	2,695

Thus, while the number of private patient-days was decreased slightly (2%) and the number of semi-private patient-days increased 4%, the number of public patient-days increased by 24%.

During the year 1941 the cost per day per patient (including building and hospital maintenance) was \$6.50. The average income from public pay patients was \$5.40 per day in hospital, whilst for the accepted Q.P.C.A. patients the income was \$2.00. It is obvious therefore that the great increase in the annual deficit was created by the large increase in the number of public patients cared for in the Institute.

These figures emphasize the tremendous importance of the annual grants generously donated by the City of Montreal (\$15,000.00) and the Province of Quebec (\$20,000.00) to aid in the care of indigent patients. These grants partially relieve the daily deficit of \$4.50 per day for the care of Q.P.C.A. patients and without them the hospital would find it impossible to carry on.

Early in 1941, in order to find ways and means of relieving the financial situation the entire problem of hospitalization costs was reviewed in great detail. In this, we had the invaluable assistance of Dr. G. F. Stephens and Messrs. C. D. Love and W. Blues of the Royal Victoria Hospital. Efforts were made to cut costs wherever possible within the limits of the type of work which the Institute had set itself to do. Without sacrificing any of the essential services to patients, there has been a definite measure of success in lowering expenses, mainly through a revision and redistribution of fixed charges.

The highest level of costs (in 1938) was \$7.25 per patient per day, in 1940 it was \$6.85, whilst in 1941 it was \$6.50. There is definite evidence that in 1942 it will be decreased still further. Unfortunately, present war conditions have caused a definite increase in the cost of instruments, drugs, food, etc., so that the possibility of additional economy is rather limited. Every effort is being made to husband our existing equipment and supplies to conserve materials as long as possible and to decrease costs.

In a further attempt to decrease the annual deficit a revision was made on May 1st, 1941, of the charges to patients for bed accommodation and certain X-ray and operating room charges. This has produced a slight increase in income.

As a result of these alterations, the financial status at the end of 1941 was somewhat better than in 1940.

However to maintain the financial security of the hospital there is a great need of endowments and the provision of free beds for indigent patients from outside our province.



Back Row: L. McAULEY, D. McBEATH, J. CHARRON, A. JOHNSON, M. COMEAU, J. HILL, G. FRASER, F. TAYLOR, J. VANIER.
Middle Row: B. BIGLEY, R. GOUNLOCK, B. CAMERON, E. C. FLANAGAN, M. COLLINS, R. EDWARDS, V. POWERS, B. BARROWMAN.
Front Row: V. FROST, M. THIBODEAU, E. SAWDON, M. CAVANAUGH, B. DAVIS.

In looking to the future, another problem merits careful consideration. The Institute and its equipment are now eight years old and the need will shortly arise for major renewals and replacements. Up to now, no financial provision has been made for this contingency. Some attempt will be made during the next year to budget for this, but it is not felt that our present financial status will make it possible to provide any important sum and it may be necessary to obtain outside help when the needs become too pressing.

ITEMS OF INTEREST

During 1941 Lt.-Col. Colin K. Russel was transferred from his position as Neurologist-in-Chief to No. 1 Neurological Hospital, RCAMC, to become Neurological Consultant to Canadian Headquarters, RCAMC, in London. Shortly afterwards he was raised to the rank of full Colonel. During the year also Lt.-Col. William Cone and Major Arthur Childe returned to Canada to resume their duties here after having spent two years on the staff of No. 1 Neurological Hospital. Dr. Cone had been Neurosurgeon-in-Chief and Dr. Childe had been Roentgenologist in that unit. Both of these members of our staff returned after repeated requests were made from Montreal, where it was felt that they would be of greater service under existing conditions.

Dr. Carlton Peirce, who had generously provided substitutes for Dr. Childe during the latter's absence Overseas, will continue as Consulting Roentgenologist to the Montreal Neurological Institute. He has provided for close co-ordination of the work in radiology in the Royal Victoria Hospital and the Montreal Neurological Institute.

Dr. Theodore Erickson, who had served as interne, investigator and Associate Neurosurgeon, for the past seven years, has severed his connection with us to become Neurosurgeon to the University of Wisconsin Hospital in Madison and Associate Professor of Surgery at the University of Wisconsin. Dr. Molly Harrower-Erickson resigned her position here, as Associate Clinical Psychologist, at the same time in order to accompany her husband. She had built up a new clinical department in the Institute and both she and Dr. Erickson will be greatly missed.

Dr. Guy Odom who has been on the staff of the Montreal Neurological Institute for the past five years and who has just terminated his service as Resident, has gone to New Orleans where he has received an appointment at the University of Louisiana and has been placed in charge of neurosurgery in the large University Hospital.

During the summer of 1941 Dr. Wilder Penfield, Director of the Institute, visited England for two months where, as representative of the National Research Council of Canada, he gathered at first hand information in regard to clinical and research problems which need to be pursued in furtherance of the national war effort. Following his return to Canada our laboratory facilities and research staff became engaged almost exclusively on problems of military medicine.

