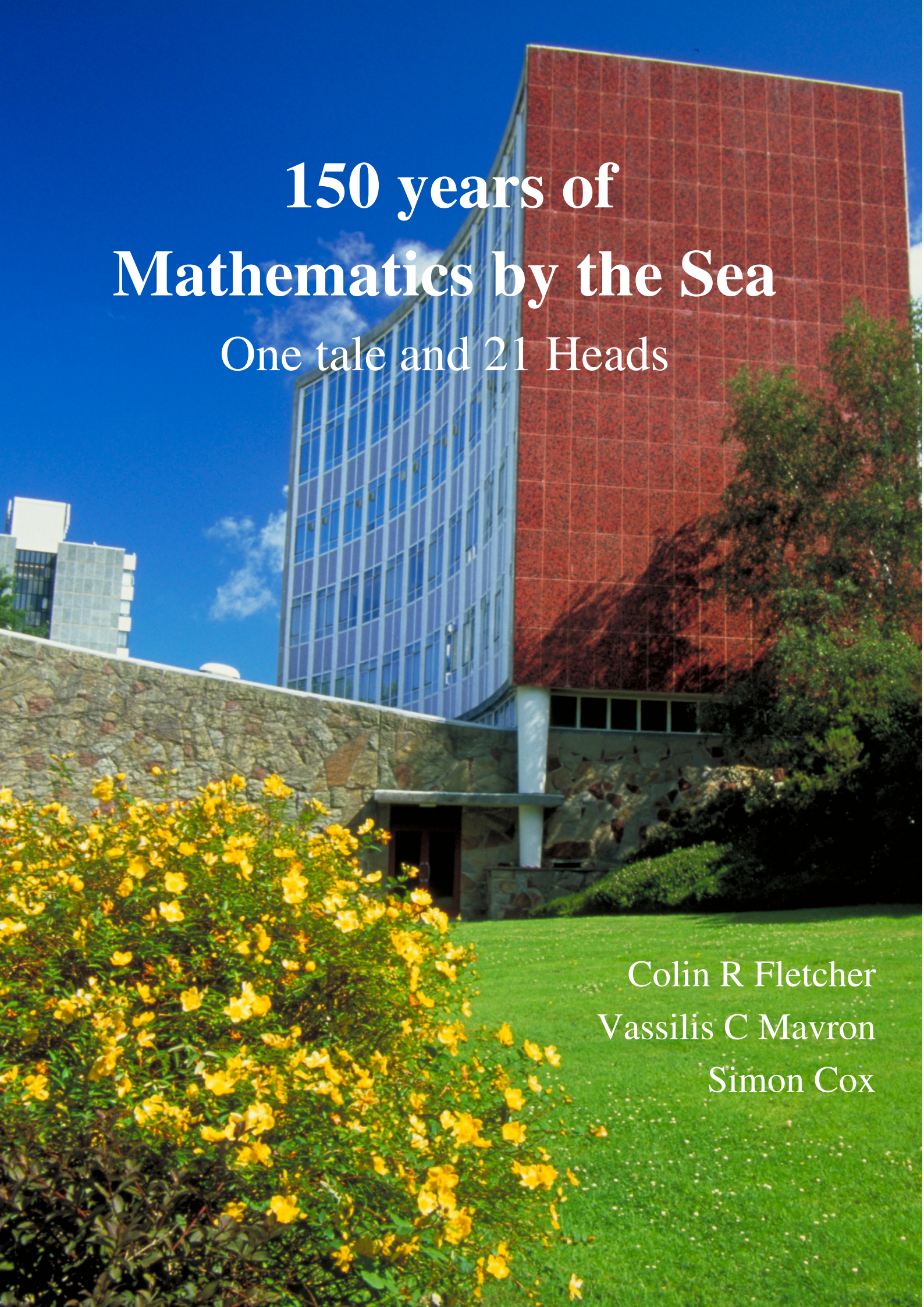

150 years of Mathematics by the Sea

One tale and 21 Heads

Colin R Fletcher
Vassilis C Mavron
Simon Cox

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May 2023

Foreword

By Professor Elizabeth Treasure, Vice-Chancellor, Aberystwyth University

What a pleasant couple of hours I've had reading the story of the first mathematics department (with variants) in Wales. For me, Mathematics must be one of the foundation subjects of a university but how interesting to note that two of the other foundations – Latin and Greek – are no longer with us. It is wise never to be complacent but rather to practice the discipline(s) for their own sake while acknowledging and being part of the delivery of mathematics in so many parts of the university. As we look towards to the next period we will see the introduction of more subjects including engineering. Mathematics will be key to that development too, for learning, teaching, research and impact. The department has had a variety of incarnations and should always challenge itself to ensure that it is functioning at its best for the current times.

An anniversary is time to pause, reflect and celebrate as well as to look to the future. This booklet covers the first 150 years which will be of great interest to alumni, staff and students. The question then needs to be: 'How do we need to position Mathematics at Aber for the next 150 years to ensure that it continues to deliver for Wales and beyond?'

Warmest congratulations to Mathematics for their first 150 years!

Elizabeth Treasure
Vice-Chancellor

Introduction

Mathematics has been taught at Aberystwyth University since it opened its doors in 1872. In celebrating this anniversary, we thought it of interest to highlight some of the changes that have occurred over this time. We have chosen to do so through short "vignettes" describing the successive heads of department – twenty-one of them – since Grimley was invested as Professor of Mathematics and Natural Philosophy.

The history of the department is complicated by the, perhaps inevitable, changes in University structure that have been implemented over the years. The Timeline attempts to delineate periods during which Pure Mathematics, Applied Mathematics and Statistics were fairly independent and periods, such as in Grimley's time and at the time of writing, when disciplines were combined.

