

MATHEMATICS IN U.C.D. 1854 TO 1974

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The school of mathematics in University College, Dublin, began in The Catholic University of which J.H. Newman, afterwards Cardinal was Rector. The first lecture in mathematics was given on Monday November 6th 1854 by the first professor of mathematics, Edward Butler.

To understand the educational scene, especially for catholics, about the middle of the last century it is necessary to go back beyond 1850. The only schools available to catholics before 1833 were the hedge schools. In these the teaching ranged over what we would call primary and secondary level so that they supplied students to second and third level institutions. In them "the pupil and his teacher met feloniously to learn".

After catholic emancipation in 1829 primary or national schools, open to all, began to operate in 1833. The primary school masters were government officials paid by the state and they soon displaced the hedge school teachers. As a result, there was no second level education outside the six royal schools, the three Erasmus Smith schools and some twenty one private Protestant foundations. The six royal schools were:

Armagh, Banagher, Cavan, Dungannon, Portora and Raphoe.

The Erasmus were:

Drogheda, Galway and Tipperary.

These schools were sufficient to prepare students for entry to Trinity College where the normal age of entry was then 16 years. However, the Government of Ireland decided to found in 1848 the Queen's University of Ireland with Colleges in Belfast, Cork and Galway. These Colleges, called the "Godless Colleges" by the catholic bishops had no secondary free schools and suffered from lack of students.

Newman's Catholic University was to suffer the same fate although Newman was aware of this and hoped his University would attract the sons of English catholic gentlemen. The removal of religious tests for entry to Oxford and Cambridge in the 1870's together with the foundation of University College, London, with no religious aspect, finished any hope of survival for the Catholic University, except its medical school. The medical school in Cecilia St. flourished because the College of Surgeons recognised its courses and enabled its graduates to get on the medical register. This liberal act of the Colleges of Physicians and Surgeons in 1854 was repaid in recent times when U.C.D. via N.U.I., recognised the courses of these Colleges for N.U.I. degrees.

An interesting fact concerning Jermy Bontham, an agnostic and supporter of the founding of University College, London, is that he made it a condition of his benefaction that he be present at every meeting. In the early days of U.C.L. he was present at every meeting, after his death, in a glass case dressed in top hat and morning suit.

I must acknowledge my debt to Fr. Fergal McGrath S.J., 35 Lower Leeson Street, for accurate information about the Catholic University. Fr. McGrath is archivist in 35 Lower Leeson St. where are preserved most of the Calendars of the Catholic University.

The appointment of Edward Butler as professor of mathematics was announced in the Catholic University Gazette, written by Newman, for October 19th 1854. Butler was chief inspector of the Board of National Education and had graduated from T.C.D., B.A. 1842, M.A. 1845. His tutor in T.C.D. is listed as Mr. Hamilton.

Butler is listed as giving lectures in advanced mathematics, Monday, Wednesday and Friday on books I to VI and XI of Euclid and elementary lectures on the same course on Tuesday, Thursday and Saturday. There is no evidence that he gave an inaugural or public lecture like all other professors. In the late 1850's, when Newman wished to return to England, there was a proposal to have a lay Vice-Rector and Butler was the chosen lay candidate. The proposal never came to anything, perhaps due to opposition from the bishops and Butler resigned when Newman left Ireland in 1858-9.

The chair of mathematics was filled in 1860 by William Goodenough Penny who was an ordained convert to catholicism in 1847 from being an Anglican Parson. He was first in mathematics in his year at Christ Church College, Oxford. Penny came to Ireland with Newman and was mathematical tutor in St. Mary's House, Number 6, Harcourt St. This was Newman's own house.

From 1859 on there was a professor of elementary mathematics, James W. Kavanagh, who was a Carlow man and an ex-inspector of the National Board, who resigned in 1858 as a protest against proselytism, which he alleged was practised in some shools.

Penny seems to have continued in the chair up to 1873 and Kavanagh continued on the staff to 1880.

Cardinal Cullen persuaded John Casey to accept the chair of mathematics in 1873. Casey, born in Mallow in 1821, was a monitor in a school in Kilkenny where he helped to look after a Trinity mathematician who seems to have been very ill with tuberculosis. Casey learned mathematics from the patient and after the patient's death sent some original work to T.C.D. resulting in his being given a teaching job in Kingstown school and an opportunity to do a degree in T.C.D. He graduated from T.C.D. in 1862.

At one of his exams in T.C.D. Casey found on the paper a cut he had discovered himself earlier and was surprised when he got no marks for the answer. He was told that he gave no adequate explanation of his proof.

Casey was one of the pillars of the Catholic University and University College, Dublin, to his death in 1891. He became famous as a line and circle geometer and was elected to the Royal Society and given an honorary LL.D. by T.C.D.

Casey became a great tutor and taught in many places when the Catholic University had no money to pay salaries.