It will be seen by the list of admissions and operations which appear elsewhere in this report that the clinical activity in the Institute has increased enormously during 1941. It has been necessary to place a limit on that activity and patients are now being turned away. Not infrequently, during the year, we have had as many as seventy-five patients in the Institute which was originally designed

and equipped for the care of forty-seven. Mounting costs of hospitalization have still further emphasized our need for endowed beds of which we have none at present.

It is regrettable that during the past year our anaesthetist, Dr. Dorothea Wardrop, has resigned from our staff to take up duties elsewhere. Dr. F. A. H. Wilkinson has provided for anaesthesia with the help of various members of his department in the Royal Victoria Hospital. The shortage, however, of anaesthetists is a very acute problem which at times has interfered greatly with our operating schedules, and, in many cases, local anaesthesia has been resorted to so as to decrease the demand upon the time of the Department of Anaesthesia.

During the year Dr. Wilder Penfield and Colonel Colin K. Russel were honoured by being appointed Fellows of the Neurological Section of the Royal Society of Medicine. Dr. Jean Saucier has been appointed chairman of the Medical Board of Notre Dame Hospital and Dr. Norman Petersen promoted to the position of Neuropsychiatrist in the Royal Victoria Hospital.

The War has not only altered our research and laboratory activities but it has also greatly increased the demands made on our clinical facilities. We are constantly receiving men from the Services referred to us by the Department of Pensions and National Health and recently we have also been admitting patients from the Women's Army. This has led to a congestion in our wards which borders on the dangerous and it is fortunate that we have been free of contagious diseases. The stage has been reached where it has become necessary to consider enlarging our accommodation for patients but this is a difficult matter because of the fact that our hospital service has always been administered at a deficit and no funds exist for enlargement or endowment.

McGill University has organized an Air Raids Precaution Committee under the chairmanship of the Principal and Dr. Arthur W. Young has been appointed warden for the Institute. His vice-warden is Dr. T. B. Rasmussen and his committee for this building consists of Miss E. C. Flanagan and Doctors Cone and Petersen. Meetings are being held to arrange for the proper care of our patients and staff and of the building itself.

Throughout the year we have been fortunate in having the constant advice and interest of Dr. G. F. Stephens, Superintendent of the Royal Victoria Hospital, and his co-operation has been greatly appreciated.

CARE OF PATIENTS

The clinical services in the public wards of the Institute are subdivided into, (1) a neurological service which, during the absence of Dr. Colin Russel, is under the immediate direction of Dr. Donald McEachern, and (2) a neurosurgical service which is under the immediate direction of Dr. William V. Cone. The Director holds a supervisory control over both services while the Secretary and the Executive Assistant act as executive officers. All members of the medical staff share in the care of public patients and all are permitted to admit and care for private and semi-private patients. In addition to the patients hospitalized in the Montreal Neurological Institute the Department of Neurology and Neurosurgery also takes care of the neurological and neurosurgical patients in the Royal Victoria Hospital.

The clinical work in the Institute has increased year by year. While our original complement of beds was 47, at times we have had as many as 75 patients in the Institute. The progressive increase in the number of patients cared for in the Institute is indicated by the following figures:

1934 (from September 27th)	189
1935	841
1936	912
1937	953
1938	999
1939	1079
1940	1093
1941	1179

In 1935 there were 841 admissions with a total of 14,928 patient-days. In 1941 there were 1179 admissions (an increase of 40%) with a total of 20,482 patient-days (an increase of 37%). The difference in the percentage relative increase between the number of patients admitted and patient-days is due to the constant efforts that have been made to shorten the stay of each patient in the hospital. In 1936 the average stay was 19.4 days, in 1941 it was 17.4 days.

ADMISSIONS TO HOSPITAL

	1940	1941
Total admissions to the Montreal Neurological Institute and the Royal Victoria Hospital under the care of the Staff of the Montreal Neurological Institute and the Department of Neurology and Neurosurgery of the Royal Victoria Hospital	1155	1266
Admissions to the Montreal Neurological Institute	1058	1132
Admissions to the Department in the Royal Victoria Hospital	97	134

Because of the frequent transfer of patients between the Montreal Neurological Institute and the Royal Victoria Hospital the total number of patients cared for in the former was 1093 1179

Data regarding patients cared for in the Montreal Neurological Institute.

