A Brief History of Anatomy at the University of Manitoba

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With 21 Figures

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Manitoba Medical College

The early history of the Manitoba Medical College has been fully documented elsewhere and for this reason only the salient features, particularly those relating to anatomy, will be mentioned.

The training of physicians in Manitoba began in 1883 with the foundation of the Manitoba Medical College, 6 years after the University of Manitoba came into existence and 13 years after Manitoba became a Province of the Confederation of Canada. At that time Winnipeg was a boisterous and restless town in the vast expanse of the prairies with a population of less than 20,000 but expanding at a rapid rate. The Manitoba Medical College was established and incorporated by a group of 13 medical practitioners under the auspices of the medical profession in the province and from the very beginning admission standards were set by the University which also granted the degree following 4 years of training and examinations.

On the evening of November 15, 1883, Dr. James Kerr, the first Dean of the Medical College, delivered the inaugural lecture (see Kerr 1933). He admonished the students that “above all things, as you hope to master scientific medicine and practice it successfully afterwards, do not make short work of your anatomy and physiology. Without being thoroughly acquainted with the complex structures and functions of the healthy human economy, any effort to treat these diseases must result in bewilderment, failure and disappointment. Without these subjects, there is no royal road to proficiency; the study must consist in obtaining an accurate knowledge of the principles and facts which, however, in themselves constitute a large share of all the great truths of medical science.” These far sighted remarks of the 34 year old Dean emphasized even then the importance of anatomy for a rational approach to the sound practise of medicine. Remarkable it must have been because there were no buildings, equipment, and salaries for the professors. Indeed, the early faculty of the Manitoba Medical College were all practicing physicians who never received a salary and provided the necessary resources for the College from their own meagre incomes.
Surgeon-Anatomists: Early Professors

Dr. R. J. Blanchard

Following Dean Kerr’s opening address, a class of 15 students were given their first lecture by Dr. R. J. Blanchard, the first Professor of Anatomy, on November 21st, 1883 at 8:00 a.m. in a cottage on Isabel Street (Fig. 1). Dissections were also carried out in this building, made legally possible because the necessary provincial legislation for the use of anatomical material had been passed on July 7th, 1883. The first “Act Respecting the Study of Anatomy” was passed in 1899. (Since then many improvements have been made in the “Anatomy Act”: the most recent is dated July, 1974.)

![Fig. 1. In 1883, anatomy classes were held in this building.](image)

Doctor Blanchard (Fig. 2) was born in Truro, Nova Scotia, and started his medical studies at Dalhousie University in Halifax. He completed the course at the University of Edinburgh where he had studied anatomy under Sir William Turner. One of his colleagues remarked that he was a keen and diligent student who distinguished himself especially in anatomy and physiology. As a final year student in 1877, Doctor Blanchard served as a surgical dresser with Joseph Lister.

Doctor Blanchard returned to Canada in December 1878 and joined the Medical Services of the Canadian Pacific Railway. He was first stationed in Kenora and came to Winnipeg in 1881. After 4 years as Professor of Anatomy, Doctor Blanchard was appointed Professor of Clinical Surgery and Surgeon to the General Hospital.

Doctor Blanchard was one of the most respected doctors in the West and in 1909 he was elected President of the Canadian Medical Association. During the first World War he took command of the Third Casualty Clearing Station in France which he served with great distinction. In recognition of his pioneering contributions to medicine in western Canada and to the University in particular, he was awarded the Honorary Degree of Doctor of Law from the University of Manitoba in 1921. Doctor Blanchard died in 1928 at the age of 74.
Fig. 2. Dr. R. J. Blanchard, first Professor of Anatomy.

Fig. 3. Dr. H. H. Chown.

Dr. H. H. Chown

Doctor Blanchard was succeeded in 1887 by Dr. H. H. Chown (Fig. 3) who was a demonstrator in Anatomy for the 2 previous years. A year later Doctor Chown became Professor of Surgery and in 1899 Dean of the Medical College. Doctor Chown was a graduate of Queen’s University who came to Winnipeg in 1881. He was an outstanding surgeon and an exacting administrator. Doctor Chown became President of the Canadian Medical Association in 1902, and in 1917 a member of the first Board of Governors of the University of Manitoba.

The Chown Building of the Medical Faculty, which is located at the corner of Bannatyne and Emily, has been named in his honour.

Dr. W. J. Neilson, Dr. J. O. Todd, and Dr. W. S. England

Between 1888 and 1904, W. J. Neilson, a graduate of McGill University, was Professor of Anatomy. He was assisted by H. A. Higginson, J. O. Todd, G. Bell and W. S. England.

In 1904, J. O. Todd, who graduated from the Manitoba Medical College in 1890, became Professor of Anatomy. He was also Professor of Surgery from 1897 to 1920, after which he was made Professor Emeritus of Surgery. Doctor Todd died in 1929.

Dr. W. S. England was Professor of Anatomy between 1905 and 1908. He was a graduate of McGill University and was considered to be a “daring surgeon and an
inspiring teacher who introduced cross-section anatomy into the course. It was because of Doctor England's efforts that the Medical College was able to move from its cramped quarters to the Bannatyne and Emily location. Construction work first started on this building in 1906 and with its extensions served as site of the Medical Faculty until 1973 (Fig. 4). Between 1884 and 1906, the work of the Medical College was carried out in a building at the corner of Kate Street and McDermot Avenue (Fig. 5), not far from the Winnipeg General Hospital.

Dr. J. Bullar

From 1908 to 1910, responsibility for the teaching of anatomy was entrusted to Dr. James Bullar, Associate Professor of Anatomy.
First Full-Time Professor: Dr. E. J. R. Evatt

In 1910 Dr. E. J. R. Evatt (Fig. 6) was appointed Professor of Anatomy, the first full-time professor in the Medical College. He was also the first trained and professional anatomist.

Doctor Evatt started his medical training at the Royal College of Surgeons in Dublin, Ireland and finished at the University of Durham in England. Following postgraduate work in embryology under F. Keibel in Freiburg, Germany, he became Lecturer in Anatomy at the University of Cardiff in Wales.

Doctor Evatt spent 4 years in Manitoba during which he stimulated interest in surface anatomy and established a collection of embryological specimens. In 1913 Doctor Evatt was appointed Professor of Anatomy at his alma mater, the Royal College of Surgeons in Ireland. Doctor Evatt died in 1951, 4 years after his retirement.