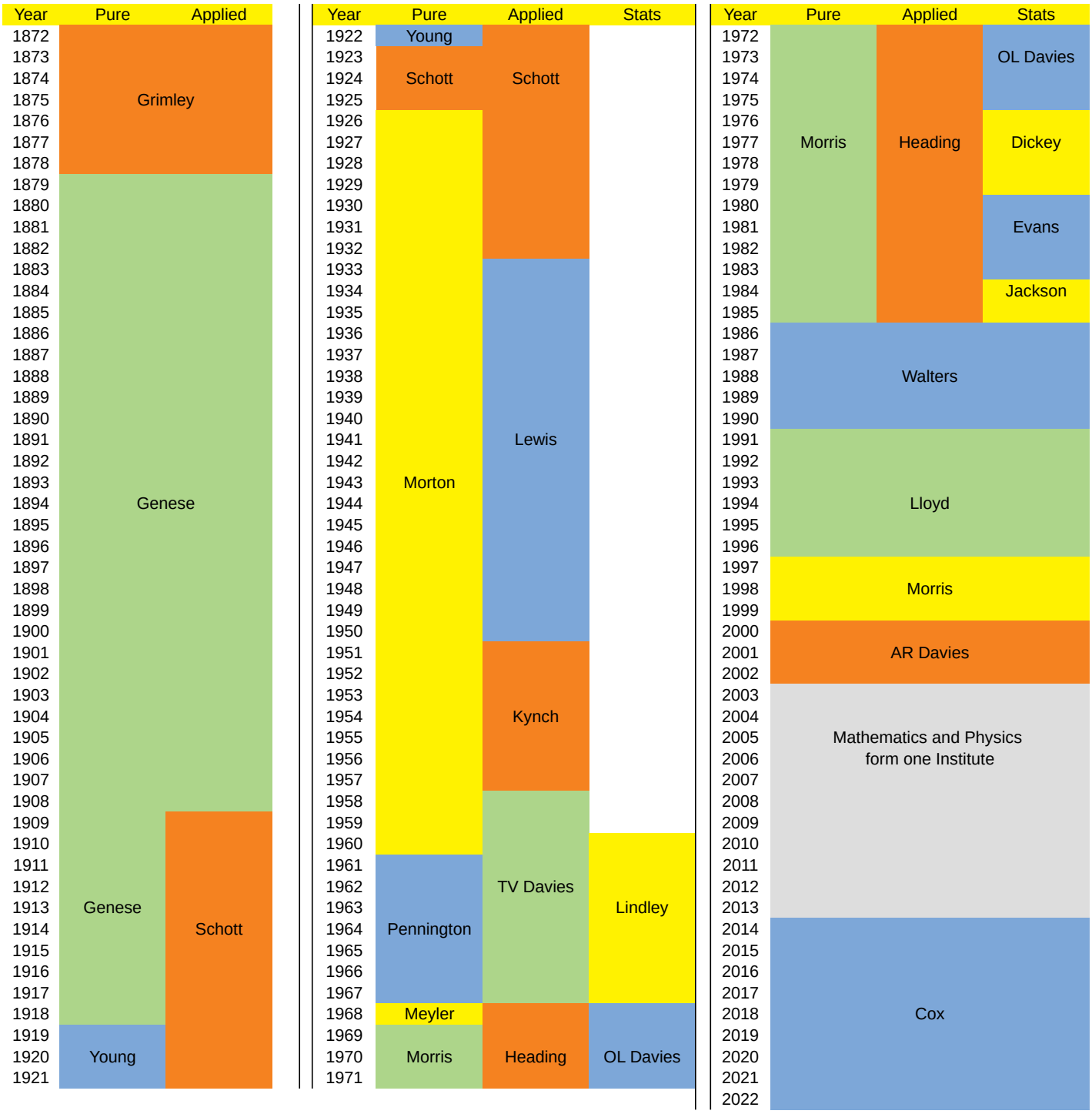
While this has been a joint effort, the bulk of the writing has fallen to Colin Fletcher. Readers interested to learn more about the first hundred years of the subject at Aberystwyth are encouraged to read his book "Mathematics by the Sea" [1].

Acknowledgements

We would like to thank Alun Morris and Russell Davies for the help they provided with their own (and other) vignettes. Also thanks go to Sylvia Lutkins, Julie Archer and John Lane who shone light on various episodes.

Contents

Timeline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Vignette 1. The College opens in 1872

A long campaign to found a University College in Wales was brought closer to fruition when the unfinished Castle Hotel building in Aberystwyth was put up for sale after the developer Thomas Savin had gone bankrupt. The Committee in charge of the campaign seized the opportunity and in 1867 bought the Gothic edifice nestling by the sea and the castle, for £10,000 (only a portion of which was paid up front). Years of indecision followed, until in 1871 there was a provincial revolt and at a special meeting in London in October it was decided that five regional committees should each be responsible for an annual quota for running the as yet unborn college. A month later it was agreed to open the College by 1st October 1872. Note that the choice of Aberystwyth to be the town hosting the first Welsh University College was not made on academic or aesthetic or geographical grounds.

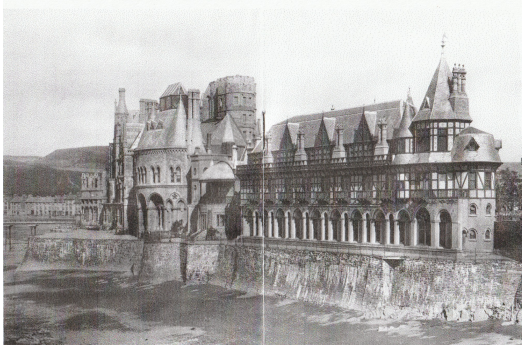

Fig. 1: *The original south wing of the college in the late 19th century [2].*

Fig. 2: *Staff in 1877 [3]. In the back row, the Principal, TCE, is on the left and H.N. Grimley is on the right. Ethé (q.v. Vignette 4) is on the Principal's right.*

There were three members of the newly appointed academic staff who met the handful of students on that October day. The Principal was the Rev. Thomas Charles Edwards, a Calvinistic minister whose work had taken him to Liverpool. The two professors joining the Principal were both Anglicans, the Rev. W. Hoskyns-Abrahall, professor of Latin, and the Rev. H.N. Grimley, professor of Mathematics and Natural Philosophy. The Principal doubled as the professor of Greek.

The Principal has a hall of residence named after him, usually shortened to TCE, and he has a statue on the seaward side of the old College building. He was 34 years of age when he took up the post of Principal, and he remained in the position until 1891. The professor of Latin lasted for one year only. The professor of Mathematics lasted a little longer.

