

Presidential Opening Address

Ulster Medical Society

14th October 1993

LEGACIES OF SIR WILLIAM WHITLA¹

How many of us think of Sir William Whitla when attending events in the Sir William Whitla Hall? How much do we know about him or his benefactions to Queen's, to the Ulster Medical Society and other organisations in Belfast? Whitla was one of the outstanding graduates of the Queen's University of Ireland; he had both national and international reputations and was an intellectual giant amongst our predecessors, being a pharmacist, physician, politician, Shakespearian scholar, medical author and benefactor. Unlike other distinguished graduates, his contribution to Northern Ireland has continued to develop through his generous legacies so that his name, although not the man, is probably more widely known now than at the time of his death. I thought that it might be of interest to examine some aspects of the influence of Sir William Whitla on the University and this Society since his death. I do not intend to cover the biographical details of his life extensively as these were admirably described by Dr Cecil Kidd in his Presidential Address to the Ulster Medical Society in 1962.

Sir William Whitla

William Whitla was born on 13 September 1851, at the family home in the Diamond, Monaghan where his father was a pawnbroker and woollen draper. William spent his childhood in Monaghan, a country town recovering from the effects of the famine. He attended the Model School and left at the age of 15 when he was apprenticed to his eldest brother, James, a pharmaceutical chemist with a shop on the Dublin Road, Monaghan—still a chemist's shop. Here he served his time and learned the rudiments of his profession. Two years later he moved to Belfast, where he continued his apprenticeship with the leading firm of dispensing chemists in the city—Messrs Wheeler and Whittaker of 37 High Street. About this time he decided to make medicine his career, and in 1870, while still employed

by Wheeler and Whittaker, he matriculated and embarked on his medical curriculum at Queen's College, Belfast. The transition from pharmacy to medicine was very common in those days and in Whitla's case, it clearly influenced his subsequent medical and literary career. In 1873 he obtained by examination the double licences of the Royal College of Physicians of Edinburgh and of the Royal College of Surgeons of Edinburgh and was appointed Resident Medical Officer at the Belfast General Hospital, Frederick Street for one year.

On completing his year in the General Hospital he apparently sought to extend his medical education and experience and it is probable that he went to England and attended in some capacity St Thomas' Hospital, London. Here he met Miss Ada Bourne, a friend of Florence Nightingale, and a member of the Salvation Army. She was a Ward Sister in St Thomas' Hospital and in 1876 she married William Whitla. They set up house at 41 Great Victoria Street, and Whitla commenced general practice. In the following year, 1877, he obtained his higher qualification—Doctor of Medicine in the Queen's University of Ireland, with gold medal and first class honours and commendation.

In the same year he was appointed assistant physician to the Belfast Charitable Society, which at that time held an important place among the few institutions which provided medical care in the city. This was not a very lucrative appointment, even for those days. He was required to provide all medicines to the house, as well as his medical services, for £40 per annum. He continued to hold this post until 1882 when, at the age of 31, he was appointed physician to the Belfast Royal Hospital in Frederick Street. He was to remain a full member of the visiting staff of this hospital, and later of the Royal Victoria Hospital, until 1918.

He developed a large and superior medical practice, numbering among his patients many important and influential families and soon became an active and dynamic member of the medical community of the city. In 1884 he moved from Great Victoria Street to a more appropriate dwelling at 8 College Square North, Belfast. This locality could be described as the Harley Street of Belfast at this period, and this large Victorian terrace house provided him with an appropriate if gloomy consulting suite, together with suitable rooms for the entertainment of his guests and

¹ *Ulster Medical Journal*, 1994, v63(1), p52.

the essential coach houses and stabling in the rear—greatly improved accommodation and address for a young ambitious physician. In this period it became clear to him—and here his pharmaceutical background must have had its influence—that there was no adequate textbook which met the joint needs of medical-students, dispensing chemists, and medical practitioners. In his spare time he tried his hand at medical authorship and his best selling classic “Elements of Pharmacy, Materia Medica and Therapeutics”, published in 1882, was the result.

Whitla was appointed in 1890 to the chair of Materia Medica in Queen’s College Belfast on the resignation of Professor Seaton Reid. It is said that he soon breathed new life into the teaching of this hitherto dry and dull subject. His book was naturally an asset to his teaching and his appointment did nothing to diminish its increasing circulation. In 1902 he was knighted in the Coronation Honours list. He was now 51 years old—active and energetic, and with a wide variety of extra-curricular interests. He bore himself with dignity and aplomb, and he was the inevitable selection of the profession for the presidency of the British Medical Association for the annual meeting held in Belfast in 1909. His hospitality on this occasion was notable and he presented each member attending with the two volumes of his recently published book—“Dictionary of Treatment”.

He was President of the Ulster Medical Society on two occasions—1886–87 and 1901–02. In December 1918 he was elected with a large majority as the first representative of The Queen’s University of Belfast in the Westminster Parliament. His re-election in November 1922 was unopposed and he retired from Parliament in 1923. In 1919, the year of his retirement from his Chair in the University, he was appointed Honorary Physician to the King in Ireland and subsequently Pro-Chancellor of the Queen’s University.

In the previous year—1918—he had retired from the Royal Victoria Hospital. This severed his active connection of 36 years with the hospital. As he was now 67 years old he retired from active practice, to live in Lennoxvale House. He died there at the age of 82 years on 11 December 1933 four years after a stroke. Two days later, on a miserable winter’s day he had a civic funeral with much pomp and circumstance. He was buried in the City Cemetery after a funeral service in University Road Methodist Church attended by representatives of government, university, the medical profession and many religious organisations. Lady Whitla had died 18 months before her husband.

Sir William Whitla had not only been one of the most outstanding members of the medical profession in Northern Ireland, but also a distinguished Professor of Queen’s with an international reputation as a medical author. However, it was the publication of his will in 1934, that confirmed that he would be one of the most generous benefactors Queen’s would have in its first 150 years.