During the dwindling years of the Catholic University, one man mainly showed the way forward. This was Fr. William Delaney, S.J., who as master of novices at Tullabeg entered students for the examinations of London University. The high standards of these and others showed the necessity for second level education in Ireland and the intermediate board was set up in 1877.

The Royal University was established in 1879 as an Examining Body only. Casey and many staff members of Queen's Colleges became fellows of the Royal at salaries of £400 p.a. each. The Catholic University was reformed into colleges in 1883 with University College as the largest. Blackrock, Dominican, Loreto and some others also prepared students for the examinations of the Royal.

Fr. Delaney was president of University College and was remarkable for three things which were

- 1) spending money which he had not got on libraries and other essentials. (His College had no endowment);
- 2) high standards;
- 3) concentrating resources in 86 St. Stephen's Green rather than a thin scatter over many colleges.

He continued as president down to 1909 and ended the unendowed U.C.D. in a blaze of glory. In the last year of the Royal, U.C.D. won more prizes and awards than Belfast, Galway and Cork put together.

Two great pillars of the early U.C.D. were Casey and Fr. Tom Finlay, S.J. Fr. Finlay was in turn professor of classics, philosophy and economics. Women were not admitted to the lectures of the fellows in U.C.D. to 1901 on grounds of lack of classroom space. Fr. Finlay had erected a tin shed in the garden of 85-86 which was to become known as Fr. Finlay's tin university. This shed, now removed, made room for the women to attend lectures.

John Casey died in 1891 and was succeeded in the chair of mathematics by Henry Charles McWeeney who remained in office to his death in 1935. McWeeney had graduated from the Royal University, B.A. 1887, M.A. 1890, Studentship 1891. He was a magnificent teacher and a geometer of great elegance. A favourite expression of his was "if you attack it judiciously it will come out in a line". McWeeney held the chair to his death in 1935. He played a large role in the administration of the College. In 1901, Fr. Delaney decided to have a lay academic council and Mac was elected at the top of the Roll. He was the vice-president to Dr. Coffey from 1909 to his death.

In the 1890's there were on the mathematical staff two young men who had won all the prizes in the Royal, Gibney and O'Toole, but both died young and Michael F. Egan, S.J. replaced Gibney in 1900. He was fellow of the Royal and lecturer until he succeeded McWeeney. He was an analyst of the French-Belgian school and retired in 1947 to be succeeded by P.G. Gormley who died in 1973 to be succeeded by Don McQuillan.

Now a little about the school as I knew it since 1927. Our first lecture was given by McWeeney who started to do questions off the entrance scholarship paper, indeed the more outlandish bits of the toughest questions. Fr. Egan gave the second lecture. He described it later as his most unintelligible lecture on irrational numbers. He was not a good elementary lecturer and did not need to try to be difficult. This was the honours class clearance act, of course, and things moderated for the hard necks who stuck it out.

In 1928, I had the option to go on in Engineering or Mathematics, so

I looked up the results of the honours degree from 1910 to that time. The number of First Class awards was five. They were J.M. Fay 1910, an engineer and director of the E.S.B; F.D. Murnaghan 1913, who will be known to you in algebra, he became professor in John's Hopkins in Baltimore; R.C. Geary, 1916, who is very much with us and very well known abroad as a statistician and economist; Jeremiah O'Riordan 1924 who became a consulting engineer and is still with us; Liam Honohan 1928 afterwards government actuary and secretary of social welfare, still with us. These five became eight in 1930 with Gormley, myself and James Murphy in that order getting class one.

We were taught mathematical physics in first year honours by William McFadden Orr. He was a Belfast Presbyterian who had won the Royal Studentship in 1887 and was later a senior wrangler in the Cambridge Tripos. He was a great gentleman but very stern in every sense. He would sit with the pocket watch out waiting for 9 o'clock to start the lecture on the dot. If you came in after 9 a.m. you got a 'late' on the roll. He had come to U.C.D. from being professor in the College of Science. He was heard to say that research in the College of Science consisted of solving a quadratic equation which had not been solved before. We learned little from him for most of the time was spent criticizing the bad treatment of Newton's laws. We did not know very well what the laws were but we knew that Ernest Mach was the man to be respected.

The other large man in very sense in the school in our time was Arthur William Conway F.R.S., the professor of mathematical physics and registrar and president from 1940 to 1947. He won the Royal Studentship in 1898 and went to Corpus Christi College Oxford. He was an

expert in special theory of relativity (at an early stage); the quantum jump idea and on quaternions. During our time as students he was editing the first volume of Hamilton's work with J.L. Synge and this produced some unusual and tasty questions on the exam papers.

To turn very briefly to the distinguished graduates of the school since the thirties there are many but could be more due to the rush to physics after the war. To name very few: Professor James McConnell, D.I.A.S., 1938, and Professor Loughlann O'Rafferty in the 50's, Professor Dennis Keefe in Berkeley and Oliver McBryan in New York.

The treatment of honours students in the school has always been tough and standards very high. The result has been that our graduates can more than hold their own when they go as post-graduates to other schools. I hope these high standards will continue in this expanding school.