Application.

MONTREAL NEUROLOGICAL INSTITUTE.

APPLICATION TO THE ROCKEFELLER FOUNDATION.

A. Proposal

1. Proposal made by McGill University, Montreal.

2. Application for -

(a) Contribution toward expense of construction of the Montreal Neurological Institute.
Cost of construction of that portion of the "Institute" to be devoted to neurological research amounting to $206,852.

(b) Endowment of scientific work of Neurological Department of McGill University.
Endowment sufficient to yield a yearly income of $56,450.

B. Present Support:

1. (a) Department Budget:

Hodgson-Reford-McIntyre Fund - annual grant 5 years (expires June 1933)	$10,000.00	
Howard-Murray donation - annual grant 4 years (expires this year)	833.33	
Special Grant - Medical Clinic Fund	2,000.00	
Special Grant - Rockefeller Experimental Surgery	2,000.00	
Special Grant - Cooper Fund	2,000.00	
Royal Victoria Hospital Grant	750.00	
		$17,583.33

(b) Penfield Research Fund for Research in Epilepsy, special (Original total amount $75,000.00 - unexpended balance June 1, 1931, $45,000.00). $20,000.00

2. Personnel:

(a) Professional

Wilder Penfield,
Clinical Professor Neurosurgery and Chairman of Department of Neurology; Neurosurgeon Royal Victoria and Montreal General Hospitals.

Colin Russel,
Clinical Professor Neurology,
Neurologist Royal Victoria Hospital.

F. H. MacKay,
Clinical Professor Neurology,
Neurologist Montreal General Hospital.

William Cone,
Assistant Professor Neurology and Neurosurgery,
Assistant Neurosurgeon Montreal General and Royal Victoria Hospitals.

J. N. Petersen,
Lecturer Neurology, Assistant Neurologist Royal Victoria Hospital.

A. W. Young,
Lecturer Neurology, Assistant Neurologist Royal Victoria Hospital.

N. Viner,
Lecturer Neurology, Assistant Neurologist,
Montreal General Hospital.

Full time in Department Lab.

A. R. Elvidge (McGill), Neuropathological Fellow.

I. M. Tarlov (Johns Hopkins), Research Fellow in Neuropathology.

G. Chorobski (Warsaw) Research Fellow in Neuroanatomy.

J. Evans (Harvard), Research Fellow in Neurophysiology.

A. Torkildsen (Oslo), Externe and Voluntary Fellow.

G. Stavraky (Odessa), Research Fellow (Rockefeller Fellowship).

T. I. Hoen (Johns Hopkins), Assistant Resident in Neurosurgery.

E. L. Gage (Pennsylvania), Interne in Neurosurgery.

Personnel:

(b) Technical

1 Secretary.

1 Research Technician, neuropathology.

2 Routine Technicians, neuropathology.

1 Nurse for experimental operations.

1 Artist (half-time).

Partial use of animal attendant with Department of Medicine.

Partial use of animal attendants with Department of Surgery.

3. Institutional Relationships:

Medical Neurology at Royal Victoria and Montreal General Hospitals.

Neurosurgery at Royal Victoria Hospital (rarely at Montreal General Hospital).

Official consultations in Neurology and Neurosurgery at Children's Memorial Hospital, Shriners Hospital, Alexandra Hospital for Infectious Diseases.

Department Laboratory is in Royal Victoria Hospital.

Teaching at McGill University and in Hospitals.

4. History of Development of Neurological Department:

The Department of Neurology was for years a small sub-department of medicine, and prior to the last decade, had only two lecturers and two junior assistants. A moderate amount of research was done. About ten years ago, however, clinical professors were appointed (Russel and MacKay), representing each hospital, and an added interest was created through the appointment of several graduates who had specialized abroad in the subject.

Dr. Russel, of the Royal Victoria Hospital, had, himself in earlier years, studied abroad on neurology, returning to take charge of the department, and Dr. MacKay, with good clinical experience, was placed in charge of the neurological service at the Montreal General Hospital.

The clinical teaching has always been fairly satisfactory, but the scientific work was being neglected, and

the University Clinic suffered thereby.

More recently Babkin, Research Professor in Physiology, had made a special study of conditioned reflexes, and Beattie, Assistant Professor in Anatomy, studied the sympathetic system. Brow and Long, in Internal Medicine, carried on extensive investigations on the same subject in relation to the heart and anaesthesia (See Transactions of Royal Society of London, 1930).