Dr. A. Gibson

Doctor Evatt was succeeded by Dr. Alexander Gibson, an outstanding graduate of the University of Edinburgh.

During the session 1918–1919, the Manitoba Medical College made a gift of all its property and equipment to the University of Manitoba "on condition that the University establish a Faculty of Medicine and carry on the work of medical edu-
cation in an efficient manner”. With this act the Faculty of Medicine of the University of Manitoba was born and the Manitoba Medical College ceased to exist as a separate institution.

Thus, Doctor Gibson was the first Professor of Anatomy in the newly established Faculty of Medicine. Although he resigned his position in 1919 to practice orthopaedic surgery, Doctor Gibson maintained an interest in the Department and lectured on applied anatomy from 1924 to 1936. He developed a posterolateral surgical procedure for the hip joint and was interested in congenital dislocation of the hip in Indian patients.

Doctor Gibson received many honours and recognitions. He was the senior member of the Canadian Medical Association and a Lecturer in Surgery for the Royal College of Physicians and Surgeons of Canada. Doctor Gibson died in 1956 and his memory is honoured by an annual memorial lecture which was established in 1961.

Dr. J. C. B. Grant

Doctor Gibson was succeeded in 1919 by Dr. J. C. B. Grant (Fig. 7) who graduated from the University of Edinburgh in 1909. Planning to become a surgeon he obtained the F. R. C. S. (Edinburgh) qualifications and then decided to pursue a career in anatomy. In 1911 he joined the Anatomy Department of the University of Durham where he remained until the beginning of the first World War. Doctor
Grant served as a medical officer with the British Expeditionary Forces during the war years and for outstanding bravery he was awarded the Military Cross. Doctor Grant was an inspiring and popular teacher who within a relatively short period established an outstanding Department of Anatomy in Manitoba.

Doctor Grant’s famous textbook "A Method of Anatomy. Descriptive and Deductive" was conceived and partly written in Manitoba. In the preface to the first edition, published in 1937, Doctor Grant remarked that "The book is meant to be a working instrument designed to make anatomy rational, interesting, and of direct application to the problems of medicine and surgery". Doctor Grant’s book is unique and one of the most popular gross anatomy textbooks because of its "reliance on logic, analysis and deduction as opposed to dry memory work". It is no wonder that in a span of 38 years this book has been printed 26 times during its 9 editions. His equally popular "Atlas of Anatomy", first published in 1943, was also conceived in Manitoba and many of the original specimens and drawings are still in the Department.

It was not unexpected that the largest university in the country should try to recruit Doctor Grant. In 1930, he accepted the invitation of the University of Toronto to head its Anatomy Department. The departure of Doctor Grant from Manitoba was recorded in the Manitoba Medical Bulletin as the "parting with a friend whose presence we would give much to retain" and "a sense of personal loss that can hardly be measured". It was remarked that Doctor Grant, coming to a department that was severely restricted by war conditions, raised it to a standard that was "second to none on the continent, and equalled by few". He was remembered for "his lucid exposition, the graphic presentations, and the insistence upon fundamental principles with which he has vitalized a science of seemingly interminable details".

After a most distinguished career at the University of Toronto, Doctor Grant entered his first retirement in 1956. As Professor Emeritus, he devoted his time to the anatomy museum in the department and to revising his textbooks in gross anatomy. For many years after his retirement he taught gross anatomy in the laboratory at the University of California in Los Angeles.

The name of J. C. B. Grant is known throughout the world as a result of his "Atlas of Anatomy" and his "Methods of Anatomy". Doctor Grant received many honours in recognition of his contributions to anatomy. He served as Vice President of the American Association of Anatomists (1950—1952) and was unanimously elected Honorary President of the Canadian Association of Anatomists when it was founded in 1956. The University of Manitoba conferred on him the honorary degree of Doctor of Sciences in 1956, and the conference room in the Department of Anatomy was named in honour of Doctor Grant. Doctor Grant died in August 1973.

The Department during 1919—1931

After Doctor Grant’s arrival in Winnipeg, the teaching of histology was transferred from the Department of Pathology to Anatomy and in the Department’s
report for that year. Doctor Grant made special mention of the generous assistance he received from Dr. William Boyd, Professor of Pathology, in conducting the histology class. The class had consisted of approximately 100 students and the course extended over 2 years. There was a shortage of cadavers for dissection because of which "more than half the students were dissecting fetuses — neither with zeal nor with relish". The Department conducted for each year of students 3 competitive examinations, one written and 2 oral. Outstanding students received prizes of books and certificates of merit. Many specimens, including embryos and special dissections, were prepared and exhibited in the museum. By the end of his first year in Winnipeg, Doctor Grant had already made 8 or more large wall diagrams, especially of the special senses, the nervous system, embryology, and of bones.

The size of the staff was small and consisted of the Professor of Anatomy, one or 2 full-time appointments and a large number of honorary demonstrators. The Department had 2 technicians who were responsible for the preparation of all teaching materials. Because of the size of the classes and the small staff, it is surprising at all that research was carried out. Professor Grant investigated the anthropometrical and other characteristics of the Cree, Chippewyan, and Salteaux Indians. Dr. D. Mainland, who came from the University of Edinburgh to the Department in 1927 as an Assistant Professor, studied the ovum. Dr. J. L. Jackson was working on the follicles of the thyroid gland. He held a Banting Research Fellowship.

An insight as to what the students were like is given in the report of the session 1923—1924. Doctor Grant wrote that he "would like to express the opinion that no where are there students who behave with more propriety or act with more consideration for their teachers than those working in this Department". It is also of interest to note that many of the senior students returned to the Department in order to review their anatomy and assisted in the preparation of specimens for the museum (Fig. 8).
In 1926 Dr. R. T. McGibbon, who had been Assistant Professor of Anatomy for the previous 5 years, was appointed the first Head of the Department of Anatomy at the University of Saskatchewan. Doctor McGibbon was a graduate of the University of Glasgow and taught anatomy for 3 years in Britain, at Queen Margaret's College in Glasgow and Queen Mary's Hospital in London, before coming to Winnipeg in 1921.

Dr. R. G. Inkster

As successor to Doctor Grant, Doctor Inkster (Fig. 9) was appointed in 1931. The son of an Edinburgh general practitioner, Doctor Inkster attended Edinburgh University where he received the Bachelor of Medicine and Bachelor of Surgery degrees in 1922, and the M. D. degree in 1927 for his studies on the form of the talus with special reference to the Australian Aborigines. This work was highly commended and he received the University Gold Medal.