Even before his death he was known as a generous person, having built the Medical Institute in College Square North for the Ulster Medical Society and also presented the Good Samaritan stained-glass window to the old Royal Hospital in Frederick Street in 1887. This beautiful window was removed to the outpatients’ waiting hall of the Royal Victoria Hospital in 1903 and later was transferred to its present site at the end of the Royal corridor.

As Sir William and Lady Whitla had no children, the residue of his estate of almost £90,000 was left to the university. This amount in 1934 is probably equivalent to seven or eight million pounds today. Whitla made his fortune in three ways—from his medical practice, from the publication of his books, and from astute investment in the stock market, especially in the new area of oil stocks at a time when his contemporaries were still buying stock in the Belfast and County Down Railway.

The Whitla Hall, Methodist College, Belfast

Sir William was appointed to the Board of Governors of the College in 1906, when there was much uncertainty about the future of the school which like many voluntary schools was in financial and administrative difficulties. It was at this time that the Royal Belfast Academical Institution had to sell the plot of land as a site for the Belfast Technical College which they now probably regret.

Sir William was regarded as the most influential of several new governors appointed in 1906 and played a major role in the development of the school, not only in the refurbishment of buildings and the introduction of technical education with properly equipped laboratories, but in the appointment of a scientist, E I Lewis as the headmaster. These innovations were to provide the foundation for the reputation that Methodist College now has as one of the country’s leading grammar schools.

Whitla remained a Governor of the school until his death. In his will he bequeathed to the College £10,000 free of duty to found a library or chapel or hall. The Governors decided to build an assembly hall which was opened by Lord Craigavon in December 1935.

The Sir William Whitla Hall, Queen's University of Belfast.

The greatest memorial to the generosity of Whitla was the provision of the assembly hall, which now bears his name, for the Queen's University. It stated in his will "all the rest residue and remainder of my property, I devise and bequeath to the Governing Body of the Queen's University Belfast to be devoted towards the fund for the erection of a Hostel for male students attending the University or for the erection of a ceremonial or common hall to be erected within the said building".

The university received about £35,000 for this building and, after much discussion the Senate decided to build a hall on a site in the south west corner of the grounds beside University Road. The site had to be cleared of wooden huts which accommodated the Departments of Geology, Commerce, Education and Law. The foundation stone was laid by the Chancellor, Lord Londonderry, in July 1939. The architect was John MacGeagh from Belfast and the main contractor F B McKee and Company. The tender price was £44,390. The outbreak of war brought many problems which were eventually overcome and the building was completed, except for internal fittings, in 1942 when it was requisitioned by the Ministry of Commerce to provide accommodation for American forces.

With the end of the war in 1945, the university set about completing the building to the original plans but there were major difficulties in obtaining materials for curtains, wood flooring, panelling and seating. Although incomplete, the building was used as an examination hall. It was finally completed "by dint of great effort and much ingenuity" and opened by Sir Henry Dale on 19 February 1949. Dale—a most distinguished pharmacologist—was chosen to perform the ceremony as a "person distinguished in Sir William Whitla's subject of Medicine". The opening was attended by several surviving relatives of Sir William and by many civic dignitaries. The event was unfortunately overshadowed by the death, a few days previously, of the Chancellor of the University, Lord Londonderry but the only part of the celebration to be cancelled was the evening ball. The Sir William Whitla Hall is a most impressive building and blends in with the older Lanyon buildings of the University. There is seating accommodation for 1,500 people on the ground and gallery levels. The platform will accommodate a further 100 seats, for choir, orchestra or other gatherings. The Mitchell Organ, which had been in the Great Hall in the Lanyon Building was transferred to the new building, modernised and extended by the further benefactions from the Mitchell

Family. It is a splendid instrument and is encased in an excellent chamber behind an oak screen at the rear of the platform. The plan form, section and constructional features of the interior are on traditional lines. Columns support the narrow side galleries and clerestory walls of the auditorium. The side galleries follow the English tradition for convocation seating and mark the processional way to the platform. The high level windows of the clerestory admit abundant natural light for examination work on the hall floor.

There are interesting external features including a bronze bust of the benefactor placed in a stone niche on the west wall, overlooking a stone paved terrace and the university road. The carvings to the heads of the triple windows to the forecourt include the University coat of arms, supported on a globe and flanked by figures of Aesculapius and the Scribe, depicting Whitla's services to humanity and learning. Carvings on the keystones to the heads of the tall windows of the east facade depict the trade and commerce of the province, whilst those of the west facade depict the faculties of the University. The bronze bust is by Gilbert Bayes RBS, of London, and the carved stonework is by the same sculptor working in conjunction with Morris Harding RHA, of Belfast. The low relief plaster panels on the walls of the entrance hall depict Music and Drama, and are also by Bayes.

The Sir William Whitla Hall has been the centre of the Belfast Festival at Queen's for the past 30 years, and has contributed to the enjoyment of the arts by many of the citizens of Northern Ireland. If the university had not received this generous bequest it is unlikely that Queen's would have been able to provide the funding for a hall of this size and quality, which today would cost at least three million pounds. Whitla's request that his endowment be used to provide a building was a shrewd decision which may not be fully appreciated unless by consideration of the effects of inflation on the value of scholarship endowments.

The Vice-Chancellor's Lodge

Since 1934, the Vice-Chancellors of Queen's have been provided with a most elegant and comfortable residence in Lennoxvale, off the Malone Road. It is said to be one of the most desirable of all Vice-Chancellor's residences in the British Isles. Vice-Chancellors originally lived in the main University building, but in 1913 moved to Elmwood House in Elmwood Avenue. When this ceased to be occupied by the Vice-Chancellors, it housed several university departments until demolished in the early 1960s to provide space for the new Students' Union.

In his will Whitla bequeathed Lennoxvale House to the governing body of the Queen's University of Belfast with the earnest wish that the house and grounds be used as a residence for the Vice-Chancellor. The first Vice-Chancellor to occupy the Lodge was Professor Ogilvie and it has been used by all his successors. The house was built by John Ward, an artist and Egyptologist, in 1876. He was the owner of the firm of Marcus Ward and Co, Dublin Road, Belfast, which had a world class reputation for high class colour printing and the artistic production of illuminated addresses, Christmas cards, calendars and books (including Vere Forster's copy books). It was built in Scrabo stone for the sum of £2,850. Ward lived in the house until 1906, when he sold it on the death of his wife, Grace and moved to Kent where he died in 1912. Sir William Whitla bought the house in 1906 and used it as his residence until his death in 1933.