For years we have been anxious to strengthen the Department, more particularly the scientific research and the practice of neurosurgery. Professor Archibald had done most of the brain surgery, and has written a book on the subject, but with wide interest in general surgery he has recently felt the responsibility too great.

For this reason Dr. Penfield was called in 1928, and with him Dr. Cone. Reorganization of the whole Department of Neurology and Neurosurgery took place. The two were combined into an independent department with Dr. Penfield as Chairman, and the other members of the staff in both Neurology and Neurosurgery readily co-operated in this arrangement.

5. Previous Support from Rockefeller Foundation:

The Rockefeller University Clinic has given $2,000.00 a year for two years, and the Department of Experimental Surgery, with the consent of Dr. Pearce, gave a grant of $2,000.00 towards the work in neurological surgery. In addition, a fellowship was given to Dr. Penfield for travel

abroad immediately before coming to Montreal.

6. History of Negotiations leading up to present proposal:

1928 - Dr. Penfield arrived in Montreal as clinical professor of neurosurgery; discussed at once a possible institute.

January, 1929 - Royal Victoria Hospital decided to build a house surgeons' residence for the purpose of using the vacated space for accommodating the department of neurological surgery in the main building.

1931 - Residence for house surgeons completed.

March, 1931 - Dr. Penfield interviewed Dr. Gregg.

September, 1931 - University obtained assurance of $35,000 a year, capitalized at $400,000.00, from the Province of Quebec, and $300,000.00 from the City of Montreal, as well as the promise of donations from citizens.

October, 1931 - Dr. Gregg visited Montreal.

November, 1931 - The Principal received pledges of individual donations of over $200,000.00 to present project.

November 26, 1931 - Royal Victoria Hospital, in consultation with McGill University, decided to ask Rockefeller support for the building and maintenance of an Institute for Neurology and Neurological Surgery.

C. Present Status of Neurological Work:

1. Teaching:

Undergraduates:

(a) Neurology - Dr. Russel and staff.

1. Standard course of 18 lectures.

2. Two out-patient clinics weekly at each hospital.

3. One theatre clinic from time to time.

4. Ward classes twice weekly.

5. One voluntary tutorial class in neurology.

(b) Neurosurgery - Drs. Penfield and Cone.

1. Lectures 8 hours.

2. Ward Classes 30 hours (3 groups).

(c) Neuropathology - Dr. Cone

1. Lectures 8 hours (third year)

Graduate:

(a) Neuropathology - Drs. Penfield and Cone - 54 hours.

(b) Neurology - Drs. Penfield, Russel, MacKay and Cone - 27 hours.

(c) Neurological Anatomy - Dr. Babkin - 27 hours.

Some special interests of Teachers:

Penfield - neurosurgery, neurophysiology, neuropathology, epilepsy.

Cone - neurosurgery, neuropathology, head injuries.

Russel - neurology, cinematographic teaching.

MacKay - neurology.

Petersen - neurology, sympathetic reactions of epileptics.

Viner - sciatica.

Elvidge - neuropathology, hydrocephalus.

Tarlov - microscopic structure of cranial nerves.

Chorobski - innervation of cerebral blood vessles.

Evans - experimental epilepsy.

Torkildsen- ventricular relationships.

Stavraky - cerebral sympathetic centres.

Hoen - cerebral localization.

Gage - focal epilepsy.

2. Control of Department Budget:

The control of the departmental budget is in the hands of the Chairman of the Department, who issues vouchers against any expenditures. These are always honoured by the University office up to the limit of the budget.

University monies are allocated under the authority of the Finance Committee of the University Board of Governors.

Special Funds and Endowments:

Hodgson-Reford-McIntyre Fund - annual grant of $10,000 for 5 years (expires June 1933)	$50,000.00
Cooper Fund - for emergency grants in Internal Medicine - for 1930-31 only	$ 2,497.00
Rockefeller Fund for Experimental Surgery, special grant for neuro-surgery 1930-1931	$ 2,000.00
Rockefeller Fund for University Medical Clinic special for 1930-1931 only	$ 2,000.00
Madeleine Ottmann Fund for Research in	

Epilepsy only - expired	$20,000.00
Penfield Research Fund for Epilepsy only, $45,000.00 still unexpended June 1, 1931	$55,000.00

3. Space occupied at present:

Neurology - Medical Wards of Royal Victoria and Montreal General Hospitals.