Vignette 2. H.N. Grimley

The first mathematics professor at Aberystwyth was born in Birmingham in 1834. His initials concealed the glorious pairing of the names Horatio and Nelson. His mathematical education took place at University College London and then Peterhouse Cambridge where he was 12th Wrangler in 1865. Also in that year he became a founding member of the London Mathematical Society.

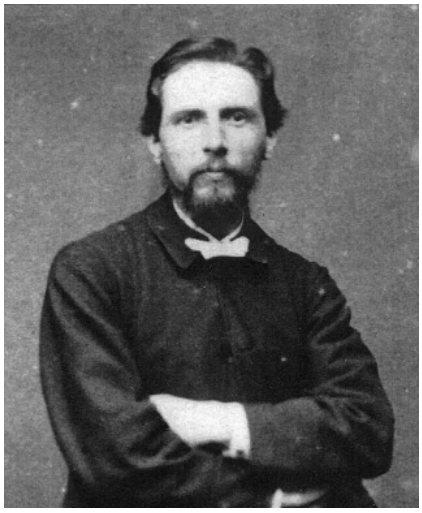

Fig. 3: *Horatio Nelson Grimley, Professor of Mathematics 1872–1879 [1].*

Grimley enjoyed his early months at Aber. He did not have an excessive work load. He liked the work and he liked the place. The scenery captivated him. And at the end of the first session he was awarded an increase in salary. But it did not last. The Principal became suspicious of his teaching ability, and John Foulkes Roberts (the Principal's Mancunian bulldog on the College Council) began to see Grimley's anglican ideas drifting over into the Roman Catholic sphere. Each summer Grimley went abroad. He journeyed to Italy where he visited the birthplace of St. Francis at Assisi. He went to Lourdes where Bernadette Soubirous saw the visions not that many years previously.

So there were doubts about his mathematical teaching, and there was disquiet as to his religious influence over the students. But at the same time the finances of the College were getting worse. The prospect of a government grant was as far away as ever. By August 1878 the decision was made. Professorial salaries were reduced, and three members of staff (one being Grimley) were to be thrown overboard to lighten the load. There was a temporary suspension but Horatio Nelson resigned in the summer of 1879. He became the rector of Norton in Suffolk, and remained there until 1918 when he was persuaded to retire. He went to stay with one of his sons, the vicar of Ellington in Huntingdonshire, and he died the following year.

Horatio may not have been an innovator mathematically, but he saw this fledgling department through its first difficult seven years.

Vignette 3. R.W. Genese

The departure of Grimley in 1879 led to the appointment of a (cheaper) replacement. Robert William Genese was an Irishman born in Dublin in 1848. He too was a Cambridge man, also a Wrangler, and he outranked Grimley 8th to 12th. He was a working mathematician, a research mathematician of varied interests especially geometry. But was he a better teacher than Grimley? The evidence is mixed. He was 'a slave driver with no time for idlers and not much patience with dullards' [4]. Yet he seems to have satisfied the Principal, and he became a stalwart at the College, remaining for 40 years.

Fig. 4: *Robert William Genese, Head of Department 1879–1909, Head of Pure Mathematics 1909–1919 [1].*

His long occupancy meant that he saw many changes. There was a crisis over Aberystwyth's actual survival when sister colleges were opened at Cardiff and Bangor. And over the years the number of mathematics students increased, which led to the appointment of additional members of staff. In 1909 the Mathematics department was split in twain with Genese taking the Pure half, while Applied Mathematics was headed by George Adolphus Schott (q.v.).

In his later years Genese began to be recognized more widely in mathematical circles with publications in prestigious journals and the presentation of papers at the International Congress of Mathematicians.

In 1893–4 the College decided that each department should submit its own report for the UCW Calendar. Genese could now get in print all his demands: more staff, astronomical instruments, improved blackboards, more storage, geometric models. The College authorities must have grown weary with the deluge.

When he was about 50 years of age Genese married Margaretta, daughter of Captain Thomas Richards of Aberystwyth. Genese retired in 1919 and he and his wife moved to Kent. One of his last articles in print appeared in 'The College by the Sea' (1928). In this Genese went back to his first days at Aberystwyth. He was one of the three new professors appointed in 1879. According to Genese they were introduced at the Governors' meeting as 'very promising, unless their testimonials were of an unusually lying description'.

Genese died in 1928 and he was buried in his wife's family grave at Plas Crug Cemetery, Aberystwyth. Margaretta died nine years later.

Vignette 4. G.A. Schott

When the Mathematics department was split into separate departments of Pure and Applied in 1909, the latter was headed by George Adolphus Schott. He was born in Bradford in 1868 and became a student at Trinity College, Cambridge. He came to Aberystwyth in 1893 as a member of staff of the Physics department. As his lineage suggests he was an Englishman even though his surname indicates a German ancestry. This only became a problem with the First World War in 1914.

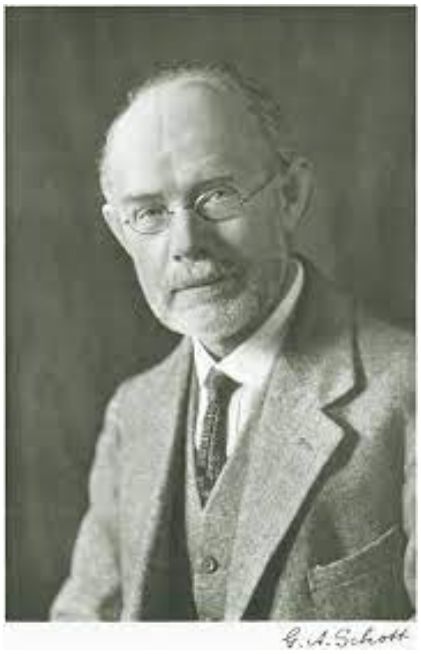

Fig. 5: *George Adolphus Schott, Head of Applied Mathematics 1909–1932 [5].*

Schott was a superb pianist and linguist, and an influential College man. But it was his prowess as a mathematician which singles him out. He was the first great mathematician at Aberystwyth, and he was supremely fit to become the head of the new Applied Mathematics department. In that same year he won the prestigious Adams Prize at Cambridge, and in 1922 Schott was made a Fellow of the Royal Society. His life's work was the mathematical theory of electromagnetic radiation, but this took place during an iconoclastic period in physics with quantum theory challenging the classical model. However Schott's work predicted a type of radiation which was not discovered experimentally until after his death.