Residents of Montreal	533	(43.9%)
Residents of other municipalities	683	(56.3%)
Males	706	
Females	510	
Private patients	234	
Semi-private patients	146	
Public pay patients	567	
Public under Q.P.C.A. (Quebec Public charities Act)	269	
Protestant	590	
Roman Catholic	512	
Hebrew	80	
Other religions	34	
	1940	1941
Total days' treatment	19428	20482
Average stay in hospital	17.7 days	17.4 days
Daily average number of patients	53	56
Daily average % of capacity (based on 56 beds)	94.6%	100%
Deaths	99	113
Deaths within 48 hours of admission	22	39
Death rate (on deaths after 48 hours)	6.79%	6.03%
Percentage of autopsies obtained	86.8%	88.5%

CHIEF DIAGNOSIS IN FATAL CASES

Intracranial tumour	34
Boeck's sarcoid	1
Head injury	36
Intracranial vascular lesion	9
Hydrocephalus	6
Tuberculous meningitis	5
Other meningitides	6
Intracranial abscess	5
Status epilepticus	1
Multiple neuritis	2
Progressive muscular atrophy	1
Amyotrophic lateral sclerosis	1
Periarthritis nodosa	1
Tuberculosis of spine	1
Spina bifida and myelomeningocele	1
Lead poisoning	1
Septicaemia	1
Varicella	1

OUTPATIENT DEPARTMENT

Outpatient clinics are held five days each week in the
Royal Victoria Hospital

Monday and Thursday	<i>Neurology</i>		
Wednesday	<i>Neurology (Epileptic)</i>		
Tuesday and Friday	<i>Neurosurgery</i>		
	<i>Neurology</i>	<i>Neuro- surgery</i>	<i>Totals</i>
New Cases	496	160	656
Revisits	4135	692	4827
	<hr style="width: 50%; margin: 0 auto;"/>	<hr style="width: 50%; margin: 0 auto;"/>	<hr style="width: 50%; margin: 0 auto;"/>
Total outpatient visits	4631	852	5483

REPORTS OF SUBDEPARTMENTS

DEPARTMENT OF ROENTGENOLOGY

DR. A. E. CHILDE, *Roentgenologist*

DR. CARLETON PEIRCE, *Consulting Roentgenologist*

It is of interest to note from the figures below that the department has just completed its most active year. Mr. Walter Whitehouse, who has been technician in the Department since the Institute opened in 1934 has carried on in his usual efficient manner. Emergency calls at night are now taken by members of the Resident Staff of the Department of Radiology of the Royal Victoria Hospital. No new methods of diagnosis have been instituted.

	1940	1941
Roentgenographic examinations of patients	2289	2352
Films used	11679	11851
Encephalograms	445	409
Ventriculograms	123	113
Miscellaneous contrast media	110	111
Tomograms	—	14

LABORATORY OF NEUROPATHOLOGY

DR. WILDER PENFIELD, *Neuropathologist pro tem*

DR. K. STERN, *Assistant Neuropathologist*

DR. THEODORE RASMUSSEN, *Neuropathological Fellow*

The laboratory has been busy throughout the year. Dr. William Cone has now returned from military service and will take up his position of Neuropathologist. Dr. Miguel Prados has carried on research on brain oedema and has been assisted in this research by Mr. Strowger. A study of the histology of epileptogenic lesions of the brain has been completed by Dr. Wm. Bridgers. Dr. Odom and Dr. Pudenz completed a study of materials for the prevention of meningo-cerebral adhesions.

DEPARTMENT OF BIOLOGICAL CHEMISTRY

DR. D. MCEACHERN, *Biological Chemist*

Determinations made during the year in the laboratory were as follows:

Cerebrospinal Fluid

Pandys	1201
Proteins	1201
Sugars	17
Chlorides	19
Langes	338
B.M.R.'s	121
<i>Total</i>	<hr/> 2897

Private and Semi-private	807
Public	2090

1358 specimens were sent to the Provincial Laboratories for Wasserman tests, of which 369 were private or semi-private and 989 were public.

Work was carried out during the year on the determination of Vitamin B₁ in the urine of patients. This work had to be abandoned as it was found that the present methods for determining thiamine in the urine were not satisfactory for clinical application. Dr. André Cipriani and Miss Doris Brophy developed a method for estimating CSF protein in the photoelectric colorimeter. This method is now in routine use in the laboratory. The study of three cases of chronic thyrotoxic myopathy was completed with Dr. W. D. Ross. Clinical experiments have been continued with the use of Vitamin E and Wheat Germ Oil in the treatment of neuromuscular diseases. The determination of sulphonamides is being undertaken by the laboratory for routine clinical and for research purposes in the Institute.

DEPARTMENT OF ELECTROENCEPHALOGRAPHY

DR. H. H. JASPER, *Clinical Electrographer*

DR. J. KERSHMAN, *Clinical Assistant in Electrography*

DR. A. CIPRIANI, *Clinical Assistant in Electrography*

The department of electroencephalography has given 1,247 examinations during the year 1941. A total of 888 patients were examined, 455 from the wards of the Montreal Neurological Institute and the Royal Victoria Hospital, 248 from other hospitals in Montreal, and 185 patients from the Outpatient Clinic.

The principal diagnoses were as follows:

Epilepsy	474
Brain tumour	93
Abscess	7
Head injury	96
Miscellaneous	208
Undiagnosed	10

The slight increase in number of examinations given to 297 less patients during 1941 than during 1940 is due, principally, to detailed follow-up studies carried out on head injury cases. This formed a part of the general organization of the work of this department around problems related to military medicine.