Neurosurgery - Surgical Wards of Royal Victoria Hospital.

Neuropathology - in Departmental Laboratory which occupies five rooms in the University Medical Clinic Laboratories. These five rooms have been subdivided into nine smaller rooms and now house six full-time fellows, five technical assistants and five part-time workers.

Neurophysiology - in laboratories for animal experimentation of McGill and of Department of Medicine.

The above quarters for experimentation on larger animals at McGill are adequate.

On the other hand neurological patients are so scattered as to make thoughtful study difficult and adequate care sometimes impossible. The Laboratory space is so hopelessly inadequate that three and four investigators sometimes work at one bench.

4. Present Salaries:

Professional:

Penfield, Department head (from Dept. of Surgery)	$ 100.00
Russel, Assist. Prof. Neurology (from Dept. of Medicine)	250.00
MacKay, Assist. Prof. Neurology (from Dept. of Medicine)	250.00
Cone, Assist. Prof. Neurology and Neurosurgery	8,000.00
Petersen, Ottmann Research Fellow ...	2,400.00
Young, Lecturer Neurology (from Dept. of Medicine)	200.00
Vinçer, Lecturer Neurology (from Dept. of Medicine)	50.00

Elvidge, Neuropathological Fellow This money is derived from friends of the Montreal General Hospital to train him for the staff of that Hospital, and does not appear in Department budget.	$1,200.00
Tarlov, Research Fellow ...	1,000.00
Chorobski, Research Fellow ...	1,800.00
Evans, Research Fellow ...	1,500.00
Stavraky, Rockefeller Fellow ...	1,000.00
Hoen, Assist. resident ...	720.00

Technical:

Secretary	1,500.00
Research Nurse	1,320.00
Research Technician	2,400.00
Routine Technician	1,440.00
Routine Technician	1,320.00
Cleaning woman	480.00

5. Budget for June 1, 1930, to June 1, 1931:

Department	$16,410.58	
Penfield & Ottmann Research Funds	16,008.32	
Total		$32,418.90

D. Future Plans:

1. Source of Possible Income:

A number of friends of the University are interested in this Department. They have given assistance in the past, and we believe that they will help to some extent in the future. As the work of the Institute grows, we believe further donations will come because of the need of the work, and its appeal to the public's imagination. Coupled with this is Dr. Penfield's prestige, which is, of course, an invaluable asset.

Grant from Rockefeller Foundation Fund for Medical Clinic will not continue.

Grant from Rockefeller Foundation Fund for Experimental Surgery will not continue.

Grant from Cooper Fund - not permanently available.

Hodgson-Reford Fund expires June, 1933.

McIntyre Fund for Neurosurgery expires June 1933.

Madeleine Ottmann Fund has expired except as renewed from Penfield Fund.

Penfield Fund to be used for research only, will expire in about two years.

The contribution in cash ($750) made by Royal Victoria Hospital will be devoted toward meeting other expenses of the Department if the proposed expansions occur. It is, therefore, not available for the budget.

Consequently, there is no certain future financial support for the scientific work of the Department, except as mentioned below. The University will contribute $5,000 to the budget annually.

As the work has grown support has been secured from various sources both private and University without a permanent income of any sort, until the present conditional pledges were secured. The largest previous amounts came from (1) the Hodgson and Reford families ($50,000) as a gift to the University to start the work in Neurosurgery, and (2) the gift of Mrs. Ottmann of $70,000 to Dr. Penfield for his investigations in epilepsy.

General Plan:

If a Neurological Institute can be secured, McGill University and the Royal Victoria Hospital propose to build, equip and support the clinical portion of the work and to contribute toward the scientific portion as indicated below. If endowment for the strictly scientific activity of the Department can be secured, apportionment will be about as follows:

Proposed Budget

Professional Staff:		Yearly Stipend
Director		$1,000.00
Neuropathologist (Dr. Cone) ...		8,000.00
Neurophysiologist (a new appointment will be made)		8,000.00
Attending Neurologists		4,000.00
Resident & Registrar	$2,400	
Room and Board	620 ...	3,020.00
Assistant Resident		720.00
3 Internes (neurosurgery, neurology, traumatic		.....
Pathological Fellow	$720, Room & Board $620	1,340.00
Experimental Fellow	720, Room & Board 620	1,340.00
Research Fellow	600, Room & Board 620	1,220.00
Research Fellow	600, Room & Board 620	1,220.00
		$29,860.00