Doctor Inkster served 2 years in the Royal Field Artillery and because of severe wounds and the loss of an eye he was discharged in 1918. Following graduation from medical school, Doctor Inkster interned at the Royal Gwent Hospital, Newport, and the Royal Infirmary in Edinburgh. In October 1923, he became a full-time demonstrator in the Anatomy Department at the University of Edinburgh and a year later accepted a similar position at the University of Leeds. Doctor Inkster
also spent several months working with Professor J. C. Brash on embryological problems at the University of Birmingham.

At the University of Manitoba, Doctor Inkster served for 2 years as Secretary of the University Library Committee and he was also a member of the committee involved in drafting the new University Act. Following establishment of the University Senate, Doctor Inkster was elected one of the 2 representatives from the Medical Faculty.

In 1936, Doctor Inkster took up an appointment as University Anatomist at Trinity College, Dublin, and was elected a Fellow of the Royal Academy of Medicine of Ireland in 1937.

Professor Brash invited Doctor Inkster to return as Senior Lecturer to Edinburgh in 1946 where he eventually became Reader in Anatomy. He took an active part in the training of ex-service men returning to medical studies and helped with the heavy teaching and administrative load. During this demanding period, he contributed a section on osteology to the 10th edition of Cunningham's Textbook of Anatomy which was edited by Professor G. J. Romnes (Oxford University Press, 1964). Doctor Inkster died in December 1979 at the age of 82.

The Department during 1931—1936

Doctor Inkster changed the sequence of dissection for first year students to a regional approach and one with more functional emphasis. His enthusiasm for the subject made him an interesting teacher. He was a keen embryologist and many of the specimens presently in our museum were prepared by him. The "steeple-chase" format of the practical examination for assessing first year students was introduced and greatly encouraged by Doctor Inkster in Manitoba. Even then clinical residents and postgraduate students worked in the evening in the dissecting room in order to review their anatomy. Like his predecessor, Professor J. C. B. Grant, Doctor Inkster became interested in the physical anthropology of the North American Indians.

Doctor Jackson investigated the histogenesis of the aorta. Dr. B. M. Unkauf carried out research on the blood and nerve supply of the stomach for the B. Sc. (Med.) degree. He received a Banting Research Grant which enabled him to continue his work on the stomach for which he was awarded the Prowse Prize and Medal for clinical research. Dr. G. I. Boyd published papers on the navicular bone, on fractured lunate bone, and on an abnormality of the subclavian artery in association with scalenus minimus, and on the anthropological aspects of the foramina of the skull. Doctor Inkster and Doctor Gibson published articles on the dislocation of the talus bone.

The teaching staff by 1935 had been on a part-time basis, with the exception of the Professor of Anatomy. Doctor Inkster wished that the teaching staff should be actively engaged in clinical work and requested from the Dean the help of at least one full-time assistant.
The Thompson's Era 1937—1965

Doctor Inkster was succeeded by Dr. I. Maclaren Thompson (Fig. 10) who enjoyed the longest period of service as Professor and Head of the Department (1937 to 1965). He greatly changed the teaching of anatomy by integrating the usually unrelated lectures in gross anatomy, histology, embryology and neuroanatomy into a single coordinated course in which the various aspects of anatomy were synchronized and correlated. He encouraged the teaching of radiological and living anatomy. In addition, Doctor Thompson conducted anatomical clinics where students were shown actual patients and their condition discussed from an anatomical viewpoint.

Doctor Thompson was born in Newfoundland in 1896. He studied medicine at the University of Edinburgh from 1914 until 1920. Between 1917 until 1918 he was a Surgeon Probationer, R.N.V.R., was wounded at the sinking of HMS Strongbow in 1917 and was mentioned in dispatches in 1918 for his services in the first attack on a British convoy in that war.

Doctor Thompson started his career in Anatomy at McGill University, Montreal in 1920. He went as an Assistant Professor to the University of California-Berkeley in 1924 and became there Professor (1932—1936) and Chairman of the Division of Anatomy (1930—1936). Doctor Thompson published many scholarly papers and addresses on a variety of subjects, including the nervous system, medical history and biography, the teaching of anatomy, medical biometry and the philosophy of science and medicine. His research gained his election as Fellow of the Royal Society of Canada (1947) and as Fellow of the Royal Society of Edinburgh (1952). Doctor Thompson was assistant author of Students' Guide to Operative Surgery, by A.T. Bazin, Montreal, 1923; and author of Elements of Surface Anatomy for Students of

Fig. 10. Dr. I. M. Thompson.

Doctor Thompson was a former President of the Canadian Association of Anatomists (1957—1958), The Manitoba Medico-Legal Society and the Manitoba Museum Association; former Chairman of the Board of the Canadian Federation of Biological Societies; former member of the Council of the American Association of Anatomists and the Council of the Anatomical Society of Great Britain and Ireland; Honorary President of the Manitoba Medical Students' Association (1942—1943); and Honorary Secretary of the Winnipeg Clinic Research Institute.

Graduates still recall Doctor Thompson with fondness and appreciation because of his influence as a teacher. The high regard of the anatomy staff for Doctor Thompson was symbolized by dedicating the Department’s Library as the Ian Maclaren Thompson Reference Library. On May 29, 1972, The University of Manitoba awarded Doctor Thompson an Honorary Doctor of Sciences degree in recognition of his outstanding contribution to anatomy and to the University of Manitoba. He was also the 1980 recipient of the J.C.B. Grant Award of the Canadian Association of Anatomists. This award is presented to an outstanding senior anatomist in recognition of special merit and achievement in research and teaching in the field of anatomical science.

Doctor Thompson died on December 26, 1981 after a long and eventful life.

During Doctor Thompson's headship several major appointments were made to the staff. Dr. L. A. Sigurdson, who had acted as Head of the Department for an interim period until Doctor Thompson arrived in Winnipeg, remained a part-time member of the Department until 1965. Doctor Sigurdson has been one of the most respected and valued teachers in the Department which he served with great dedication and affection. Following his retirement from the Department. Doctor Sigurdson was able to devote more time to his medical practice which he still continues today on a limited scale. Dr. D. J. Bowie, a graduate of the University of Toronto and formerly a Lecturer in Histology at McGill University, was appointed an Assistant Professor of Anatomy in 1937 with special responsibility for the teaching of microscopic anatomy. Because of enlistments during the war years, these 3 staff members carried the entire teaching load. Doctor Bowie died in 1968, 12 years after his retirement. He was a greatly admired and respected teacher whose contribution to the Department was recognized by the establishment of a research laboratory in his name for studies in radioautography.