DEPARTMENT OF NEUROANATOMY

DR. F. L. MCNAUGHTON, *Neuroanatomist*

During the past year, the course in Advanced Neuroanatomy (brain modelling) has been held with a class of twelve students and Fellows. Due to the pressure of work, a number of students had to drop out of the class. It is hoped that the speeding-up of the Medical Course will not prevent the continuation of this class in the Fall term.

Since January 1942, Mr. Ralph Hertz of First Year Medicine has assisted in histological work, and he is now completing a serial set of brain-stem sections to demonstrate the cranial nerve nuclei and their connections. This will be a valuable addition to our teaching collection. It is our aim to provide facilities for those wishing to carry on work in neuroanatomy, and to give help where practical problems of neuroanatomy arise, in this and other departments of Medicine.

DEPARTMENT OF NEUROPHYSIOLOGY

DR. R. H. PUDENZ, *Neurophysiologist*

The continuation of the war has resulted in an increase in the tempo of the research activity in this laboratory during the past year. A total of 346 procedures were carried out. The majority of these concerned problems of a military neuro-surgical nature. In many instances the experiments were carried out in collaboration with the other laboratories of both this institution and the Royal Victoria Hospital.

The following problems have been under investigation:

Cerebral Oedema — Dr. M. Prados.

Seasickness — Dr. D. McEachern, Dr. G. Morton, Dr. P. Lehmann, and Surgeon-Lieutenant W. Fields.

The Intracranial Use of the Sulfonamides — Dr. E. Hurteau.

The Effect of Thiamin Deficiency on the Central Nervous System — Dr. R. Swank and Dr. M. Prados.

The Effect of Intracerebral Injection of Novocain — Dr. P. Lehmann.

The Use of Thrombin Preparations for Hemostasis in Neurosurgical Procedures — Dr. T. Erickson and Dr. R. Pudenz.

The Prevention of Meningocerebral Adhesions — Dr. R. Pudenz and Dr. G. Odom.

Cranioplasty with Tantalum — Dr. R. Pudenz.

A Comparison of Tantalum and Silver Clips in the Brain — Dr. R. Pudenz.

The Use of Sulfadiazine in Experimental Staphylococcus Meningitis — Dr. E. Hurteau and Dr. R. Pudenz.

REPORT OF NURSING SUPERVISOR

MISS E. C. FLANAGAN, B.A., R.N.

As the War goes on, the difficulties in maintaining a stable nursing staff increase. During 1941 we have lost 20 members of the staff: 8 have been married; 2 have joined the R.C.A.M.C.; 2 the Naval Nursing Service; 2 the Air Force Nursing Service and 1 the Victorian Order of Nurses.

We gave post-graduate training to 18 nurses from all parts of Canada and 2 from the United States, 8 of whom have remained on the staff.

The Red Cross Nursing Auxiliary Service have given us 6 V.A.D.'s who have done excellent work on the wards assisting the nurses.

Four of the staff nurses attended the Extension Course in Hospital Administration given by the School for Graduate Nurses, McGill University, and all the staff have taken the course in First Aid given by the St. John's Ambulance Association. The supervisors have also obtained their Instructor's certificates in Air Raid Precautions.

Owing to the increased number of patients being cared for, the active and rapid turnover and the constantly changing personnel, a very heavy load has been placed on the nursing service. This has been willingly undertaken without any appreciable decrease in essential service to the patients.

DEPARTMENT OF SOCIAL SERVICE

MRS. M. A. LANTHIER, *Supervisor*

Number of cases opened in Social Service Department	620
Number of cases closed in Social Service Department	570
Number of patients placed for convalescent care	94
Number of patients placed for permanent care	28

Because of added undertakings, especially the investigation and arrangements in regard to public ward cases, assistance was necessary in the department and a half-time experienced voluntary worker was obtained for five days a week. The Central Volunteer Bureau and the Junior League of Montreal have continued to supply volunteer workers for the Outpatient Clinics and we have been fortunate in obtaining the help of the Misses J. Steen, G. Greer and M. Robinson, who have been very faithful in their attendance.

There has been some decrease in the number of patients placed for convalescence during the past year. The reasons are that the increased number of admissions of soldiers has decreased the admission of civilians and convalescent care for men in the military services is arranged by the Department of Pensions and National Health.

Due to the pressure of routine work it was impossible to give time to the supervision of social service students, which, it is felt, is a desirable and necessary function of a Social Service Department dealing with such specialized types of medical care.