Laboratory Staff:	Yearly Stipend	
Secretary for personnel ...	$2,400.00	
Secretary - neuropathology ...	1,380.00	
Secretary - neurophysiology ...	1,380.00	
Research Technician ...	2,400.00	
Pathological Technician ...	1,500.00	
Pathological Technician ...	1,500.00	
Museum Technician ...	1,500.00	
Photographic (and X-ray) Technician half wage	1,200.00	
Artist (half time) ...	1,500.00	
Chemical Technician ...	1,500.00	
Experimental Nurse ...	1,380.00	
Animal Attendant and Helper ...	1,200.00	
Cleaning - Laboratory rooms & glassware (3 women)	2,000.00	$20,840.00

Yearly Supplies:		
Maintenance of photographic laboratories	750.00	
Do. chemical do.	1,000.00	
Do. 2 pathological do.	4,000.00	
Do. physiological do. (animal food, etc.)	3,000.00	
New books and journals ...	1,000.00	
New equipment and miscellany ...	2,000.00	
	$11,750.00	
Deduction of probable income from patients for laboratory diagnoses	1,000.00	10.750.00
Total scientific budget		$61,450.00

2. Scope of Work:

Such organization would make possible the development of clinical and investigative neurology in a city large enough (one million) to support expansion and small enough to afford comparative quiet and protection for thoughtful work. Because of its peculiar position and freedom from national prejudice a school of neurology here should exert a direct influence upon American and British Medicine alike.

At the present time, advance is being prevented by the

separation of operative from diagnostic neurology, that is, separation of neurosurgery from neurology. Advance is further made difficult by the lack of opportunity for men who are trained in the scientific fundamentals of neurology to combine laboratory study with clinical observation.

It is proposed to make neurology at McGill an independent department and to give it every facility for therapy and concentrated study, but without too great isolation from other branches of medicine. The closest possible association will be maintained with the departments of medicine and surgery.

The Institute building, as planned, would connect directly with the laboratories of the Department of Medicine of the Royal Victoria Hospital and the adjoining rooms of the two departments would thus form one unit. About ten beds would be apportioned to Neurology in the general medical wards to promote common study of the common aspects of neurological cases.

At the other end, the building would connect directly with the operating suite of General Surgery, and the operating room of the Institute would be administered by the nursing staff which is in charge of the whole operative unit. This would provide a helpful association with surgery still further ensured by the fact that ten beds will be reserved in the general surgical wards for the care of traumatic injuries of the nervous system.

This arrangement would provide opportunity for selective segregation in the Institute of certain types of cases, as well as for co-operation with other departments in the study of other types. The number of beds proposed is that which provides an ideal unit of clinical service; 16 public male patients on one

floor, 16 public female patients on a second floor and 6 semi-private and 5 private patients on a third floor, making in all 43 beds. If the ten neurological beds in the public wards of Medicine and the ten beds in Surgery be added, the number would be sixty-three, a figure further increased by the addition of a limited number of private patients concentrated on one floor of the Ross Memorial Pavilion, which is easily accessible by tunnel.

The private and semi-private rooms in the Institute would house those private patients only that require special study or care. The proportion of operative to non-operative patients in the Institute may vary but will be subject to the discretion of the Director.

Research in the Institute would be both fundamental and applied. Its nature would, of course, depend on the insight and vision of the staff. The constant stimulus of clinical contacts should guide laboratory research into fruitful effort, particularly if one group of men is interested in both sides of each problem.

The primary purpose of the organization, as far as teaching is concerned, would be to provide an opportunity for a small, carefully selected group of young men to carry out directed research and learn clinical neurology. The laboratories are planned for this purpose and living quarters would be built for them in the top floor of the Institute with the hope that monastic surroundings would foster thoughtful study. The teaching of undergraduates would be an important though secondary consideration.