The Lodge has been well maintained by the University and while there has been little change to the outside, there have been internal alterations over the years as the requirements of the occupants have changed with time. An interesting feature are the carvings of small animals carved in the headings of the ground floor windows. In the extensive and beautiful gardens is a summer house to which Whitla retired to write his books when his wife had her Salvationists in the main house. The grounds contain two lakes—now known as the Vice-Chancellor's lakes—which are about an acre in size. These lakes—in reality the Strand Mill dam—were constructed in 1808 by the Belfast Charitable Society who, at that time were the authority for supplying water to Belfast. The lakes formed part of a system consisting of a number of dams including Lyster's Dam, near the second locks on the Lagan at Deramore and an open conduit passing through what is now Botanic Gardens, Agincourt Avenue, University Street and Conduit Street to a reservoir situated close to the junction of Adelaide Street and Ormeau Avenue (beside the old Ormeau Baths). This water system was little used after 1848 and the Strand Mill dam was sold to the owners of the adjoining lands after 1884. The lakes are still present but little used.

Galileo

Sir William Whitla was a great traveller, visiting many countries including Russia, Palestine, Italy, France and Canada. On his travels he collected many different items and in particular pictures and pieces of sculpture, amongst them the statue of Galileo which he purchased on a trip to Italy, apparently as a present for his wife who was not with him. When the statue

arrived in Belfast, it was too large for the house and was initially placed in the garden before being presented to the Ulster Medical Society in 1915. It was also too large for the Medical Institute and was given a temporary home in the Belfast Public Library in Royal Avenue before being taken to the new Museum and Art Gallery on the Stranmillis Road.

After 65 years the Museum decided that they no longer wished to house the statue and asked the University to have it removed. The only suitable location was in the north end of the foyer of the Medical Biology Centre where it has been since 1980. The sculptor was Pio Fedi, one of the most distinguished Florentine sculptors of the nineteenth century, some of whose work is still displayed in the main square in Florence amongst statues known the world over. The celebrated astronomer is represented in the prison of the Inquisition sitting on a stool; a map of the world and rolls of paper lie on the ground. It may seem strange to house the statue of such a famous astronomer in a medical building but Galileo matriculated as a student of medicine in the University of Pisa in 1581.

The Chain of Office of the President of the Ulster Medical Society

Sir William Whitla was President of the British Medical Association when its annual meeting was held in Belfast in 1909. His colleagues marked the occasion by presenting a presidential badge and chain of office in gold and enamel to Sir William Whitla. In turn, he presented this to the Ulster Medical Society as the presidential chain which has since been used by all Presidents of the Society, with their names engraved on small medallions attached to the chain.

The Whitla Medal

On 5 January 1953, a British European Airways Viking crashed at Nutt's Corner after a flight from London. Twenty-seven people were killed including four Queen's students—Naomi Brudno, Clive Mishon and Jeffrey Wilks, students in the Faculty of Medicine and Leonard Rees, a research student in the Faculty of Science. Naomi Brudno was in my year at Queens having started in 1951. All four were members of the Literary and Scientific Society (Literific), which was founded by a group of young men for the purpose "of affording students of the Queen's College and others an opportunity of improving themselves, by writing papers on literary and scientific subjects, to be read and discussed before the Society". The Society rapidly rose from these small beginnings to a position of great importance in the social life of the College with

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regular meetings being held during the academic year in the Great Hall of the University. These arrangements continued until the 1960s when the society withered away.

A fund was launched by undergraduates to commemorate the four students killed in the air crash and £630 was raised. The organising committee allocated £250 to the "Literific" to endow a medal for the best debater and £355 to the Faculty of Medicine to endow an annual prize in a subject to be designated by the Dean of the Faculty. The subject was to be such that as large a number as possible of the students in the faculty could be eligible, and it was agreed—"that the fund given to the Faculty of Medicine by the Air crash Memorial Fund Committee be used to fund a medal, to be known as the Whitla Medal to be awarded annually to the most distinguished student in Therapeutics in Final Part 1 and to carry with it a prize of £4, with a prize of £3 to the student judged second". The first recipient of the Whitla Medal in June 1955 was David L Freedman. Many subsequently distinguished graduates of the Medical School have been awarded the medal. The Whitla Medal was not a legacy of Sir William Whitla, but the Faculty of Medicine used this opportunity to mark his contribution to the subject of therapeutics.

The Whitla Medical Institute

Sir William Whitla was president of the Ulster Medical Society for the second time in the session 1901-02. The annual dinner of the Society was held in the Prince of Wales Hotel, Victoria Street, Belfast, at which 84 were present on the 21 November 1901. In his after-dinner speech, Sir William apologised for reducing the number of after-dinner speeches to four and stated that this was not done in order to provide him with a longer period for his own speech. In the course of his speech he talked about the future of the Society and particularly emphasised the importance of drawing members of the Society more closely together into a compact brotherhood whose chief aim would be "the advancement of those great principles of which true progress, honour and dignity of our noble and self-denying profession depends". He believed there was widespread conviction that this would be accomplished by bringing the entire local profession under one roof and that this roof should be their very own. He understood that two schemes had been considered for providing accommodation for the Society but the only one that had hitherto been considered feasible by those members who had given thought to the subject "is to look around for a large empty house in some district where rents had fallen and to secure