TEACHING

McGILL UNIVERSITY

DEPARTMENT OF NEUROLOGY AND NEUROSURGERY

<i>Professor and Chairman of the Department</i>	WILDER PENFIELD
<i>Associate Professor of Neurology</i>	COLIN RUSSEL
<i>Associate Professor of Neurosurgery</i>	WILLIAM CONE
<i>Clinical Professor of Neurology</i>	F. H. MACKAY
<i>Assistant Professor of Neurology</i>	DONALD MCEACHERN
<i>Assistant Professor of Neurosurgery</i>	ARTHUR ELVIDGE
<i>Assistant Professor of Neuropsychiatry</i>	MIGUEL PRADOS
<i>Lecturers in Neurology</i>	JOHN KERSHMAN
“ “ “	F. McNAUGHTON
“ “ “	J. N. PETERSEN
“ “ “	N. VINER
“ “ “	A. W. YOUNG
<i>Lecturer in Neurological Roentgenography</i>	A. E. CHILDE
<i>Lecturer in Neurological Electrography</i>	HERBERT JASPER
<i>Lecturer in Neuropathology</i>	KARL STERN
<i>Demonstrator in Neurological Electrography</i>	ANDRÉ CIPRIANI
<i>Assistant Demonstrator in Neurosurgery</i>	ROBERT PUDENZ
<i>Assistant Demonstrator in Neuropathology</i>	EVERETT HURTEAU

FACULTY OF GRADUATE STUDIES AND RESEARCH

<i>Professor</i>	WILDER PENFIELD
<i>Associate Professor and Head of the Department</i>	WILLIAM V. CONE
<i>Associate Professor</i>	COLIN K. RUSSEL

Lecturers

ARTHUR ELVIDGE	ARTHUR E. CHILDE
DONALD MCEACHERN	HERBERT H. JASPER
J. NORMAN PETERSEN	FRANCIS McNAUGHTON
KARL STERN	MIGUEL PRADOS

COURSES OF INSTRUCTION

The lecture amphitheatre in the Institute, seating one hundred and twenty, is used not only by the Department of Neurology and Neurosurgery but also, on occasion, by all other teaching departments of the Royal Victoria Hospital, and certain groups from the Montreal General Hospital. Teaching facilities for small groups are available also in the library and in special rooms on the public clinical floors.

Undergraduate teaching in Neurology and Neurosurgery is carried out in the third and fourth years of the medical course and consists of formal lectures, ward teaching, and case presentations to small groups in the outpatient department. In addition an elective course of weekly case presentations of diseases of the nervous system is given by Dr. Wilder Penfield. This is open to students and practitioners before whom physical signs, diagnosis and treatment are discussed. Throughout the academic year a special elective course, with weekly lectures, is given and is divided into the following sections:

Neuroanatomy, by Drs. Petersen, McNaughton, Kershman and McNally.

Electrophysiology, by Dr. Jasper.

Biological Chemistry, by Dr. McEachern.

Roentgenology, by Dr. Childe.

Psychology, by Dr. Donald Ross.

A new elective course of five lectures entitled, "Introduction to the Study of Psychological Medicine" will be given by Dr. Prados.

In the Faculty of Graduate Studies and Research, courses are offered for the degrees of Master of Science and Doctor of Philosophy. The series of lecture-demonstrations described above as elective for undergraduates forms part of the post-graduate teaching in the Department. In addition graduate students attend a weekly colloquium in neuropathology, conducted by Professors Cone and Penfield, weekly clinical seminars conducted by Professors Penfield, Russel and Cone, and weekly complete ward rounds. The remainder of the time of the graduate student is devoted to experimental research, the accomplishment of which, as embodied in a thesis, is the main consideration in recommending him for a degree.

In addition to the above formal courses the Department provides opportunity for advanced clinical study and laboratory research to properly qualified graduate students. Such opportunities are described elsewhere in this report.

The weekly meetings of the Montreal Neurological Society form part of the graduate teaching in the Department of Neurology and Neurosurgery. These meetings consist of clinical presentations and of scientific lectures, usually by guest speakers. The clinical meetings are held alternately at the Montreal Neurological Institute and the Montreal General Hospital, with occasional visits to other hospitals in Montreal.

UNIVERSITY OF MONTREAL

FACULTY OF MEDICINE

<i>Professeur de Psychiatrie</i>	EMILE LEGRAND
<i>Professeur de Neurologie</i>	ANTONIO BARBEAU
<i>Professeurs agrégés de Neurologie</i>	ROMA AMYOT
	JEAN SAUCIER

FELLOWS' LIBRARY

DR. D. MCEACHERN, *Librarian*

The Fellows' Library has continued to serve as a small but up-to-date specialized collection on subjects relating to Neurology, Neurosurgery and Psychiatry. The library room has been used frequently for small meetings and case demonstrations.

Thirty-two English, American and Canadian periodicals have been received regularly during the past year. One new periodical, the Journal of Neuropathology and Experimental Neurology has been added. Seven journals are being held on order by foreign agents for release when the war is over. Seven periodicals relating to war medicine may be found in the library. These include:

Bulletin of War Medicine
J. of Aviation Medicine
J. of Royal Army Medical Corps
J. of Royal Navy Medical Service
Military Surgeon
United States Naval Medical Bulletin
War Medicine

The Library now contains 714 volumes, exclusive of bound periodicals, an addition of 42 volumes.

The Library room is at last becoming taxed for space, and within the next year or so plans will have to be made for stacking space elsewhere than in the present library room.