There were two professors who came under local attack in 1914. One was Schott who had a German name and a German wife; the other was Carl Hermann Ethé who had a French surname and an English wife, but who was German. Anti-Hun hysteria swept the town. A mob, estimated to be 2000 strong, went to Ethé's house and then on to the Schott's. They were given 24 hours to leave the town. The Ethés left, the Schotts remained. This was a disgraceful episode which stains the historical record of Aberystwyth.

In 1932 Schott became Vice-Principal and he retired the following year. But his research continued with papers in 1936 and 1937. He died in 1937.

Vignette 5. W.H. Young

Genese retired in 1919 and his successor is a strong contender as the foremost mathematician to grace the Aberystwyth stage. He also stands out as the pre-eminent maverick. William Henry Young was born in 1863 in London. He entered Peterhouse Cambridge in 1881 and after graduation he was a Fellow of the College for six years from 1886 to 1892. He spent his time earning money as a coach, a tutor or examiner. One of his students was Grace Chisholm who was awarded a Ph.D in Göttingen in 1895, and who became Grace Chisholm Young in 1896. She persuaded William to devote his energies to research.

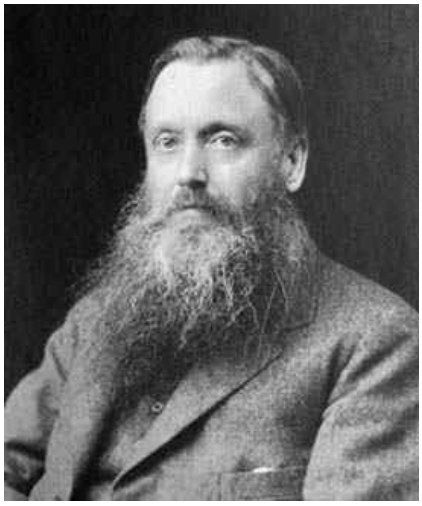

Fig. 6: *William Henry Young, Head of Pure Mathematics 1919–1923 [6].*

They moved abroad and after a while they settled at Lausanne. Their research together prospered, and although their work was joint, most of their papers contained William's name only. In 1907 William was made a Fellow of the Royal Society. One disappointment was that William discovered a form of Lebesgue integration but he had been anticipated by Henri Lebesgue.

After 40 years of Genese, the syllabus required a great deal of modernisation, but William's mission was higher, to turn the Pure Mathematics department into one of the most contemporary in the country. His plan was to invite leading European mathematicians to teach advanced courses. All went well until the session 1922–3.

The Youngs spent the Easter vacation of 1923 at Bad Nauheim. The Principal in Aberystwyth wished to discuss the next session. Communications broke down between them. William tendered his resignation and the Principal accepted with alacrity. Aberystwyth had allowed the jewel to slip through its fingers.

The ending was a disaster. In 1940 William was home at Lausanne while Grace flew back to the U.K. from Paris with two granddaughters. She was due to return but, unknown to her, that flight was the last before France fell. William died in 1942, Grace two years later. They had not seen each other again.

Vignette 6. V.C. Morton

When W.H. Young resigned in 1923 his three assistants, for various reasons, also departed, and to all intents and purposes, the department of Pure Mathematics ceased to exist. Desperate measures were needed. Schott took over Pure Mathematics, and there were two new appointments, one of whom was Vernon Charles Morton.

Fig. 7: *V.C. Morton, Head of Pure Mathematics 1926–1961 [7].*

Morton was born in Sheffield in 1896. In 1915 he won a scholarship to Merton College, Oxford, but the war interrupted his studies. In 1916 he joined the Glosters and went to France where he was gassed at Armentires. He suffered from the effects for the rest of his life. In 1919 he returned to Oxford and graduated in 1921. He moved to UCW two years later.

From 1923 to 1926 he was a lecturer in Pure Mathematics in the combined department under Schott. In 1926 the two departments separated and the headship of Pure Mathematics passed to Morton. However he was not granted the title of Professor. He was to be 'Independent Lecturer'. This meant Morton had all the responsibilities of Head of Department, but the College got away without paying the full rate. This was the situation until 1933 when Schott retired. At a stroke Applied Mathematics had an 'Independent Lecturer' as head (q.v), while Morton became professor of Pure Mathematics.

Morton was a geometer and he had a number of papers published in the 1930s and 1940s. His teaching ability has been described in glowing terms: 'A gifted teacher and a stimulating lecturer, clear, cogent and logical…' [7].

Morton retired in 1961 after a career lasting 38 years, almost on a par with Genese. Looking at it another way, these two men dominated Aberystwyth pure mathematics for almost a century, from 1879 to 1961, with only the Young years as a short interlude in the middle.

Morton died in 1978.

Vignette 7. Thomas Lewis

The first world war came to its bitter end in 1918, and the following year a host of student veterans came to Aberystwyth to begin their university education. One of these was Thomas Lewis who was destined to play a major part in the fortunes of the Applied Mathematics department. Tom Lewis was born in 1898 at the Castle Mill in Newport, Pembrokeshire. He joined the army after leaving school in 1916, and three years later he entered UCW where Schott and Young were his mentors. Lewis graduated in 1922, and then began research under Schott the following year. In 1923 his studies took him to Bonn where Schott had worked some years previously. By 1925 he had an M.Sc. and a paper published in the Proceedings of the Royal Society, and he was on hand to take advantage of a sudden vacancy in the Applied Mathematics department.

Fig. 8: *Thomas Lewis (second from left), Head of Applied Mathematics 1933–1950, with (from left to right) C.E. Easthope, V.C. Morton and D.R. Williams, pictured in 1941 [1].*

Lewis's research into the theory of radiation was inspired by Schott, but he did have other mathematical interests including fluid motion. Yet Schott was his idol, so much so that in 1939 Lewis brought to fruition the posthumous publication of Schott's final thoughts, 'A theory of radiation', in the Proceedings of the Royal Society. When Schott retired in 1933 Lewis became Head of the Applied Mathematics department, but only as an Independent Lecturer. He remained in this rôle throughout the war years and on into the late 40s.