on a long lease a derelict property upon which we could spend a large sum of money in such structural alterations as would be essential for our purpose." He condemned this plan and stated that the only scheme seriously worth considering "is to procure a plot of ground in a conveniently central position and erect upon it a building suitable to our pressing needs and requirements." He suggested that it should be called a Medical Institute. He then asked the members to look at the problems which would arise in running such an institute. He spent some time working out the cost of the upkeep of such a building and the ways in which the subscriptions of members of the society should be increased in order to cover the running expenses. He rapidly disposed of the ways in which capital would be found to provide the Institute. "Since I have been your President fifteen years ago, it has been a dream of my life that one day I should be able to leave behind me when that day comes, enough money to build for you a suitable institute. I feel that I am able to do this now and I don't want to be deprived of the joy that I shall have for the remainder of my days—be they short or long—in seeing you, the Ulster Medical Society housed in a home of your own." He continued "if you tell me gentlemen that you are determined to keep up the building, I will erect it, furnish it and hand it over to you or to trustees acting on your behalf. Before I ask some pledge of you to maintain this building, I shall give you some idea of what sort of a structure it should be and to what uses I should like to see it put." He then proceeded to describe the frontage of the building, the size of the hall, the number of rooms and their size and the uses to which they could be put. Clearly he had gone to a great deal of trouble to plan the building and the accommodation that it should contain. Finally, he disclosed that he had twice within the past six weeks thought he had secured a site on College Square North which would be suitable for the project but on each occasion he had not been successful.

This must have been one of the most memorable and unusual speeches ever made by a president of the Ulster Medical Society at its annual dinner. Within a short time, a plot of land at College Square North was rented from the Governors of the Royal Belfast Academical Institution for the yearly rent of £60 for the purpose of erecting the Medical Institute. The foundation stone was laid by Professor Redfern on 12 April 1902 and on 20 November 1902 it was declared open by the Earl of Dudley, the Lord Lieutenant of Ireland. It was described as a handsome, commodious building, built of rough hewn stone with doors and windows relieved by red sandstone in a gothic manner.

The ground floor contained a library and committee rooms. The fireplace in the library on the ground floor had been so designed that a space above the mantelpiece contained a large stained-glass window. The previous winter there had been a serious outbreak of typhus fever on the island of Aranmore off the west coast of Donegal. As the local fishermen would not help the doctor from Burtonport to attend the victims, Dr William Smyth rowed himself to the island in a leaking boat with food and medical supplies and then was joined by Dr Brendan McCarthy. Eventually together they conveyed patients to the mainland but Dr Smyth contracted the disease and died on 19 November 1901. The glass window was a memorial to this event and of Dr Smyth's death. On the staircase was a window from Sir William's own house representing a scene from "As you like it" in which Sir William himself appeared in the guise of Corin. On the first floor was a large hall which would seat 200 and dine 120, but alcoholic beverages were only to be supplied on the occasion of the annual dinner. This meeting room was fitted with double windows to deaden outside noises. The building cost £8,000 and was handed over to seven medical men to hold in trust for the Society. In his will, Sir William bequeathed a further sum of £500 to purchase the ground rent of the Institute.

The indenture establishing the Institute stated that it was to be called The Medical Institute and immediately after the death of Sir William Whitla, it shall be called "The Whitla Medical Institute and such name shall be cut in stone in a space at the front of the building to be left vacant for that purpose." The Medical Institute was for many years a focus of medical activity as it provided a place in which the Society could keep its possessions, pictures and library and where Fellows and Members could meet both socially and for scientific business. Until the 1940s College Square North was a fashionable area of Belfast. In the late 1940s use of the Institute declined except for the social gathering before and after scientific meetings and it was no longer the club it had been in the pre-war years. The abolition of petrol rationing and greater availability of motor cars increased traffic congestion and made it increasingly difficult to park near the Institute. A greater problem was deterioration in the fabric of the building when cracks appeared in the walls and dry rot was discovered. It was reported that the seating in the main assembly hall was dangerous and the Society was advised that the room was no longer safe for use. By March 1954, Council found it impossible to insure anyone against the risk of damage from falling plaster and decided to

close the premises temporarily until repairs were carried out. The Whitla Medical Institute was refurbished and opened for the 1957-58 session but before long it was realised that the income of the Society was not covering the cost of upkeep of the building, and ever decreasing use was being made of the premises. The Society was loath to sell the premises because the trust deed stated that the trustees were to commit the building to be used for the purposes of the Ulster Medical Society and in the event of the Society omitting or declining to observe these conditions, the trustees had the power to sell the property and hand over the proceeds in such share as they thought fit to the Royal Victoria Hospital for the endowment of a ward and to the Queen's University of Belfast for the endowment of a chair for original research in pharmacology. Clearly a very difficult situation for the Ulster Medical Society because if it did not continue to use the Whitla Medical Institute, then the proceeds would not be to its benefit.

On 2 June 1965 Council informed the trustees officially that they had defaulted and were vacating the building. Subsequently the Institute was sold to the Governors of the Royal Belfast Academical Institute, the ground landlords, for £13,500 and after attending to certain expenses, this left a disposable sum of £13,082 4s 6d. These proceeds could not be used to provide alternative accommodation for the Society but were to be divided between the Royal Victoria Hospital and the Queen's University. However, previously to this, on 17 April 1964, the solicitors for the trustees of the Whitla Medical Institute had written to the University appraising them of the situation and enquiring if the University would formally consent to the sale of the Whitla Medical Institute. The Secretary of the University subsequently wrote to the Dean of the Faculty of Medicine, Professor Biggart, to ask his advice. In his reply Biggart wrote:

"I do not see that the University can refuse to accept the bequest as it can easily use the money to endow further the Department of Pharmacology and Therapeutics and indeed one of the posts down for this quinquennium is a Lectureship in Experimental Pharmacology, and as the Wellcome Trust have given us £35,000 to build this laboratory it is obvious that the Faculty will be seeking to fill this post. No matter where one's sympathies would lie it would therefore be legally impossible for us to advise the Trustees that we could not meet the terms of the bequest. However, we should do our best to preserve the life of the Ulster Medical Society, and

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if in the process of building the New Wing for Pharmacology etc. on the pre-clinical site, one or two Committee rooms could be set aside for the Ulster Medical Society and lecture room facilities given to them I think this would be much appreciated by the medical profession in the area.”