In 1946, Dr. Alan Klass was appointed a part-time Lecturer in Anatomy. Dr. I. W. Monie, who was a Lecturer in Anatomy at the University of Glasgow, joined the Department as an Assistant Professor in 1947. He carried out research in embryology and taught this subject to the medical students. Doctor Monie remained in the Department until August 1952 when he left to accept an appointment at the University of California where he continued his interests in embryology and tera-
tology. In recognition of his work and the high esteem he is held in by his colleagues, Doctor Monie was elected one of the first presidents of the Teratology Society.

Radiological anatomy was taught by Dr. Digby Wheeler who was Professor of Radiology. Following his retirement in 1952, Dr. F. G. Stewart was appointed Lecturer in radiological anatomy, and because of a serious illness he resigned, and was succeeded by Dr. S. C. Windle. For many years now special sessions in radiological anatomy are presented to the students by Dr. D. W. MacEwan, Professor and Head of the Department of Radiology, and his colleagues. The Department is fortunate to have their enthusiastic support in the teaching of a specialized and more applied aspect of anatomy to our medical students.

The Department assumed a new direction, with increasing emphasis on research, particularly following the appointment of Dr. F. D. Bertalanffy in 1955 and Dr. K. L. Moore in 1956 as Assistant Professors of Anatomy. Doctor Bertalanffy started medical studies at the University of Vienna and graduated with a Ph.D. degree in Anatomy from McGill University. He had completed microscopical studies on the lung, working under the supervision of Dr. C. P. Lemond. Doctor Bertalanffy assumed responsibility for the histology course in the Department. Doctor Moore was placed in charge of embryology. He had graduated from the University of Western Ontario with a Ph.D. degree in Anatomy. His field of research was embryology, teratology and genetics. Both Doctor Bertalanffy and Doctor Moore had a strong research background, and shortly after their arrival in Winnipeg they began to establish active research programs in the Department. Not unlike their mentor, Doctor Thompson, they also showed a strong commitment to teaching at both the undergraduate and graduate levels.

Several research grants were received which helped to establish work in the following areas: (1) fluorescent microscopy in the cytodiagnosis of cancer; (2) mitotic rates in the female genital organs of the rat during the estrous cycle; (3) histochemical studies using fluorescence microscopy; (4) sex reversal and related problems of sex in man; (5) effects of administration of androgens to pregnant rats; (6) sex ratio during the early months of pregnancy; (7) reaction of periodontal tissues to new materials as dental inserts.

In the years following, a large number of scientific papers were published and presented at national and international meetings.

Dr. A. H. Sinclair-Hall, a graduate of the University of Manitoba, who worked as a surgeon specialist in the British Colonial Medical Service, joined the Department as Lecturer in 1958. He was the first faculty member recruited through the newly established Faculty of Dentistry. Professor Jean C. Hay was appointed in 1960 as a part-time Lecturer in Anatomy. She had been a graduate student of Doctor Moore. Dr. Katrina Nagy was appointed Assistant Professor of Anatomy in 1959. Doctor Nagy graduated from the University of Manitoba with degrees in science, pharmacy and medicine. Whilst still a medical student she had conducted research in the area of cell kinetics with respect to cancer, under the supervision of Doctor Bertalanffy.
Towards the end of Doctor Thompson's tenure as Head of the Department, the teaching commitments were already diverse and onerous. The staffing situation did not change greatly. In addition to medical, dental, dental hygiene and medical rehabilitation students, post graduate courses were conducted for dentists, anaesthetists and for residents in surgery. In addition, 2 graduate students were awarded the degree of M.Sc. in Anatomy and 2 were working towards the Ph.D. A graduate student with the degree of M.D. also worked towards the M.Sc. There were a fair number of medical students who did research towards the B.Sc. (Med.) degree and the Department had one post-doctoral fellow. Research was pursued at a commendable level and comparable to that of Anatomy Departments across the nation. The scope of research expanded to include studies on the effects of thalidomide on embryonic development; chromosomal studies of mentally defective individuals; rates of cell division of mammary gland tissue during pregnancy, lactation, and quiescence as well as during carcinogenesis; mitotic rates of cancer cell population; rates of cell division of normal epidermis, and of epidermis during carcinogenesis, histophysiology of respiratory tissue, and sexual dimorphism of mammalian somatic cells.

Dr. K. L. Moore

Dr. Keith L. Moore (Fig. 11) succeeded Doctor Thompson as Professor and Head of the Department in 1965. Doctor Moore was born in Brantford, Ontario and studied at the University of Western Ontario. For his doctoral thesis, he worked under
the supervision of Dr. M. Barr, studying nuclear morphology, according to sex, in human tissues. He held appointments as Demonstrator and Lecturer in Anatomy at the University of Western Ontario (1953—1956) before coming to Manitoba as an Assistant Professor in 1956. Three years later Doctor Moore was promoted to Associate Professor and in 1965 became Professor of Anatomy and Head of the Department. He was Consultant in Anatomy to the Children’s Hospital in Winnipeg from 1959 to 1976.

Doctor Moore is the author of several student textbooks in different areas of anatomy and edited a now classic monograph on the sex chromatin. His textbook in embryology, The Developing Human, is one of the most widely used textbooks among medical students and is now in its third edition. It has also been translated into 7 languages. For this book, Doctor Moore received the 1974 American Medical Writers’ Award for excellence in medical publications. His most recent work, Clinically Oriented Anatomy, is equally popular. In addition, Doctor Moore is the author of more than 70 research papers in the areas of medical genetics, embryology and teratology.

Doctor Moore has been a national figure in the field of anatomy. He has played an important role in the establishment of the Canadian Association of Anatomists which he served as Secretary (1962—1965) and later as President (1968—1970). He was also Chairman of the Board of the Canadian Federation of Biological Societies (1969—1970) and Chairman of the Local Committee when it held its annual meeting in Winnipeg in 1975. He was a member of the University of Manitoba Senate for 10 years, being Chairman of the Rules and Procedures Committee and a member of the Executive Committee. He was also Chairman of the Medical Library Committee (1963—1968) and Chairman of the University Animal Care Committee between 1967 and 1971. He was also Honorary Secretary to the Scientific Club of Winnipeg for 3 years.