Tom Lewis died in 1950 at the early age of 52. He had been ill with heart trouble for a couple of years, but 'his death came as a grievous shock to all who knew him, especially to those who had been in his company on the previous evening with no inkling that tragedy was near' [8].

Vignette 8. G.J. Kynch

Tom Lewis died suddenly on 6th July 1950 aged 52. He had been the Head of the Applied Mathematics department since 1933 as an Independent Lecturer not a Professor. But now it was 1950 and there was only one other Independent Lecturer in the College. The vacancy in applied mathematics was advertised as a professorship.

There were eight applicants and three were invited for interview. The meeting took place in September 1951 at the Great Western Royal Hotel, Paddington. Each candidate was given only 15 minutes, so the meeting did not last long. The successful contender was George James Kynch from the University of Birmingham.

Fig. 9: *George James Kynch, Head of Applied Mathematics 1951–1957, pictured with the Physics Department in the 1950s [9].*

He was born in Croydon in 1915. He graduated in physics at Imperial College, London in 1935, and the following year obtained a first in mathematics together with a university prize and a research scholarship. His research at Imperial College from 1936 to 1940 was on magnetism and valence theory. His later research work covered both solid mechanics and fluid mechanics. One of his books, written while he was at Aberystwyth, was 'Mathematics for the Chemist'. This was published in 1955 and is still widely on sale.

Kynch did not remain long in Aberystwyth. In 1957 he was appointed to the new chair in mathematics in the faculty of technology at the University of Manchester.

In the 1950s and early 1960s many mathematicians, working in industry, Government establishments, and other applied fields, were feeling the need for a learned society which catered for their interests. Various groupings were set up to discuss the project, and Kynch was involved in one of these. The result was the foundation in 1964 of the Institute of Mathematics and its Applications. It was a resounding success and now has more than 5000 members.

Kynch died in Manchester on 26th February 1987.

Vignette 9. T.V. Davies

Thomas Vivian Davies was born on 22nd January 1916 in Merthyr Tydfil. He entered the University College of Wales, Aberystwyth in 1934, and gained first class honours degrees in pure mathematics (1937) and applied mathematics (1938). The examiners' meeting in June 1937 was interesting for two reasons. One was that Schott was present as an external (sic) examiner, and the other was that because of Schott's participation he was able to see the name of Thomas Vivian Davies on the list of Aberystwyth's graduates. Schott died three weeks later. The rising star, universally known as 'TV', was to become Professor of Applied Mathematics at Aberystwyth in 1958.

Fig. 10: *T.V. Davies, Head of Applied Mathematics 1958–1967 [1].*

During the war he was at first attached to the Ministry of Supply (1940–3), when he found himself working on the stability of projectiles at the firing range at Aberporth. This was followed by a three year stint at the Meteorological Office. After the war he joined King's College, London working on fluid dynamics, and later on control theory.

The period of TV's occupancy of the Applied Mathematics chair was one of general university expansion, and many changes at Aberystwyth. A department of Statistics was founded, there was a new Head of Pure Mathematics after Morton's retirement, and in 1962 the three departments moved into a brand new building on the Penglais campus.

TV resigned in 1967 and moved to the University of Leicester. One possible reason for this step was the relationships between the three mathematics professors, and in particular between TV and the new Professor of Statistics, D.V. Lindley, (q.v.) who queried the entire structure of applied mathematics at Aberystwyth. The question arises would TV have left if he had known that by the end of 1968 neither of the other two professors would remain in post?

TV died early in 1991 aged 75.

Vignette 10. D.V. Lindley

Dennis Victor Lindley was born on 25th July 1923 in Clapham, South London. He entered Trinity College, Cambridge in 1941, took Part II in 1943, went off to do war work, and returned to Cambridge to take Part III in 1946. The war work comprised a position in the Ministry of Supply prefaced by a short course in statistics. In 1948 he accepted an academic post at Cambridge, eventually becoming the Director of the Statistical Laboratory.

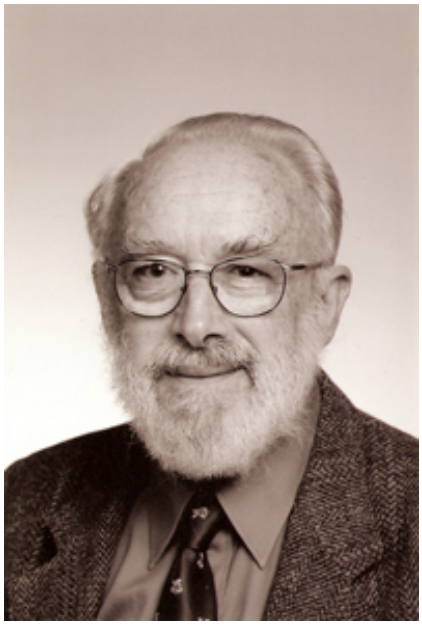

Fig. 11: *Dennis Lindley, Head of Statistics 1960–1967 [10].*

His next move was to the new Chair of Statistics founded in 1960 at Aberystwyth. No doubt the prospect of establishing a department in his own image, from the very beginning, appealed to him. For Lindley was a key figure in what is now called the Bayesian school of statistics, which was opposed to the traditional frequentist school. Thomas Bayes (1702-61) was an English clergyman, and his 'Bayes' Theorem' was published posthumously in 1764. This set out his theory of probability. Lindley was of the opinion that all statistics should be expressed in terms of probability. Over the few years that Lindley spent in Aberystwyth he built up the department into a nationally recognised body.

Lindley's views on 'applied mathematics' led to tensions with T.V. Davies. His main thrust was based on the explosion of mathematical knowledge during the 20th century, and the invasion by mathematics of all scientific subjects, even biology which resisted for so long.

Lindley resigned in 1967 and moved to University College, London. In 1977 he retired and subsequently he divided his time between his home in Somerset and travelling around the world collaborating with academic colleagues.

Dennis Lindley died on 14th December 2013 at the age of 90.