Discussions continued between Professor Biggart and Mr Miller Bell who was the Honorary Secretary of the Society at that time. The solicitors for the trustees of the Institute were informed that the University would be prepared to apply such funds as the trustees handed over from the sale of the Institute for the purposes specified in the Declaration of Trust. They were also informed of the possibility of incorporating appropriate accommodation for the Ulster Medical Society in the proposed new buildings. The Senate of the University accepted the following proposals in 1965—that £500 be paid to the Royal Victoria Hospital for the naming of a bed in memory of Sir William Whitla and the balance remaining—amounting to just over £12,500—would be paid to Queen’s for the further endowment of the existing Chair of Therapeutics and Pharmacology and the provision of rooms for the use of the Ulster Medical Society.

Fortunately, at that time the university was planning to build an extension to the Medical Biology Centre to accommodate the university departments of anaesthetics, therapeutics and pharmacology and mental health and planned new departments of cancer studies and geriatric medicine. In 1965 the trustees of the Society accepted that the rooms for the use of the Society would be provided in the proposed new clinical extension to the Medical Biology Centre. The Ulster Medical Society indicated to the University the type of accommodation that would be required and the University agreed that it could use certain lecture rooms in the Medical Biology Centre for lectures and discussions by members of the Society or the general public in furtherance of the objects of the Society. As it was realised that it would be some years before this new accommodation would be available, the University agreed that other facilities would be available in the meantime to the Ulster Medical Society. The University also agreed to release the trustees from all further obligations under the original Declaration of Trust dated 30 October 1902 and to regard the same Trust as discharged and fully performed.

These proposals were accepted by the trustees of the Ulster Medical Society and by the Senate of the University. The construction of the new building, now

known as the Whitla Medical Building, began in 1974 and was completed in January 1976. It contained accommodation for the university departments of geriatric medicine, anaesthetics, oncology, mental health and therapeutics and pharmacology. In addition, it contained a meeting room, council room and additional storage and catering facilities for the use of the Ulster Medical Society. However, because of some difficulty over the Trust that was signed between the University and the Ulster Medical Society in 1966, it was not until 1982, that the final deed between the two parties was signed and accepted by both parties.

During the planning phase (1972–76) of this new building it was referred to as the “clinical extension” to the Medical Biology Centre but this term was not acceptable to the heads of departments which were to be housed in the new building. The meeting of the Faculty of Medicine on 25 November 1975 considered a letter signed by Professor Shanks for the heads of the departments and by Dr D A D Montgomery (President of the Ulster Medical Society) suggesting that the building be called “The Whitla Clinical Research Centre”. After discussion there was agreement on the use of “Whitla” and alternatives to clinical research centre were suggested, for example, Whitla Medical Building. The Dean proposed to write to the University indicating these views. At the next meeting of Faculty on 27 January 1976, the Dean reported that the Standing Committee of Senate had suggested the name “Whitla Medical Wing” as an alternative to those proposed by Faculty but after discussion Faculty accepted the name “Whitla Medical Building”. The building was opened in May 1976 by Professor Owen Wade who had been instrumental in planning the accommodation not only for his own department but for the other departments in the building. This building has been a most successful addition to the accommodation provided for the clinical departments in the Faculty of Medicine and appears to have served the Ulster Medical Society well since they vacated the Whitla Medical Institute in College Square North.

Clearly there is a marked difference between the old Whitla Medical Institute in College Square North and the new Whitla Medical Building. The former was a stone building, the latter a modern steel-framed building with concrete cladding. Accommodation for the Ulster Medical Society is not of the same range that was available in the Institute, but, the Society has been provided with accommodation which meets its current needs and it has been possible to house some features of the old Institute in the new building. The stonework containing the title “Whitla Medical Institute” was removed and stored and has now been in-

stalled in the ground floor of the Whitla Medical Building. The four carved heads of Dr Henry MacCormac (Professor of Medicine), Professor Thomas Andrews, (Professor of Chemistry, 1849-1879), who Whitla selected as the two most distinguished professors when the medical school was in R.B.A.I., and Professor Peter Redfern (Professor of Anatomy and Physiology, 1860-1893) and Professor Alexander Gordon (Professor of Surgery, 1849-1886) considered by Whitla as the two most distinguished professors from the Queen's College era, that were a feature at the front of the Institute were re-erected within the new building. The stained-glass windows (including the Smyth window and the scene from "As you like it")¹ all found a home in the new building which also houses the bust of Whitla presented to him in 1904 by the members of the Society in recognition of his generosity in funding the Medical Institute, and the posthumous portrait by Frank McKelvey of Sir William Whitla presented to the Society in 1938 by Professor W W D Thomson. The bust had been ceremonially handed over by Sir Lauder Brunton, Professor of Therapeutics in St Bartholomew's Hospital and the discoverer of the use of amyl nitrate in the treatment of angina pectoris.

Professor Biggart lost no time in acknowledging the legacy that had been received by the University, as the Faculty of Medicine at its meeting on 25 April 1967 accepted his proposal that the 'Chair of Therapeutics and Pharmacology' should be known as the 'Whitla' Chair of Therapeutics and Pharmacology.' This was a most appropriate way to perpetuate the name of one of the most distinguished holders of the Chair of Therapeutics and Pharmacology in this University. Owen Wade, who had been appointed to the Chair of Therapeutics and Pharmacology in 1957, became the first 'Whitla Professor' in August 1967. Thus two of Whitla's main interests—the Ulster Medical Society and the Department of Therapeutics and Pharmacology—came together in a building which bears his name.

Whitla's legacy as a medical author

In 1882, at the age of thirty-two, Whitla published his first book "Elements of Pharmacy, Materia Medica and Therapeutics". The book consisted of 524 pages, and was written primarily for students of medicine as Whitla believed that it was impossible for a practitioner to write a scientifically constructed recipe unless he had some knowledge of pharmacy, but he also stated that for a pharmacist to compound a recipe, he

had to have knowledge of materia medica. There were five sections in the book based on his philosophy of the importance of different aspects of prescribing, pharmacy, materia medica, therapeutics, the administration of medicines, and pharmacopoeial reactions and tests. Whitla was ideally qualified to produce such a book as he had training in pharmacy, knowledge of materia medica and experience in therapeutics from the practice of medicine. The book was very well received and was a great success, 11 editions being published between 1882 to 1922; about 50,000 copies were sold. Further editions were published by a number of authors after his death but these were not as well received.