The staff of the Institute would be as follows:-

Director: Dr. Penfield, age 40; schooled at Princeton, Oxford, Edinburgh and Johns Hopkins. Worked on neurophysiology with Sherrington, neuropathology with Greenfield in London and Cajal in Madrid; clinical neurology at Queen's Square, London, and with Foerster in Breslau. Neurosurgical experience gained with Cushing in Boston and Sargent in London. General surgical experience for four years at the Presbyterian Hospital, N.Y. He would direct the scientific and clinical work of the Institute, and practise neurosurgery and neurology, limiting all work to the Royal Victoria Hospital.

Chief of Neuropathology: Dr. Cone, age 34; schooled at Iowa. Worked on neuropathology with Orton, 3 years; neurosurgery with Penfield 7 years, and neurology at Queen's Square and with Foerster in Breslau. He would be in charge of the laboratories of neuropathology and limit his practice to institutional work.

Chief of Neurophysiology: For this position it is hoped to secure a neurologist from the English school of clinical neurology who has also had training in neurophysiology and in the chemistry of the cerebrospinal fluid. There are two men, or possibly three, from whom a suitable selection might be made. Such a man would supervise physiological and chemical studies, would carry out such minor manoeuvers as encephalography on the clinical side, and would be in immediate charge of the non-operative neurological cases.

Chief of Clinical Research: Dr. Russel, age 55; schooled at McGill. Worked in neurology at Queen's Square and for a long period in neuroanatomy with von Monakow in Switzerland. He

would be particularly concerned with undergraduate neurological teaching. He is at present engaged in cinematographic studies of clinical syndromes which have already proved of great value in teaching.

In general, a "resident system" would be put into effect which allows a young man to spend an adequate period of time in clinical work with his material needs cared for and with the assurance that at the end of that time he will be trained in laboratory and clinical neurology and be capable of carrying out the most difficult operations.

The internes are best chosen from among the research fellows. They would then be given a neurological, neurosurgical and neuropathological service ending with the assistant residency in neurosurgery, and if sufficiently distinguished, becoming resident. The resident would share in the operative work as well as taking clinical responsibility.

3. Staff appointments at the University are always made, first upon the recommendation of the head of the department to the Dean of the Faculty; the Dean transmits these forthwith to the Principal, who, if he approves, recommends the Board of Governors to make the appointment.

4. Building: Montreal Neurological Institute.

It would contain six and one half stories placed in the centre of the Royal Victoria group, connecting on one wing with the Department of Medicine and on the other with Surgery, and having access to the tunnel between the Royal Victoria, Ross Memorial Private Pavilion and the Women's Pavilion, also con-

nected with the Pathological Institute by tunnel.

First floor: Encephalography, operating room, perimetry, private offices for the staff and entrance hall.

Second floor: Laboratory - neurophysiology suite, chemistry of cerebrospinal fluid, photography, photomicrography, experimental psychiatry (Dr.Slight).

Third floor: Laboratory, neuropathology, technical rooms, fellows room, museum, library and lecture room.

The second and third floors are considerably longer than the other floors.

Fourth floor: Male, public - ten bed ward, four bed ward and two single rooms with appropriate arrangements for special study including laboratory.

Fifth floor: Female, public - identical with fourth floor.

Sixth floor: Semi-private and private, arranged for careful observation of semi-private cases (as on the public floors) so as to make possible a study of the clinical manifestations of epilepsy.

Seventh floor: Half a story to provide sleeping and lounging quarters for four fellows and the resident. Also storage rooms for overflow of scientific specimens and a squash court if space is available.

In general, if estimated in square feet of floor space, the subdivision of research activity from the portion devoted to the care of patients is as follows:

Floors:		Square feet	
		Research	Clinical
First -	Reception, offices, encephalography and operating room	2,746	2,746
Second -	Laboratories	4,263	
Third -	Laboratories	4,263	
Fourth -	Public patients		3,901
Fifth -	Public patients		3,901
Sixth -	Semi-private and private patients		3,901
Seventh -	Fellows quarters and specimen storage	2,899	
Partitions, walls and duct space 20½%		2,904	2,962
		17,075	17,411

5. The Institute will be on land belonging to the Royal Victoria Hospital, and, according to their charter, the building will be the property of the Hospital. Its construction, however, will be carried on by the Royal Victoria Hospital, with co-operation of McGill University, and McGill University will supply necessary funds up to the limit of its resources.

Rockefeller Application and Estimates of Nov 1932.