Following Doctor Moore’s appointment, the Department experienced a period of impressive growth. More staff was recruited, a broad research basis was established, research facilities were improved and graduate training became a priority item for the Department. Doctor Moore was responsible for the establishment of the Anatomical Research Fund that provides some financial support for research and graduate training in the Department. Planning for teaching and research laboratories, staff offices and laboratories and other ancillary services in the Department in the new Basic Medical Sciences Building (Fig. 12), which we have been occupying since 1973, were all carried out under the direction of Doctor Moore.

Doctor Moore is an outstanding anatomist, a superb teacher and a born leader. Despite many administrative commitments and his own scholarly work, he found time to guide, stimulate and encourage each member in the Department. At the height of his distinguished career, Doctor Moore accepted the offer to become Chairman of the Department of Anatomy at the University of Toronto. He left behind a well-equipped department and a dependable and energetic staff. For now the Department recognizes Doctor Moore’s distinguished career as a scholar and

his efforts in building up one of the finest Anatomy Departments in Canada with the establishment of the "Keith L. Moore Award in Anatomy" which is given to outstanding doctoral students in recognition of special merit and achievement during their studies and research for the Ph.D. degree.

**Period of Growth**

Dr. L. A. Sigurdson retired at the same time as Doctor Thompson after 33 years as a half-time member of the Faculty. Besides his dedicated contribution as a teacher, he had considerable influence as a practicing physician on the teaching policies of the Department. At a reception ceremony held in honour of Doctor Sigurdson and Doctor Thompson at the time of their retirement, Doctor Sigurdson was presented with an appreciation scroll from the President of the University of Manitoba. Dr. G. H. Daglish, a graduate of the University of Liverpool in England, was appointed Associate Professor in 1966. He was in charge of the gross anatomy teaching and carried out research on the comparative anatomy of the conducting system of the heart. Dr. J. E. Hyde also joined the Department at the same time as an Associate Professor and was in charge of the neuroanatomy courses. Dr. F. D. Bertalanffy was promoted to Professor of Anatomy in 1965 and he continued the supervision of histology teaching in the Department assisted by Dr. K. P. Nagy, Dr. A. J. Winestock, and Prof. J. C. Hay. Dr. R. E. Graham was appointed a Lecturer in 1966. She was in charge of courses in anatomy to students in Medical Rehabilitation, supervised the teaching of gross anatomy to dental students and assisted with gross anatomy for the medical students. Part-time appointments to the Department included Dr. E. C. Shaw (Gross Anatomy), Dr. S. B. Hrushovetz (Cell Biology), Dr. D. MacEwan (Radiographic Anatomy), Dr. M. K. Kiernan (Radiographic Anatomy) and Dr. I. Uchida (Genetics).
The Department was instrumental in arranging a series of 15 lectures to first year medical students in genetics. The course was part of a coordinated interdepartmental course in genetics given by Dr. J. Uchida and Dr. B. Chown.

In 1969 there were several new appointments: Dr. E. J. H. Nathaniel as Associate Professor; Dr. L. B. Fisher, Lecturer; Dr. I. J. Lu Qui, Lecturer; and Dr. M. Ray, Lecturer. Dr. G. H. Daglish, Dr. S. B. Hrushovetz, and Dr. A. S. Dhawan resigned from their positions in order to devote more time to their clinical work. During the 1969—1970 academic year, Dr. D. R. Nathaniel was appointed an Assistant Professor, and Dr. G. Hunzinger and Dr. C. R. Bæckevelt as Lecturers. Dr. K. P. Nagy was promoted to Associate Professor and Dr. R. L. Cooke and Dr. P. H. Decker, who taught applied anatomy, were promoted from Lecturer to Assistant Professor. In 1970, Dr. K. Hoshino, who was at the University of Western Ontario, took up his appointment in the Department as Professor of Anatomy and Director of the Cell Biology Research Laboratory. Doctor Hoshino was a vigorous researcher and through a development grant from the Medical Research Council major equipment were purchased which greatly improved the research resources of the Department. Other new appointments about this time included Dr. J. A. Thiliveris and Dr. J. Clancy Jr. as Assistant Professor in 1971. Dr. R. G. Lafleche was promoted to Associate Professor and Dr. I. Lu Qui resigned from the staff of the Department. Dr. R. E. Grahame was promoted to Associate Professor and Dr. G. Hunzinger to Assistant Professor. New appointments included Dr. T. V. N. Persaud as Associate Professor and Dr. J. C. Huang as Assistant Professor.

By the mid-seventies, the teaching commitments of the Department remained diversified as in previous years. Undergraduate instruction was provided to medical, dental, dental hygiene, medical rehabilitation, and biomedical engineering students. In addition, a course in Anatomy and Physiology was given to Health Sciences Centre nursing and respiratory technology students. Courses in surgical anatomy were also given to residents and interns in general surgery and orthopaedic surgery. A new graduate course in electron microscopy was given to students from various departments of the University.

Doctor Moore's efforts in establishing sound research programs in the Department were now evident. The academic staff consisted of 12 full-time members, many of whom were active researchers. Research techniques such as radioautography, cytogenetic methods, electron microscopy, fluorescence, microscopy, scanning microscope photometry, tissue culture and tissue transplantation were available in the Department and a wide variety of research projects were being pursued. These included cell kinetics, carcinogenesis, electron microscopic studies of the developing vertebrate eye, mechanism of recovery from systemic graft-versus-host disease, inhibition of lymphoid cell migration, destruction of tumour cells with complexes of anti-tumour, prostaglandins in the role of reproductive physiology, electron microscopy of the human parathyroid and thyroid glands. New areas of research in the Department included electromyography and scanning photometry. Largely because of the staff and the high level of research pursued, the graduate program was given
a new impetus. Both programs in the Department, Human Anatomy and Human Genetics, proved attractive to prospective graduate students. The program in human genetics is still administered by the Department of Anatomy but the teaching is carried out by the Division of Genetics of the Department of Pediatrics. Graduate students may pursue their research in the fields of cytogenetics, somatic cell genetics, biochemical genetics, immunogenetics or clinical genetics.

Research began to flourish in the Department supported largely by grants from the Medical Research Council of Canada and the National Cancer Institute of Canada. Members of the Department, in particular, Doctor Bertalanffy and Doctor Moore, presented papers and chaired scientific sessions at national and international meetings. During the 1966—1967 academic year, 6 M.Sc. students and one Ph.D. student were registered in the Department and seven medical students worked towards the B.Sc. (Med.) degree in Anatomy.