Vignette 11. W.B. Pennington

William Barry Pennington was born at Bawtry in Yorkshire on 9th July 1923. He entered Jesus College, Cambridge, in 1941 and, after Part II, spent three war-time years as a radar officer in the Royal Naval Volunteer Reserve, before returning to Cambridge for Part III. His research field was the analytical theory of numbers. In 1953 he was appointed Reader in Mathematics at Westfield College in the University of London. In 1961 he was one of three who were interviewed for the Chair of Pure Mathematics vacated by V.C. Morton. But the chair almost eluded him.

Fig. 12: *Barry Pennington, Head of Pure Mathematics 1961–1968 [1].*

The Committee was split. The majority favoured H.D. Ursell from Leeds, while the Chairman (Principal Tom Parry) was suspicious about odd facets to his application. The meeting was adjourned while the Principal made further enquiries. They met again a month later, but nothing had changed and the Principal was forced to give in. The day after his appointment by the Council Ursell handed in his resignation to the Principal. It had been agreed beforehand by the Committee that if Ursell dropped out for any reason then Pennington would get the Chair. The Pure Mathematics department had found a worthy leader.

Pennington ushered in a period when pure mathematics flourished. In 1961 there were six members of staff; by 1968 the number had doubled. He was a friendly and approachable Head of Department. Research was encouraged, and blossomed. The syllabus was modernised and the Department moved happily to its new quarters on Penglais hill.

All this came to an end on the evening of 5th March 1968. Pennington was suddenly taken ill in his room at College, was rushed down to Bronglais Hospital but he died that same day. He was only 44 years of age. The London Mathematical Society appreciated the work he did for them by donating a generous gift to the College to found the W.B. Pennington prize for the best graduate in Single Honours or Joint Honours Pure Mathematics.

Vignette 12. Dorothy S. Meyler

Dorothy Skeel Meyler was born in 1908 at Milford Haven in Pembrokeshire. She entered UCW in 1925 and was awarded a 1st in pure mathematics in 1928, and a 1st in applied one year later. Dorothy was awarded a university studentship in 1929 and she began research with V.C. Morton (q.v.). All went well until February 1931 when she developed TB and she was in hospital for a year. She made a full recovery, and by 1933 she was awarded an M.Sc., and had a joint paper published with Morton in the Proceedings of the London Mathematical Society.

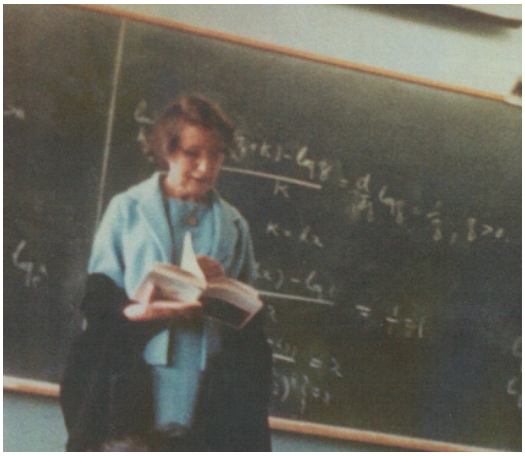

Fig. 13: *Dorothy Meyler, Head of Pure Mathematics 1968–1969 [1].*

But she wanted a Ph.D., and in September 1933 she moved to Cambridge to work with W.V.D Hodge who had recently returned from Princeton. One year later there was a vacancy in Aberystwyth and Morton asked her to apply. She was undecided. It was a glorious opportunity during the economic depression of the 1930s, but on the other hand it would mean she would not have the residential qualification at Cambridge. She opted to return to Aberystwyth to work with Morton.

Dorothy became acting-Head of the Pure Mathematics department following Pennington's sudden death in March 1968. The plan was that she would take over until the end of the summer vacation when a replacement for Pennington would have been appointed. But this did not happen until the following year, and Dorothy remained acting-Head until April 1969. She was one of the first female heads of a university mathematics department in the U.K.

Dorothy joined the London Mathematical Society in December 1934. In 2005 the LMS was 140 years old, and Dorothy had been a member for 70 years, half its life time. In the same year she became the longest serving member of the Society.

Dorothy retired in 1976. She died in 2006 aged 97.

Vignette 13. John Heading

John Heading was appointed to the Applied Mathematics chair in 1968. He was born in 1924 at Norwich. After leaving school in 1943 he spent the next three years in war service, which involved the installation and maintenance of continental telephone repeater stations. In 1946 he entered St. Catharine's College, Cambridge, and in 1949 began research at the Cavendish Laboratory working in the field of theoretical ionospheric radio propagation. He was awarded a Ph.D. in 1953. When he applied to Aberystwyth he was a Reader in Applied Mathematics at Southampton.

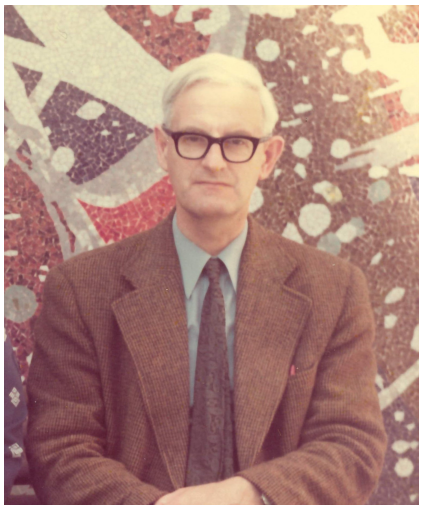

Fig. 14: *John Heading, Head of Applied Mathematics 1968–1986 [9].*

Heading's life split into two parts, although he saw them as a complete unity. His daily routine illustrated this quite nicely. He arrived at College at 0840 and left for lunch at 1140. He returned at 1300, just as everybody else was leaving, and went home again at 1600. His two lives were mathematics and religion. He produced mathematics in the morning, and his biblical works came in the late afternoon and evening. He was a devout Christian but the actual sect he belonged to is a little obscure.

His mathematical work followed on from his Ph.D. He published papers on a regular basis and there was no reduction in his output as he grew older. His biblical commentaries were also extensive. But one book of his fell into neither camp. This was published in 1981 under the title 'Ten thousand lines across Europe', and was a slice of autobiography dealing with his work during the war.

In 1986 there was a reorganization of mathematics at Aberystwyth. The three departments were combined into one department of Mathematics. Heading remained a professor but not a head of department. He retired in 1989. He admitted to a colleague that he had an enlarged heart, and he did not expect to live to an old age. Heading died in 1991 aged 66.