The success of the first book encouraged Whitla to provide a second one. He at first thought of producing a "Therapeutic Index or Index of Diseases" to be appended to his first book and that it would consist of 50-60 pages. However, he felt that a mere enumeration of the drugs suitable for the treatment of each condition would be of little value unless the list was accompanied by 'some expression of opinion regarding the relative value of each drug, and of the different methods by which it might be employed'. Instead of a supplement of 60 pages, he produced a volume of nearly 1,000 pages—a tremendous performance that must have required an immense amount of work by one man with a busy clinical practice. In the book various diseases and many symptoms, not diseases in themselves, were alphabetically arranged, each with full details as to treatment; it started with "abortion" and ended with "yellow fever". He generally described his own favourite treatment first and then those of other writers. It would appear that Whitla not only wrote the book but was responsible for its printing, publication and distribution.

The book was an immediate success. At the beginning of this century the regulations of the Merchant and Royal Navies decreed that all ships with a crew of greater than 100, had to carry a doctor. All ships with a crew of less than 100 had to carry a copy of Whitla's 'Dictionary of Treatment' to be consulted by the captain when a member of the crew became ill. When the size of these two navies at the beginning of this century is calculated, the potential market for Whitla's books can be appreciated. Dr David Duncan-Main, a missionary of the Church Missionary Society in China, was so impressed with the dictionary that he translated it into Chinese. The second and third editions were both published in Hangchow in China. In the fourth edition which appeared in 1894, Whitla received help from Mr A B Mitchell and Dr Cecil Shaw who provided sections on surgery and diseases of the

¹ [The latter was later stolen during renovations.]

ear, nose and throat. Whitla was responsible for the publication of seven editions, the last of which appeared in 1923. The “Dictionary of Treatment” had been a most successful book, apparently greatly appreciated in many countries. Further editions of the “Dictionary” were published after Whitla’s death but did not enjoy the same success; the last edition in 1957 was edited by Dr Sidney Allison and Dr Howard Crozier with 26 contributors from Belfast Medical School.

Whitla published a third book—“A Manual of the Practice and Theory of Medicine” in 1908. He regarded this as an introduction, even though it consisted of 1900 pages in two volumes, to his Dictionary of Treatment. In this book, each article contained a description of the aetiology, pathology, symptomology, diagnosis and a brief resume of the treatment of each medical condition. Unfortunately, this book did not become as popular as Whitla’s first two books, but to have two best sellers out of three was an outstanding achievement. While several organisations have benefited from the legacies resulting from these books, no-one has attempted to maintain the standards achieved by Whitla and the last edition of his Dictionary appeared in 1957. Nevertheless, there has been a determined effort to improve the drug treatment of disease by staff of the Belfast Medical school. Owen Wade, Whitla Professor of Therapeutics and Pharmacology, emphasised the importance of the adverse effects of drugs in his book “Adverse Reactions to Drugs” and the Northern Ireland Faculty of the Royal College of General Practitioners has provided a “Practice Formulary” which provides simple and appropriate treatment for the vast majority of patients presenting the more common conditions. Its 100 pages do not compare with the volumes produced by Whitla but it should have an important role in improving drug prescribing.

The development of Therapeutics and Pharmacology in Queen’s

Materia Medica was one of the foundation chairs when the Belfast Medical School was established in the Royal Belfast Academical Institution in 1835. The first holder of the chair was James Drummond Marshall. With the move to the new Queen’s College in 1849, Professor Marshall was retired with a gratuity of £250—his salary for five years—clearly, premature retirement schemes with compensation were introduced before the 1980s. Thomas O’Meara was appointed to the chair in 1849 but resigned shortly after his appointment, when Dr Horatio Agnew Stewart was appointed. Professor Stewart was more a surgeon

than an authority on drugs. He was succeeded in 1857 by Dr James Seaton Reid who was visiting physician to the Union Fever Hospital for almost half a century and held the chair for 33 years. His contribution to the university was to give a lecture course in materia medica—the description of remedies. At this time materia medica was not the most popular subject. Dr Charles Darwin said “that he looked back upon the hours spent in attending the materia medica lectures as the most inexpressibly dreary experience of his life”. The situation was not helped by the fact that Seaton Reid was apparently “a most terrible lecturer”. The students created such an uproar in his classes that he had to appeal for help and protection to the President of the College, Dr Henry, who stationed an additional porter in Professor Reid’s class to help preserve order, but apparently with little success.

After Professor Reid retired Whitla applied for and was appointed to the chair in 1890. His application which was printed and bound in leather, contained testimonials from an impressive list of experts. He was eminently qualified for the appointment with the wide acceptance of his textbook, ‘Elements of Pharmacy, Materia Medica and Therapeutics’. Whitla appreciated the enlightening effect of therapeutics to materia medica, and of greater significance the importance of the development of pharmacology in the latter part of the last century. Whitla’s role was to link these subjects together in his teaching, lectures and textbooks. He developed pharmacology in Queen’s through his teaching but realised that research was important.

Sir William devoted at least three important public lectures to these subjects. The first was his presidential address to the Ulster Medical Society in 1886 which was entitled ‘The present position and prospects of the domain of therapeutics, with a glance at its relations to the neighbouring sciences’; the second was his presidential address to the Section of Pharmacology and Therapeutics at the annual meeting of the British Medical Association in Dublin in August 1887; his address was entitled ‘Progress of Therapeutics’; the third occurred when the Medical Society of London appointed him their orator for 1913, the title of his oration being “The Trend of Thought in Recent Pharmacological Research”. In this lecture he gave a learned discourse on the importance of linking the structure of a chemical (drug) to its action using as examples substances that had been evaluated at that time.