Dr. T. V. N. Persaud

Dr. Ruth E. Graham served as Acting Head of the Department for a period of one year until the appointment of Dr. T. V. N. Persaud (Fig. 13) on July 1, 1977.

Dr. Persaud joined the Department of Anatomy in 1972 as an Associate Professor. He graduated from the University of Rostock, German Democratic Republic, obtaining the M.D. degree (summa cum laude) in 1965. After completing his intern-

Fig. 13. Dr. T. V. N. Persaud.
ship in Potsdam, GDR. Doctor Persaud returned to Guyana, his native country, where he worked for a year as a Government Medical Officer. In 1967 he was appointed Lecturer in Anatomy at the University of the West Indies. For research in experimental teratology, Doctor Persaud was awarded the Ph.D. degree in Anatomy from the University of the West Indies in 1970 and in that year was promoted to Senior Lecturer. For several years, Doctor Persaud was a Lecturer in Forensic Medicine at the Police Training School in Kingston, Jamaica, and Editor of the regional West Indian Medical Journal. At the University of Manitoba, Doctor Persaud continued his research interests in teratology, fetal physiology and the role of prostaglandins in reproduction. In 1974, Rostock University awarded him the D.Sc. degree in recognition of his research contributions in the field of experimental teratology. A year later, Doctor Persaud was promoted to Professor of Anatomy. He was also appointed Associate Professor of Obstetrics, Gynecology and Reproductive Sciences in 1979, as well as Consultant in Pathology (Scientific Staff) at the Health Sciences Centre.


**Present Developments**

**Philosophy and Goals**

The Department of Anatomy is a major teaching and research unit of the University. The ongoing goal of the Department is excellence in the teaching of all aspects of human anatomy to medical, dental and allied health sciences students and advanced courses in the morphological sciences to graduate students (Figs. 14—18); to create the proper milieu for effective learning in order that students may develop their full potential; and to encourage its staff to continue their scholarly pursuits and engage in research of the highest quality.

![First year medical students with Dr. R. Graham in the Gross Anatomy Laboratory](Fig. 14)
Fig. 15. Dr. F. Bertalanffy and Dr. K. Naqvi, Coordinators of the histology course for medical and dental students, respectively.

Fig. 16. Dr. J. Paterson and medical rehabilitation students in neuroanatomy practical course.
Fig. 17. Dr. L. Gibson instructing dental students.

Fig. 18. Dental students viewing self-teaching videocassette anatomical films in the Department.

Teaching Programs

The undergraduate and graduate courses offered by the Department provide an essential foundation for subsequent clinical work. Because these courses are continuously under review, the information imparted to students reflects current scientific knowledge and is effectively presented within the framework of the existing curriculum. As far as possible, the courses are integrated and presented with appropriate clinical emphasis.

At the graduate level the Department offers 2 programs, one in human anatomy and the other in human genetics. These programs are designed to provide training in teaching and research in the various aspects of anatomy with some degree of specialization. There are presently 8 graduate students in the program of human anatomy and 2 in the program of human genetics.
The Department offers 19 graduate courses and has excellent research facilities. In addition to basic structural orientation, graduate students have the opportunity to work with research techniques such as histology, radioautography, histochemistry, electron and scanning microscopy (Figs. 19, 20), fluorescence microscopy, tissue culture, electromyography and cytogenetics. The special areas of strength in the human anatomy program are in cell biology, neuroanatomy, neuroendocrinology, teratology, developmental studies and reproductive biology.

School of Medical Rehabilitation

The School of Medical Rehabilitation was established in 1960 and from that time the Department has been providing courses in anatomy for students of physiotherapy and occupational therapy. The students do not dissect but study prosected specimens under supervision, with special attention given to living anatomy. Initially, Miss M. Spence and Miss J. Stack-Haydon of the School assisted with the teaching. Miss Stack-Haydon became increasingly involved and assumed greater responsibility in supervising the work of the students which she did with great enthusiasm and dedication. In 1977 she retired from her position in the Department having reached mandatory retirement age.

The Department enjoys a close and warm relationship with members of the School of Medical Rehabilitation, many of whom hold appointments in the Anatomy Department. In recent years several members of the staff of the School have received their Ph.D. in Anatomy working under the supervision of the present anatomy staff: Dr. M. Peat, presently Director of the School of Physiotherapy at the University of Western Ontario, and the late Dr. J. A. Tata pursued their research under the supervision of Dr. R. G. Graham; and Dr. E. Eddy, presently Head of the Division of Physical Therapy and Dr. S. David completed the Ph.D. requirements under the supervision of Dr. E. J. H. Nathaniel.

Fig. 19. The Department's scanning electron microscope, and Dr. E. Brunt, Director of the SEM Unit.
The anatomy courses offered to students in the School of Medical Rehabilitation are now supervised by J. C. Hay, Associate Professor of Anatomy, and Dr. E. Eddy.

Postgraduate Programs

In recent years the Department has become greatly involved in various clinical training programs for residents in medicine and postgraduate courses offered by the Faculty of Dentistry. Residents in Anaesthesia, Obstetrics and Gynecology, Orthopedics, Otolaryngology, Physical Medicine and Rehabilitation, Radiology and Surgery (Plastic, General, and Neurosurgery) spend time in the Department reviewing anatomy. Lectures and demonstrations are given to residents in neurology, psychiatry, psychology, radiology, obstetrics and gynecology, preventive dental science, orthodontics and stomatology.

The early professors of anatomy were all practising surgeons and throughout the years the Department had relied heavily on the surgeons and residents from the Winnipeg General Hospital as demonstrators in the gross anatomy laboratory. At this University, the disciplines of surgery and anatomy have thus enjoyed a unique and close relationship from the very inception of the medical college. Dr. A. R. Downs, Professor and Head of the Department of Surgery, proposed a formal program for surgical residents in the Anatomy Department. As a result of this arrangement, surgical residents now spend 2 to 3 months in the Department reviewing their
anatomy by dissecting and demonstrating to first year medical students. During the past 5 years more than 30 surgical residents have spent time in the Department as anatomy demonstrators.

Faculty

The present faculty consists of 12 full-time and 2 part-time trained anatomists (Fig. 21). Their training and current research are briefly summarized.