Vignette 14. Owen L. Davies

Owen Lewis Davies was born on 5th July 1909 in Pontardawe, near Swansea. He entered University College of Swansea in 1927, and four years later he had been awarded a 1st class honours degree in Pure Mathematics and then an M.Sc. In 1931 he moved to University College London working successfully for a Ph.D. with Karl Pearson and later R.A. Fisher.

Fig. 15: *O.L. Davies, Head of Statistics 1968–1975, with his wife Margaret [11].*

In 1934 Davies was appointed to a post of mathematical statistician in the pharmaceutical division of ICI (Imperial Chemical Industries). In the 1940s ICI set up a Statistical Methods Panel to co-ordinate the statistical work of its various divisions, and this led to the publication in 1947 of 'Statistical Methods in Research and Production'. Davies was the chief author and editor of this book, which was the first industry based manual on the use of statistics in manufacturing. It became famous and widely used. It was affectionately known as 'Little Davies'. The second book, 'The Design and Analysis of Industrial Experiments' was published in 1954 and was known as 'Big Davies'.

In 1968 Aberystwyth sought a new Professor of Statistics. The first and only trawl was very disappointing, attracting only three responses, and these had deficiencies in one way or another. The Principal (Tom Parry) wrote around to seek names. The reaction was varied. Finally Dennis Lindley (q.v.) came up with 11 possible names, and the Selection Committee went through the list. The merits of O.L. Davies became evident. All were agreed. No interview would be necessary.

Aberystwyth knew they had found themselves a fine statistician, but there were problems involving the administration. The payment of expenses, for example, did not match the ICI procedure. He was happier with his research and his research students.

Davies retired in 1975, and he made more use of his retreat in Anglesey, mountaineering being his passion. He died in 2007 after a long life well spent.

Vignette 15. Alun O. Morris

Alun Owen Morris was born on 17th August 1935 in the village of Pentrecelyn near Rhuthun. He entered University College, Bangor in 1953 and after graduating three years later he became a research student of the professor D.E. Littlewood working on group representations. His first paper was published in 1958, and in 1959 he was awarded the Ph.D. In that same year he applied for a post at Aberystwyth, and he joined the Pure Mathematics department in October 1959.

Fig. 16: *Alun Morris, Head of Pure Mathematics 1969–1986, Head of Mathematics 1997–2000.*

In 1968 Barry Pennington died. The first advertisement for a replacement produced a short list who were duly interviewed, but none were deemed to be of a sufficiently high calibre. The advertisement went out again. This time Alun applied and he was chosen. He became the Professor of Pure Mathematics in April 1969.

His career was successful in a number of ways. His research flourished and he has had over 50 papers published, as well as guiding 24 students to a Ph.D. He became an influential member of the Senate and he rose to be Vice-Principal. His involvement on the national scale began with the British Mathematical Colloquium meeting held at Aberystwyth in 1976, which led him to the Council of the London Mathematical Society and to be its Vice-President. He was a member of the mathematics committee of the U.G.C. and its successor, and of the Mathematics Research Assessment Panel, becoming the Chairman of the Pure Mathematics section. He was the Treasurer of the L.M.S. when the radical decision was made to purchase a London home in Russell Square. The move has been a great success.

In 1986 the three mathematics departments were combined into one department of Mathematics, under one head. Alun became the Head of Mathematics in 1997, and he retired three years later. He was awarded an O.B.E. and he remains happily with us in Aberystwyth.

Vignette 16. J.M. Dickey III

James Mills Dickey was born in 1939 at San Mateo, California. He was awarded a Ph.D. at the State University of New York at Buffalo, and was then employed at a number of universities in the U.S.A., Yale University, the State University of New York at Albany, and the University of Southern California. His Ph.D. topic was mathematical statistics, and somewhere along the line he became a Bayesian statistician.

Fig. 17: *J.M. Dickey, Head of Statistics 1975–1980, pictured here with Gwyn Evans (left) and Paul Jackson (right) [11].*

He came to Aberystwyth as Professor of Statistics in 1976, but this was not his first contact with the U.K. In 1973 he was visiting University College, London, and no doubt this was to work with Dennis Lindley (q.v.) who had moved to London after leaving Aberystwyth. Their common interest was Thomas Bayes. This circumstance may have helped to link Dickey with Aberystwyth. They were both at the Gregynog Statistical Conference of that year so Lindley could have taken him on a trip to Aberystwyth. Dickey's lecture was entitled 'Bayesian Hypothesis Testing'.

If Dickey was persuaded of the appeal of Aberystwyth either via Lindley or by the charm of Aberystwyth itself then he was soon disillusioned. His wife had come with him and she fell in love with the place, but he did not. He was highly regarded by his research students (four or more), and his research angle was productive, yet lecturing was not his forte. But his main problem was with his administrative duties especially regarding departmental expenditure.

He resigned in 1980 and returned to Buffalo. His final post was as a research Professor of Theoretical Statistics at the University of Minnesota. He died in Minnesota on 27th November 2008 at the age of 69.

Postscript

After Dickey's resignation interviews took place to find a successor. That same day the University Grants Committee announced budget cuts, and the College decreed that all unfilled posts would be frozen. There was to be no Professor of Statistics. The affairs of the department were to be supervised by first Gwyn Evans (1980-1984) and then by Paul Jackson (1984-1986).

Vignette 17. Kenneth Walters

Ken Walters was born in Swansea in 1934. He won an open scholarship to University College of Swansea, and after gaining a first class degree and an M.Sc., he started research work with Professor Oldroyd in rheology, and Oldroyd became Ken's inspiration. Ken was awarded a Ph.D. in 1959, and the pieces in the jigsaw began to fall into place. He spent the session 1959-60 in the USA, and from there he negotiated with T.V. Davies (q.v.) a lectureship at Aberystwyth.

Fig. 18: *Ken Walters, Head of Mathematics 1986–1991.*

Promotions came quickly. He was promoted to Senior Lecturer in 1965, to Reader in 1970, and to a personal chair in 1973. He and Alun Morris were young professors with years of successful research in front of them. It was to be a golden age.