William Whitla did not have the opportunity to carry out observations on the effects of drugs on man but clearly felt that this was important because he re-

ferred several times to the work of Lauder Brunton in the discovery of the use of amyl nitrite in the treatment of angina pectoris. In 1867 Lauder Brunton published a paper in the *Lancet* entitled 'Use of nitrite of amyl in angina pectoris', in which he described experimental work in animals and in man showing that amyl nitrite lessened the arterial tension. On the basis of such experiments he tried the drug in a patient whose severe angina pectoris had been relieved by bleeding—an effect attributed to the diminution in arterial tension. Brunton thought that as amyl nitrate had the same effect, it might be effective in the relief of angina. Subsequently, he gave the patient with angina pectoris five or ten drops of nitrite on a cloth and stated that 'the physiological action took place in from 30-60 seconds and simultaneously with the flushing of the face, pain completely disappeared and generally did not return till its wanted time next night'. Brunton later became the first external examiner in materia medica in Queen's and provided the first testimonial for Whitla on his application for the Chair. Unfortunately, it was to be many years before Whitla's expectations for the study of drugs in man would materialise in Belfast.

Whitla was succeeded by John Elder McIlwaine in 1921 when the title of the chair was changed to Materia Medica and Therapeutics. Dr McIlwaine was a consulting physician in the Royal Victoria Hospital. He had a degree in Engineering and was the first to engage in electrocardiography in Ireland but he had essentially a clinical approach to medical problems. He retired in 1928 and it was largely on his recommendation that the title of the chair was again changed to Pharmacology and Therapeutics. Dr E B C Mayrs was appointed to the re-named chair in the same year. Mayrs had been educated in the Methodist College Belfast and the Queen's University, graduating in medicine in 1914. His ambition was to become a surgeon but in 1916 he lost his left arm, had to leave the RAMC and eventually turned to pharmacology. He had some training in pharmacology in Edinburgh before returning to Queen's as a lecturer in pharmacology in 1923. By the appointment of Mayrs, the University recognised the growing importance of the discipline of pharmacology but unfortunately Mayrs made few contributions to the subject and did little to advance the ideas of his illustrious predecessor Sir William Whitla. Mayrs is more remembered as a collector of antiques not only in his University department but in his own house. He kept and handed on successors in the Department a set of beautiful early nineteenth century pharmacy jars amongst other items.

The first person in Queen's to become interested in the scientific study of the effects of drugs in man was Henry Barcroft who was appointed to the Dunville Chair of Physiology in 1935. He joined the staff in the same year as Douglas Harrison was appointed to the Chair of Biochemistry and both professors were "indoctrinated" into Queen's by the medical students on the same day. Harrison remained in Belfast giving great service to Queen's for over half a century. Barcroft had had a distinguished undergraduate career at Cambridge and after qualifying in medicine at St Mary's Hospital Medical School, became a lecturer at University College London for three years before his appointment to the Dunville Chair at the very early age of 30. The Barcrofts were a well-known family and Henry Barcroft's aunts lived in a large house known as "The Glen" on the Dublin Road out of Newry. He had been a regular visitor to this house before he was appointed to the chair.

Henry Barcroft, with great vigour and skill, initiated research into human physiology at Queen's and introduced the technique of venous occlusion plethysmography using the water-filled temperature control plethysmograph to measure blood flow to the arms and legs. The plethysmographs constructed by Barcroft are still used in the Department of Physiology. He and his colleagues studied the effects of a variety of substances including adrenaline, noradrenaline, histamine and acetylcholine on the peripheral circulation, but it was the effects of adrenaline which appeared to interest them most as it was difficult to explain the nature of the response to this drug.

The infusion into the brachial artery of a small amount of adrenaline produced a marked increase in forearm blood flow followed by a rapid decline to below the pre-drug level where it remained during the period of drug infusion. In contrast, when adrenaline was infused intravenously, there was the rapid initial increase in flow followed by a decline in flow but to a level higher than the pre-drug level. Barcroft and his colleagues could not understand why adrenaline first produced a transient increase in blood flow with both intra-arterial and intravenous administration, followed by a decline, but to different levels, depending on the route of administration.

Barcroft resigned from the chair in Queen's in 1948 on his appointment to the chair of physiology in St Thomas' Hospital Medical School in London. He has continued his association with Queen's through regular visits to the Department of Physiology and was last in Belfast attending the meeting of the Physiological Society in September 1990 when he met two of his successors to the Dunville Chair of Physiology, David

R G Shanks

Greenfield and Ian Roddie, both of whom have now retired. Barcroft will be 90 in 1994.

In 1948 Raymond Ahlquist, Professor of Pharmacology in the Medical College of Georgia in Augusta, Georgia, USA, published a paper entitled 'The classification of adrenotropic receptors' in which he suggested that adrenergic receptors could be divided into two groups, alpha and beta. Ten years later his classification of receptors was confirmed by the demonstration in animals that dichloroisoprenaline (DCI) selectively blocked only those responses attributed to stimulation of beta receptors. A D M Greenfield, who had received his medical training in St Mary's Hospital, London, succeeded Barcroft in 1948. He and his colleagues continued to investigate the factors controlling the peripheral circulation in man and they elucidated the nervous and humeral control of the peripheral circulation in man. During this time the Physiology Department developed an international reputation for their studies. Greenfield's colleagues—John Shepherd, Bob Whelan and W E (Darty) Glover left Belfast on their appointment to important posts elsewhere while Ian Roddie succeeded Greenfield to the Dunville Chair in 1964. They continued to study the action of adrenaline on the peripheral circulation but did not make any further significant advances until 1960 when a supply of dichloroisoprenaline was obtained from the United States by R G Shanks. As the drug had never been given to man, the first human subject had to be selected. David Greenfield—the head of the department—volunteered and became the first person to be given a beta blocking drug. In a series of experiments in healthy volunteers in which DCI was infused into the brachial artery, it was shown to block the increase in forearm blood flow produced by the intra-arterial infusion of isoprenaline thus demonstrating blockade of beta adrenergic receptors in the blood vessels in the human forearm. In a forearm treated with DCI the subsequent infusion of adrenaline into the brachial artery only reduced blood flow. The intravenous infusion of adrenaline produced a normal response in the control (untreated) forearm but in the DCI treated arm there was only a reduction in flow. Thus the transient increases in forearm flow produced by adrenaline given by both intra-arterial and intravenous routes and the sustained increase in flow after intravenous infusion were abolished by DCI indicating that these effects were due to stimulation of beta adrenergic receptors in forearm blood vessels.