Dr. F. D. BERTALANFFY (M.Sc. 1951, Ph.D. 1954, McGill University) is a senior professor in the Department and Director of the histology course for medical students. Doctor BERTALANFFY is internationally recognized for his work on cell kinematics and cancer diagnosis. More recently he has been involved in studies of muscle fibre typing in female athletes. He was for many years Chairman of the Graduate Studies Sub-Committee in Human Anatomy, and a member of the Faculty Executive Council, Faculty Committee on Computer Sciences and the B.Sc. (Med.) Committee. Special recognition came to Doctor BERTALANFFY in 1980 when he was invited by the Austrian Government to participate in a Symposium held in Vienna to mark the 25th anniversary of the Austrian State Treaty. He was the sole Canadian delegate.

Dr. C. R. BRAEKEVELT (B.S. 1964, M.Sc. 1966, Ph.D. 1969, University of Western Ontario) is Associate Professor of Anatomy and Chairman of the Graduate Studies Sub-Committee in Human Anatomy. His is also Director of the General Electron Microscope Facilities in the Department and a member of the Faculty Tenure Appeal Committee, as well as coordinator of the curriculum for first year medical students. Doctor BRAEKEVELT is carrying out electron microscopic studies of the retina in lower vertebrates and in man. His teaching commitment is primarily in the area of microscopic anatomy.

Dr. J. E. BRUNI, a neuroanatomist, is Director of our Scanning Electron Microscope Unit. His research is on the ependymal lining of the cerebral ventricles. Doctor
Bruni is a graduate of the University of Western Ontario (M.Sc. 1970, Ph.D. 1977) and an Assistant Professor in the Department. He teaches gross anatomy in addition to neurosciences. He is coordinator of the course in neuroanatomy that is given to the dental students.

Dr. M. H. L. Gibson, Associate Professor, a former graduate of this Department (M.Sc. 1969, Ph.D. 1972) is in charge of the teaching of gross anatomy to dental students. In addition, Doctor Gibson is a member of the Committee on Continuing Education and Admissions for the Faculty of Dentistry. Doctor Gibson has been working on the embryogenesis and morphology of the human salivary gland and in clinical gross anatomy.

Dr. R. E. Graham, Associate Professor, graduated in medicine from the University of Manitoba in 1949 and completed her internship at the Winnipeg General Hospital. She has been on the staff of the Department of Anatomy since 1961 and prior to this worked as a part-time physician for the City Health Department in Winnipeg. Doctor Graham subsequently obtained the M.Sc. degree in Anatomy in 1966. Her research was on cell kinetics in normal and neoplastic mammary tissue. From her initial appointment to the present time. Doctor Graham has been teaching gross anatomy and neuroanatomy in the various programs of the Department. Her current research is in the area of electromyography. With considerable tact and good judgement, Doctor Graham managed in a most efficient manner the affairs of the Department during the period of her Acting Headship.

Jean C. Hay (B.Sc. (Hons.) 1958, Gold Medallist; M.Sc. 1960), Associate Professor of Anatomy, teaches embryology and histology to medical, dental, and rehabilitation students. She also coordinates the anatomy courses for the Bachelor of Medical Rehabilitation program.

Dr. R. B. Johnson, Assistant Professor, is a graduate of the University of Tennessee (D.D.S. 1972) and the University of North Dakota (Ph.D. 1981). He has been studying the development of transalveolar fibers in the periodontal ligament. Doctor Johnson teaches oral histology and assists in other aspects of the histology course.

Dr. A. C. Karim, Assistant Professor, is a graduate of McGill University (M.Sc. 1974, Ph.D. 1977) and after 2 years of postdoctoral work in collaboration with Dr. C. P. Leblond, he joined this Department in 1979. Doctor Karim is coordinator of the course in human biology that is given to students in the School of Dental Hygiene, and together with Doctor Gibson, gives the gross anatomy course to dental students. Doctor Karim is investigating the synthesis and secretion of enamel in normal and diabetic animals using biochemical and ultrastructural techniques.

Dr. J. A. McCoshen, a part-time member of the Department, obtained his Ph.D. degree in medical sciences from McMaster University (1976). He teaches reproductive gross anatomy to medical students and carries out research in reproductive biology (factors controlling amniotic fluid volume in human pregnancy; role of FSH in Sertoli cell function as related to male infertility). Doctor McCoshen is an Assistant Professor in the Department of Obstetrics, Gynecology and Reproductive Sciences.
Dr. K. P. Nagy, Associate Professor, is a graduate of the University of Manitoba (B.Sc., B.Sc. (Med.), M.D. 1959). Doctor Nagy is coordinator of the first year course that is given to dental students and teaches microscopic anatomy in all programs.

Dr. D. R. Nathaniel, Associate Professor, is also a part-time member of the Department who obtained her medical degrees from the University of Madras (1949) and the M.Sc. in Anatomy (1961) from the University of Southern California. Doctor Nathaniel teaches gross anatomy to medical students and is investigating the effects of ethanol on the limbic system of the newborn, as well as triiodothyronine on dorsal root regeneration.

Dr. E. J. H. Nathaniel is a graduate of the University of Madras (M.B., B.S. 1952) and the University of California (M.S. 1958, Ph.D. 1962). He is Professor of Anatomy and is responsible for the teaching of gross anatomy to medical students. Doctor Nathaniel is also coordinator of the applied anatomy program for surgical residents. Doctor Nathaniel is well known for his work on the maturation and regeneration of dorsal roots. He is also investigating Purkinje cell development and pyridoxine deficiency, as well as the morphology of the ischemic heart.

Dr. J. A. Paterson, Assistant Professor, graduated from McGill University (B.Sc. (Hons.) 1965, M.Sc. 1973, Ph.D. 1976) working under the supervision of Dr. C. P. Lelièvre. After 2 years of postdoctoral work in the Department of Anatomy of Case Western Reserve University, School of Medicine in Cleveland, Doctor Paterson joined the Department in 1978. She coordinates the course in neuroanatomy that is given to students in the School of Medical Rehabilitation and teaches neuroanatomy and gross anatomy to medical students. Doctor Paterson is investigating the proliferation of and production of myelin basic protein by oligodendrocytes and the developing central nervous tissue. She is also interested in the structure and function of non-neuronal cells of nervous tissue after mechanical and chemical injury.