THE FELLOWS' SOCIETY

DR. THEODORE B. RASMUSSEN, *Chairman*

This organization, which is composed of all the research Fellows and house officers, meets in the Fellows' Library every week or every two weeks for the purpose of holding scientific sessions. Some of these meetings are devoted to reviews on the current literature dealing with neurology and neurosurgery and others are given over to preliminary reports of research work in progress by the various research Fellows. Guests from other departments of the Medical School are occasionally invited to present material which bears on the problems of neurology. The aim is to cover subjects which are not dealt with at larger and more formal meetings, and to foster active discussion and questions as well as to keep all who attend "au courant" with the problems which are under investigation at the Institute.

The meetings of this group have a definite function in the scientific life of the Neurological Institute, namely, to furnish a place for active discussion of new experimental work and hypotheses, to enable everyone to learn of the research work in progress, to bring in outside speakers to cover subjects not dealt with in the more formal meetings and to discuss new research which appears in the current literature.

THE MONTREAL NEUROLOGICAL SOCIETY

DR. ARTHUR W. YOUNG, *President*

DR. ANTONIO BARBEAU, *Vice-President*

DR. FRANCIS L. MCNAUGHTON, *Secretary-Treasurer*

Clinical and scientific meetings were held each week throughout the academic year. Clinical meetings were held at the Montreal General Hospital, the Montreal Neurological Institute, Notre Dame Hospital, Hotel Dieu, and Verdun Protestant Hospital. Scientific meetings were held in the amphitheatre of the Montreal Neurological Institute.

The following guest speakers appeared before the Society during the session of 1941-42:

- Dr. Eric Oldberg, Chicago — Platybasia.
- Dr. Howard Howe, Baltimore — Neurobiological Aspects of Poliomyelitis.
- Dr. J. D. Adamson, Winnipeg — the Virus Epidemics in Manitoba in 1941.
- Dr. H. G. Wolff, New York — Emotions and Gastro-duodenal Function.
- Dr. D. Denny-Brown, Boston — Experimental Studies of Concussion.
- Major J. D. M. Griffin, Ottawa — Psychological Aspects of Personnel Selection.
- Dr. Thomas I. Hoen, New York — Herniation of the Intervertebral Discs.
- Dr. S. E. Barrera, New York — Experimental Production of Convulsions in Monkeys.
- Dr. E. F. Gildea, New Haven — Biochemistry in relation to Psychiatry.

Several meetings of special interest were arranged for visiting speakers from Great Britain. A joint meeting was held with the Medico-Chirurgical Society, when Rear Admiral Gordon Gordon-Taylor spoke on "Surgical Aspects of Modern Warfare" to a large audience. Wing-Commander R. D. Gillespie, Psychiatrist to the Royal Air Force spoke on the Psychological Aspects of the War in Great Britain. Sir Harold Gillies, Consultant in Plastic Surgery to the Royal Navy, Army and Air Force, addressed the section on the "Treatment of Burns".

We are also grateful to Dr. Fred Smith and Dr. S. Dworkin of McGill University, who have contributed to our programme.

CLINICAL SERVICES AND FELLOWSHIPS

An internship of eighteen months' duration is available on January 1st and July 1st. The internes live in the Royal Victoria Hospital and have their meals there. Ordinarily the appointment consists of six months' service in neurology, six months in neurosurgery and six months as senior interne in neurosurgery with special supervision of the traumatic cases. Modifications in this routine are made, however, from time to time.

The appointment of neurological and neurosurgical Resident is of two years' duration. No candidates are considered unless they have had previous work on this service and in the laboratory. The Resident has his quarters in the Neurological Institute.

The appointment of Neuropathological Fellow is a yearly one open to men who have had previous work as interne or Laboratory Fellow. It carries with it residence in the Institute and a monthly stipend. The Neuropathological Fellow is responsible for pathological reports on autopsy and surgical specimens, under the supervision of the Neuropathologist.

Two Fellowships are available for research in neuropathology, neuroanatomy, neurophysiology or biological chemistry. These Fellowships carry with them residence in the Institute and a small stipend. Applicants for these appointments must have demonstrated the fact that they are capable of independent work.

There is opportunity for two or more voluntary Fellows to do fundamental work of the type described above. The qualifications for these appointments are similar to those of the other Fellows. An externship in either neurology or neurosurgery is available to men who are not in residence but who are qualified to play an active role in the service. No stipend is attached to these services. In neurosurgery the externe is expected to work up cases and to act as second assistant at operations, at the discretion and under the supervision of the Resident.

The Fellows and Externes are enabled to follow the progress of clinical problems by attending complete rounds once a week. A weekly pathological conference makes it possible for them to see the pathological material of the week, and weekly meetings of the Montreal Neurological Society are so planned that they may attend and take part in the discussions.

Applicants for Internships, Fellowships and Externships should send to the Registrar, with their applications, the names of three men as references, a careful description of their University, hospital and laboratory work up to the time of writing, an outline of future plans and a statement of age, nationality, religion, schooling, and if possible their rank in their final medical examinations.