E. Finances:

1. Sources of income:

University donations pledged from governors and friends of University for this project	$252,000.00
City $15,000.00 annual grant, guaranteed by McGill University	300,000.00
Province of Quebec $20,000 annual grant, guaranteed by McGill University	400,000.00

2. Further Sources of Income:

A number of friends of the University, who are interested in this Department, have in the past offered assistance, and there is no reason to believe that, should any deficits of a reasonable amount occur from time to time, that these friends will not be ready to make up any difference. It is also believed that, as the work of the Institute grows, further donations may be possible, both in view of the nature of the work and its appeal to the public imagination.

Most of all there is the fact that Dr. Penfield's own personality and skill carry an unusual amount of weight and influence.

No arrangements re further sources of income have been made pending the establishment of an Institute.

3. Future Cost of Maintenance:

(a) Annual cost of physical maintenance of Institute, including laboratories, wards, etc.

Wages and Maintenance and Uniforms of Porters, Elevator Operators and Men Cleaners	$4,332.00
Cost of Heating	1,680.00
Forward	$6,012.00

B/Forward	$6,012.00	
Fire Insurance Premium	200.00	
Cost of cleaning materials, men cleaners	200.00	
Cost of electric light and power	510.00	
Cost of gas	100.00	
White coats	250.00	
Laundry	150.00	
Telephone service - 10 telephones, 5 extensions, half cost of telephone in front office of Institute	299.00	
City improvement tax	275.00	
Renewals, repairs, snow cleaning - carpenters, plumbers, electricians, etc., including minor alterations	1,500.00	
Half salary clerk in Front Office and lunches	420.00	
Half salary X-ray Technician	1,200.00	
	$11,116.00	
Add for contingencies say	884.00	$12,000.00

(b) Research:

Yearly salaries of professional staff	$29,860.00	
Yearly wages of laboratory staff	20,840.00	
Laboratory supplies	10,750.00	
Total cost of maintenance of research		$61,450.00

(c) Cost of hospitalization of public ward patients, representing annual deficit for operating 32 public wards bed in Institute $18,000.00

4. **Finances:**

i	**Construction** (including architects fees)		
	Building	$313,336.00	
	Verandah	4,876.00	
	Tunnel work	12,720.00	
	Road Work	4,240.00	
	Mechanical and electrical connection	9,500.00	$344,672.00
ii	**Equipment**		
	Clinical		
	X-Ray equipment	10,000.00	
	Hospital furnishings and equipment, excluding scientific equipment ...	60,000.00	70,000.00
	Research		
	Furnishing	5,393.00	
	Built-in-equipment ...	10,847.00	
	Movable scientific apparatus	18,276.00	34,516.00
iii	Land for building site and approaches, 10,749 square feet @ $3.00		32,000.00
	Estimated total cost		$481,188.00

449,188
50.000
499,188

172,000
5+ 25,000
70,000
25.00 00
267,000

RÉSUMÉ OF FINANCES.

1. **Cost of Institute**			
Construction	...	$344,672.00	
Equipment	...	104,516.00	
Land	...	32,000.00	$481,188.00
2. **Cost of clinical installation**			
Movable and non-movable		70,000.00	
Cost of scientific installation			
Movable		23,669.00	
Immovable		10,847.00	104,516.00
3. **Maintenance**			
Maintenance of Hospital patients (deficit)		18,000.00	
Physical maintenance of whole building		12,000.00	
Maintenance of scientific work - budget		61,450.00	91,450.00
4. **Contributions by Royal Victoria Hospital**			
Land		32,000.00	32,000.00
Contributions by University			
Annual deficit from patients and maintenance..@ $30,000		600,000.00	
Cost of building clinical portion	...	172,336.00	
Unforeseen expenses in building 15%	...	25,800.00	
	Forward	$798,136.00	

B/Forward	$798,136.00	
Cost of physical equipment of clinical portion	70,000.00	
Annual contribution to neurological budget ... $5,000	100,000.00	$968,136.00
Cost of land.		~~32,000.00~~
Total		$1,000,136.00

6. **Proposed Contributions Rockefeller Foundation:**

Yearly cost of research ~~56,450~~ 50,000	~~1,129,000.00~~ 1,000,000.00	
Building research portion of Institute	172,336.00	
Unforeseen additions to building cost 15%	25,800.00	
Scientific equipment	34,516.00	1,232,652.00 $1,361,652.00

Clinical unforeseen $25,800.00