Dr. J. A. Thiliveris (B.A. 1964, University of Colorado, M.S. 1966, University of Utah, Ph.D. 1971, University of Oregon Medical School) joined the Department in 1971. He is Chairman of the Endocrinology and Metabolism Subject Committee and a member of the Examination Committee of the Medical Faculty. Doctor Thiliveris also coordinates the Department’s course in neurcanatomy to medical and graduate students. He has always been an instructor in gross anatomy to medical students. Doctor Thiliveris is pursuing ultrastructural and functional studies of the developing hypothalamo-hypophysial-gonadal axis in the human fetus. In addition, he is interested in the fetal rat endocrine system during prolonged gestation.

Dr. J. Vriend (B.A. 1969, Calvin College, M.Sc. 1972, University of Alberta, Ph.D. 1978, University of Texas) joined the Department in 1981 as an Assistant Professor. He is a neuroendocrinologist with an interest in pineal-thyroid interaction. Doctor Vriend teaches gross anatomy and neuroanatomy to medical students.

It seems only appropriate to make mention of a large number of colleagues who hold primary appointments in other Departments of the University but contribute to the teaching and research programs in the Department. These include Prof. B. R. Blankenberg, Prof. D. G. Connor, Dr. W. J. Dahlgren, Dr. E. L. Eddy, Prof.
A. J. Fernando, Dr. G. Froese, Dr. J. L. Hamerton, Dr. C. L. B. Lavelle, Dr. E. A. Lyons, Dr. D. W. MacEwan, Dr. P. J. McAlpine, Mr. A. Quanbury, and Dr. M. Ray.

**Recent Deaths and Resignations**

On May 22, 1981, Dr. John B. Hyde, Associate Professor, died. Doctor Hyde was a neuroanatomist who received his training at the University of South Dakota and the University of Minnesota. Neuroanatomy was his interest from the standpoint of both teaching and research. Following a lengthy illness, Dr. Gisela Hunzinger who had been a part-time member of the Department for many years died on May 15, 1978. Doctor Hunzinger was a medical graduate of Heidelberg University and taught gross anatomy to medical students. Also, Dr. Ralph A. Mann and Dr. Jal A. Tata, former Lecturers in the Department, suffered untimely deaths. Because of their integrity, outstanding ability and dedication, their passing has left a great void in the Department.

In 1981, Dr. G. R. Holland left the Department to pursue clinical training in endodontics at the University of Iowa. He graduated from Bristol University in England (B.Sc. 1968, B.D.S. 1972, Ph.D. 1975) and was an Associate Professor. Doctor Holland did impressive research on the ultrastructural basis of pain.

Other recent resignations included Dr. C. E. Thomas, Dr. D. M. Cox, Dr. A. J. Hunter, part-time Associate Professors in the Department.

**Support Staff and Services**

The tremendous supportive services provided by our secretaries (Mrs. B. L. A. Clune, Miss R. P. Hoad, and Miss C. R. Klassen), technicians (Mrs. D. M. Love, Mrs. L. J. Nahnybida, Mr. P. M. R. Perumal, Mrs. S. P. Pylypas, Mr. W. R. Pylypas, Mr. G. O. Sam and Mrs. M. R. Schurath), Medical photographer (Mr. R. M. Simpson) and mortician (Mr. S. A. Bradbury) (Fig. 21) is acknowledged with gratitude here. Mr. Bradbury is the most senior technician in the Department, having started in 1947.

The Department is also heavily indebted to all its former secretaries and technicians. Their special skills and enthusiastic support have contributed to the progress of anatomy in Manitoba. Of these, special mention must be made of Mr. Melville Stover, who had been employed by the University since 1928. From that time to his retirement in 1977, after 49 years of service as a technician, mortician, and later as an audiovisual technician in the Instructional Media Department, Health Sciences, he gave the longest record of service to the University and was honored at receptions hosted by the Dean of the Medical Faculty and the President of the University. Also, Miss Wilma Service, B. A., Technician/Secretary in the Department of Anatomy between 1925 and 1969, was highly commended for her long and meritorious service to the University of Manitoba, and the Department of Anatomy in particular.
Concluding Remarks

It is difficult to assess the full impact of the work of the Department in the areas of teaching and research at the present time and hopefully this can be done in a subsequent report. Nevertheless, it seems appropriate to mention some of the significant events which have occurred during the past few years.

Not unlike many universities elsewhere and reflecting changing trends in the economy, there has been a policy of financial constraint in the University with the consequence that the Department has suffered significant reduction in resources. This trend is likely to continue for sometime and it is our hope that our primary function, teaching and research, will not be jeopardized.

Teaching is still a major commitment of the Department with more than 500 students at different levels receiving instruction in the Department annually. Not surprisingly, this curtails heavily the time available to staff for research.

Members of the Department are cognizant of their responsibilities and fully recognize the importance for sound research and scholarship in order to enrich the graduate program and the quality of undergraduate instruction. There is an increasing devotion to research and members of the Department are investigating new frontiers in anatomy utilizing the most modern tools of experimental morphology and other related disciplines. The Department is extremely well equipped for research in most aspects of cell biology and the areas of strength are cell biology, neurosciences and developmental biology.

The Department has a vigorous seminar program which was enhanced by 28 visiting scientists from universities in North America and abroad during the past 4 years alone. The Department sponsored the visit of Dr. George E. Palade, Nobel Laureate in Physiology and Medicine, who came to the University of Manitoba as the 1979 Samuel Weiner Distinguished Visitor and gave several stimulating lectures to large audiences. Dr. Beatrix M. Kopriwa of McGill University, Montreal conducted workshops on the techniques of light microscopic and electron microscopic radioautography, and Dr. E. Laurence Thornton of Texas A & M University conducted one in scanning electron microscopy. In 1980 the Department took great pride that it hosted the 38th annual meeting of the Midwest Anatomists Association. It was successful from the standpoint of a large participation and the high quality of scientific papers that were presented.

One looks back with admiration and profound gratitude, at all those who have helped to make this Department a center of excellence in teaching, research and scholarly pursuits. The names of many have been omitted but they too will take pride in the fact that anatomy is flourishing in Manitoba. Because of their dedication, commitment and hard work, we have achieved a stage in our development when we can look forward to the future with optimism and confidence.
Acknowledgements


I have also consulted the archives of the Medical Library, the Annual Reports of the Anatomy Department, and the Minutes of the Department’s Council Meetings.

The photographs of historical interest are from the Department’s Collection and Manitoba Archives; the more recent ones were taken by Mr. Roy Simpson.

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