Applicants for clinical services should have a speaking knowledge of the French language or should study it while awaiting their appointments. The City of Montreal and the Province of Quebec have a French speaking majority and many of our patients speak only that language. In our desire to render the best service possible to them we make every effort to have a bilingual staff.

THE NEEDS OF THE INSTITUTE

CLINICAL ACTIVITY

From the beginning the Neurological Institute has been filled with patients to its capacity. The Institute belongs to McGill University but the clinical unit is administered for the University by the Royal Victoria Hospital. The majority of the patients come under the heading of "public" and it is not considered to be the function of the University to undertake financial responsibility for the deficit which inevitably arises from the care of such patients. Hospitalization expense is quite properly covered by the contributions from the City of Montreal and the Province of Quebec, but there are crying needs not covered by the present generosity of the City and Province.

From other provinces and from the United States come sufferers who have raised enough money for the journey but who are unable to pay for a bed even at the daily public ward rate of \$3.50 (which in reality is about one-half of the actual cost of maintaining that bed). Nevertheless, these patients come to our door in the desperate hope that they will be admitted. It is no doubt logical to suggest that they should be sent back, or that local subscription in their place of origin ought to have been made, as it often is, to cover all expenses of hospitalization. But as long as endowed research, as well as special equipment and training, make special forms of treatment available here, such patients will continue to throw themselves upon the mercy of the staff from time to time. To refuse help may mean suffering and perhaps death.

To meet such emergencies a "Transfusion and Clinical Relief Fund" has been created. As the title suggests, this fund is used for the cost of transfusions, when needed urgently by indigent patients, as well as to pay hospitalization expenses when no other support is available. It serves another useful purpose, to defray the costs of occasional clinical studies which are required for scientific purposes rather than for the immediate therapeutic need of the patient. For example, additional X-rays of a rare bone condition may be of considerable value to the staff in the study of that disease although it would be unfair to burden the account of the patient with such charges.

SCIENTIFIC ACTIVITY

The second purpose of the Neurological Institute is the advancement of knowledge in a field which is in some ways the most obscure and yet filled with the greatest possibility of good to mankind. This scientific activity which includes pathological, physiological, anatomical and biochemical studies of the nervous system, is supported in part by the endowment given by the Rockefeller Foundation.

Because of decreased income from securities the funds derived from this endowment are annually ten thousand dollars less than the minimum which was estimated as necessary for this purpose. Consequently the laboratory work has been handicapped and has fallen short of its full possible realization. Increased income is needed particularly for the endowment of Research Fellowships.

SPECIFIC NEEDS

For the information of those who might desire to help the work of the Institute a few specific examples of our needs are added below.

A.—Transfusion and Clinical Relief Fund. Donations of any size are welcome and may be addressed to the Montreal Neurological Institute and marked for this fund.

B.—Free Beds. The cost of endowing one public bed in perpetuity in the Institute, to be named by the donor and maintained free for indigent patients, is not less than \$25,000.00. There is a need for at least two such endowed beds in the public wards.

C.—Research Fellowships. The sum for such a Fellowship is \$1,200 annually or not less than \$30,000 as a permanent endowment. If desired by the donor these Fellowships may be named as a memorial and publications of work done during the tenure of such a grant would bear the name of the Fellowship, e.g. "John Smith Memorial Fellowship" Each of these would support a recent graduate in medicine while carrying out advanced study and research. At least four such Fellowships are urgently needed.

D.—The Fellows' Library. This library contains journals and special neurological books needed for the studies in progress both scientific and clinical. The books here supplement those in the University Medical Library without duplicating them. There is a waiting-list of books and journals which cannot be purchased without exceeding the library appropriation. Any donation to the library would bear the donor's name on the fly-leaf. Ten dollars will purchase a text-book, \$400.00 a many-volume handbook of neurology and \$900.00 the back file of a neurological journal.

FORM OF DONATION

I give and bequeath to McGill University, Montreal, for the Montreal Neurological Institute \$ the same to be and become a part of the general endowment fund of the said Institute and to be known as the (here insert name of testator or a name selected by him) Endowment Fund the income only to be used for the furtherance of (the charitable) (the scientific) (the charitable and scientific) work of the Montreal Neurological Institute.

DONATIONS

From the Rockefeller Foundation:

For the department of electrophysiology and
the fund for research in epilepsy and dementia \$12,500.00

From Mrs. H. A. Springle:

For research activities 10,000.00

From Mr. G. H. Duggan:

For research in surgical instruments 500.00

CLASSIFICATION OF DISEASES

Nervous System Generally:

Neurosyphilis	26
Multiple sclerosis	23
Progressive muscular atrophy	3
Amyotrophic lateral sclerosis	5
Myasthenia gravis	2
Myotonia atrophica	1
Amyotonia congenita	1
Friedreich's ataxia	1
Avitaminosis	12

Meninges:

Meningocele or myelomeningocele	28
Chronic adhesive arachnoiditis	15
Acute meningitis	27
Cyst of dura	2
Subdural abscess	1
Extradural abscess	1
Spontaneous subarachnoid haemorrhage	7
Traumatic meningeal haemorrhage	56
Subdural effusion	14
Posttraumatic headache	25
Other headaches	29

Brain:

Congenital anomalies	4
Hydrocephalus	15
Acute encephalitis	3
Mesencephalitis haemorrhagica	2
Boeck's sarcoid of cerebellum	3
Chronic encephalopathy	19
Cerebral abscess	14
Cerebral concussion	119
Cerebral contusion and/or laceration	49
Meningocerebral or cerebral cicatrix	14
Cyst of brain	6
Epilepsy	179
Migraine	15
Cerebral arteriosclerosis	12
Cerebral haemorrhage, thrombosis or embolism	45
Encephalomalacia	7
Intracranial aneurysm	6
Cerebral atrophy	24
Paralysis agitans	3
Huntingdon's chorea	2
Intracranial calcification	1

Tumours of the Nervous System:

Blood vessel tumour	7
Glioma	74
Perineurial fibroblastoma	5
Meningeal fibroblastoma	10
Sarcoma	12
Carcinoma	11
Metastatic hypernephroma	1

Pituitary adenoma	4
Craniopharyngeal pouch tumour	4
Tuberculoma	4
Neurofibroma	4
Cholesteatoma	1
Unclassified tumour	5
Unverified tumour and tumour suspect	28

Spinal Cord:

Congenital anomaly	4
Neuronitis	4
Radiculitis	2
Transverse myelopathy	10
Dorsolateral sclerosis	3
Compression of spinal cord	21
Concussion of spinal cord	2
Contusion of spinal cord	5
Syringomyelia	3
Lesion of anterior spinal artery	1

Cranial and Peripheral Nerves:

Mixed cranial nerve palsies	6
Optic atrophy	1
Retrobulbar neuritis	4
Ocular palsy	1
Trigeminal neuralgia	35
Peripheral facial palsy	2
Ménière's syndrome	12
Glossopharyngeal neuralgia	1
Lesions of brachial plexus or branches	10
Lesions of lumbosacral plexus or branches	3
Herpes zoster	1
Multiple neuritis	16
Sciatica	7
Other neuralgias	10
Acrocyanosis	1
Raynaud's disease	1
Vagosympathetic imbalance	1
Spasmodic torticollis	2
Facial spasm	1

Mental Diseases:

Mental deficiency	21
Alcohol or drug addiction	26
Psychoneurosis	53
Manic-depressive psychosis	10
Schizophrenia	9
Paranoia and paranoid conditions	5
Miscellaneous	33

Other Systems and Miscellaneous:

Developmental cranial and spinal anomalies	7
Spina bifida and cranium bifidum	27
Herniation of intervertebral disc	18
Hypertrophy of ligamentum flavum	3
Fracture of the skull	114
Fracture and/or dislocation of vertebral column	32
Other fractures and dislocations	29
Lacerations, contusions, abrasions and/or haematomas	108
Carcinoma	11
Diseases of the body as a whole	27
" " " cardio-vascular-renal system	78
" " " respiratory system	35

“ “ “ gastro-intestinal system	12
“ “ “ genito-urinary system	10
“ “ “ haematopoietic system	7
“ “ “ endocrine system	24
“ “ “ locomotor and integumentary system	89
“ “ “ eyes, ears, nose and throat	60
Cervical rib and scalenus anticus syndrome	3
Diagnosis deferred	11

CLASSIFICATION OF OPERATIONS

Craniotomy, miscellaneous	8
“ exploration	7
“ decompression	16
“ removal of tumour	73
“ removal of focus	6
“ drainage or removal of cyst	5
“ excision of cicatrix	7
“ lobectomy	4
“ drainage of abscess	16
“ drainage of subdural space	7
“ rhizotomy	17
“ removal of extradural haemorrhage	2
“ separation of adhesions	5
Laminectomy, miscellaneous	12
“ antero-lateral cordotomy	4
“ removal of tumour	8
“ rhizotomy	5
“ removal of herniated disc	11
“ separation of adhesions	5
“ evacuation of contused spinal cord	1
Spinal fusion and bone graft	8
Plastic repair of spina bifida or cranium bifidum and/or meningocele or myelomeningocele	16
Biopsy	13
Trepanation, miscellaneous	109
“ subdural insufflation	7
“ exploration and drainage of subdural space	17
“ drainage of abscess	3
Encephalography	409
Ventriculography	113
Arteriography	10
Elevation of depressed skull fracture	30
Débridement and suture of wound	11
Reduction fracture-dislocation	3
Application of skull traction	3
Plastic repair of wound	8
Exploration of nerve, removal of neuroma, and nerve suture ..	3
Nerve anastomosis, hypoglossal-facial	2
Neurolysis and neurectomy	3
Sympathectomy and ganglionectomy	8
Re-exploration of wound and/or re-elevation of bone flap	10
Miscellaneous	22

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