Unknown to the Belfast team another physiologist was interested in the properties of dichloroisoprenaline. He was James Black—now Sir James Black—

—probably the most successful discoverer of new drugs in this country. Black graduated in medicine from St Andrews in 1946 and after war service was appointed to a lectureship in physiology in the Veterinary School in Glasgow where he became interested in the treatment of angina pectoris, after the death of a close relative. At that time the current view on the pathophysiology of angina was that exercise increased cardiac work and if coronary blood flow could not increase to supply an adequate amount of oxygen to the myocardium, ischaemia would develop in poorly perfused parts of heart muscle and anginal pain would occur. The only available therapy at that time (late 1950s) was glyceryl trinitrate taken sub-lingually, which had been introduced in 1867 by Lauder Brunton. It reduced arterial tension (blood pressure) one of the main determinants of cardiac work and as a result, myocardial oxygen demand would fall and a balance restored between the supply and demand of oxygen, and anginal pain would be relieved.

Studies in the 1950s had shown that glyceryl trinitrate increased coronary blood flow in animals with healthy coronary arteries, and thus it was assumed, erroneously as we now know, that it had the same effect in patients with ischaemic heart disease.

Black was interested in developing new drugs for the treatment of angina pectoris and put forward a hypothesis that was derived from Brunton's much earlier work. At that time the drug treatment of angina pectoris was directed towards coronary vasodilation to increase the supply of oxygen to the ischaemic myocardium and it was thought that glyceryl trinitrate worked in this way. Black speculated that the treatment of coronary artery disease would be advanced by reducing cardiac oxygen consumption rather than trying to increase coronary blood flow. As increased catecholamine secretion during stress leads to an increase in cardiac demand for oxygen without an increase in supply, Black hypothesised that it might be possible to develop a new approach for the treatment of coronary artery disease through blockade of the action of adrenaline in the heart. He began to look for anti-adrenaline drugs that would selectively block the beta adrenergic receptors which had been described by Ahlquist. He approached the Pharmaceuticals Division of Imperial Chemical Industries for help. After a visit to their new laboratories at Alderley Park in Cheshire he could not resist the attraction of the splendid new facilities to develop his new ideas and went to work there in 1957. He now had the resources to look for his "anti-adrenaline" drug. At this time Moran and Perkins (1958) had shown that dichloroisoprenaline (DCI) selectively

blocked beta adrenergic receptors but did envisage a therapeutic role for a drug of this type. Black began his studies at ICI investigating the properties of DCI, unknown to him that it was also being studied in Belfast. Black confirmed that DCI blocked the cardiac effects of adrenaline and isoprenaline and of stimulation of the sympathetic nerves to the heart in animals. DCI increased heart rate in animals and as a result it was realised would not be suitable to treat patients with angina. Incidentally the same effect had been noted in the first experiment on Greenfield, who developed a tachycardia, and as a result smaller doses were used in subsequent studies.

Black and his colleagues began to synthesise derivatives of DCI and the first one selected for study in man was pronethalol. It blocked beta adrenergic receptors in man and was shown to be effective in the treatment of angina. However in toxicity studies in animals, pronethalol was found to be carcinogenic and studies in man were stopped. Black and his colleagues continued to test derivatives of pronethalol for blockade of beta adrenergic receptors. One of the compounds tested in 1962 was IC145520 which was to become propranolol. This compound was shown to be at least ten times more potent than pronethalol in blocking beta receptors, to be devoid of a stimulant effect on the heart, and not to be carcinogenic in mice. Within a short time, propranolol was shown to reduce resting heart rate and exercise tachycardia after oral administration in healthy volunteers. It was realised that propranolol had the potential to be developed for the treatment of patients. These hopes were realised when studies in patients demonstrated that propranolol was effective in the treatment of angina pectoris.

The results of these studies were presented at a symposium in Buxton, Derbyshire, in 1965, which brought together many of the investigators who had been working with propranolol. The drug was launched for the treatment of angina at this meeting, which was the first symposium to be held on the subject of beta blocking drugs. It was a remarkable achievement to complete all the studies required to register a new drug in three years from the time it was first tested in animals—today it would take at least ten years. The programme for the first session of this symposium contained three contributions from medical graduates of Queen's. The first paper describing the pharmacology of propranolol was given by the present author. Ian Roddie and his colleagues had continued with the study of the peripheral vascular effects of beta blocking drugs and described the effects of propranolol on the peripheral circulation. In

Ballymena the late Dr R J Kernoghan had become interested in the use of these drugs in the treatment of patients with angina, and was a co-author of the first paper to be presented and later published describing the beneficial effects of propranolol in angina.

At last the Belfast Medical School was making contributions to the pharmacology, clinical pharmacology and the therapeutics of new drugs. These activities have continued to develop in several departments in the Faculty of Medicine in Queen's University and hospitals in Northern Ireland. During the past twenty-seven years the properties of many beta blocking drugs have been investigated by the staff of the University Department of Therapeutics and Pharmacology. These studies have been facilitated by the development of novel methods to investigate these properties, including selective blockade of beta one and beta two receptors, partial agonist activity, duration of action, frequency of dosing, and pharmacokinetics. Many people have contributed to these studies which have resulted in many publications in scientific journals and established an international reputation for the department.

Studies on the therapeutic value of beta blocking drugs have also been carried out in Belfast. The most important of these established for the first time in controlled therapeutic trials that propranolol was of value in controlling the signs and symptoms of thyrotoxicosis. Propranolol was shown to be of particular value as an adjunct to treatment with radio-active iodine and in neonatal thyrotoxicosis.

The generous legacies of Sir William Whitla have been of undoubted value to many organisations in Northern Ireland but his legacy of the importance of scholarship, teaching and research in Therapeutics and Pharmacology, which has developed in Queen's in the last 30 years, has been of interest and value to a much larger audience.