Ken was quite a sportsman, especially talented in squash and cricket. His Ph.D. oral coincided with an important cricket match to determine the Welsh student champions. He left the field of play to attend the oral, and he had a double success that day.

In 1986 the three departments, Pure, Applied and Statistics, were combined into one department of Mathematics, and Ken was made Head of Mathematics for a five year period. At the end of that spell he was elected a Fellow of the Royal Society, thereby joining Schott (q.v.) and Young (q.v), to become the three Aberystwyth mathematicians with an FRS after their name.

In his career he has written five books and over 150 research papers. He has supervised more than 50 research students. He has been President of both the British and the European Societies of Rheology. He received the Gold Medal from the former and the Weissenberg Award from the latter. In 1995 Ken was elected a Foreign Associate of the National Academy of Engineering of the United States.

He is currently a Distinguished Research Professor in the department of Mathematics, Aberystwyth.

Postscript

Shortly after the above vignette was completed came the sad news that Ken had passed away. He died on 28th March 2022. We send our condolences to Mary and the family. Ken was only the third Aberystwyth mathematician in 150 years who was elected a Fellow of the Royal Society. This was in 1991, seventy years after the election of Schott. Ken was an inspirational head of Mathematics and colleague. He was a good man, and a friend of an international array of mathematicians.

Vignette 18. N.G. Lloyd

Fig. 19: *Noel Lloyd, Head of Mathematics 1991–1997.*

Noel Glynne Lloyd was born in Llanelli Carmarthenshire on 26th December 1946. His father would have liked Noel to follow him as a student at Aberystwyth, but Noel had other ideas. He obtained an open scholarship at Queens' College, Cambridge in 1965, graduating in 1968. He was awarded the prestigious Rayleigh Prize in 1971. Meanwhile he began research work under Sir Peter Swinnerton-Dyer on non-linear ordinary differential equations. He received his Ph.D. in 1972. After two years as a Junior Research Fellow, a vacancy occurred in the department of Pure Mathematics at Aberystwyth, and Noel was able to fulfil his father's wishes, albeit as a member of staff rather than as a student.

Promotion for Noel was rapid and in 1985 he gained a personal chair. In 1991 Noel became head of Mathematics for a five year term. He had started his second term when he was asked to take up a vacancy for Pro-Vice-Chancellor. He agreed to this and Alun Morris stepped in to become head of Mathematics in his place (q.v.).

Noel had a productive life as a research mathematician. He supervised 14 Ph.D. students. He produced over 50 papers, latterly with his postgraduate students. He, and a Cardiff colleague, received substantial grants from the SERC (Research Council) to organize major European conferences on differential equations, held at Gregynog.

Noel and the Vice-Chancellor (Derec Llwyd Morgan) worked well together, so much so that when the position of Registrar and Secretary became vacant in 1999 Noel was persuaded to apply. He and Derec Llwyd had another five years together until the latter retired in 2004. Noel was then appointed Vice-Chancellor, a post he retained until he retired in 2011.

Noel had an active life outside mathematics. He held deep religious convictions. He was a fine organist, being in demand wherever he resided. He served on many national bodies.

Noel died on 7th June 2019 aged 72 after a prolonged fight against prostate cancer.

Vignette 19. Russell Davies

Arthur Russell Davies was born at Carmarthen on 20th June 1948. He went to Amman Valley Grammar School and from there he became a student at King's College, London. His degree was Mathematics and Physics. He has said that this choice of two subjects was because he could not make up his mind whether he wanted to be a mathematician or a physicist. After graduating Russell spent a year at Cambridge, but in the end he moved over to Oxford in 1970 with a scholarship at Balliol to read Numerical Analysis. His studies were further enabled when in 1973 Russell was awarded an Atlas Research Fellowship at Pembroke College, dedicated to novel applications in computing. His D.Phil. came along in 1974.

Fig. 20: *Russell Davies, Head of Mathematics 2000–2003 [12].*

Meanwhile at Aberystwyth Ken Walters was becoming aware that further progress in rheology would require a specialist knowledge of numerical analysis. The Principal was persuaded, the advertisement went out, and Russell was offered the position, but he was unable to relinquish his Oxford fellowship until 1st January 1976.

Thus began 30 years of passionate work for Russell. He was the Young Turk in the Applied Mathematics department for the first ten of those years. Russell was given a personal chair in 1990 and he served as the head of Mathematics from 2000 to 2003. He supervised 25 Ph.D. students. These were particularly successful years with the computational rheology group getting a Grade 5 research assessment rating, and landing a New Blood Lectureship in Computational Fluid Dynamics.

Everything changed in 2003. Mathematics and Physics were joined, but there was no head of Mathematics nor a department of Mathematics. It was not a happy merger. Russell jumped ship in 2006 when he was offered the headship at Cardiff, which he held until he retired in 2013. He has now returned to Ceredigion, and is an Honorary Professor at Aberystwyth.

Vignette 20. Simon Cox

In 2003 the University implemented a major reorganization of mathematics and physics. The new Institute had one head (a physicist) but there was little good will to make it work. Some mathematicians left to take up positions in Cardiff, others retired. Yet it was not all gloom. In 2005 a lecturer was appointed to teach applied mathematics.

Fig. 21: *Simon Cox, Head of Mathematics 2014–present.*

Simon John Cox was born at Comberton near Cambridge on 19th September 1972. He attended St. Ivo School at St. Ives before proceeding to the University of Warwick where, in 1994, he graduated with a degree in Applied Mathematics. He moved to the University of East Anglia to research into fluids, and he was awarded a Ph.D. in 1998. The same year Simon joined the Foam Research Group at Trinity College Dublin as a postdoctoral researcher, and remained there for six years. The following year he became a lecturer in Applied Mathematics at Aberystwyth.

The Institute, with its unified structure, attracted Simon after his mathematical work in England and his six years of physics in Dublin, and in fact he was able to successfully carry on with his research regardless of the tensions surrounding him. He became a Reader in 2006 and a Professor in 2010.

In 2013 there was a further reorganization, and a re-reorganization in 2014 when Mathematics and Physics decided to form separate departments. At this point Simon was made the Head of the Department of Mathematics. He has remained in post until the present (April 2022).

Simon's Aberystwyth career has flourished. He has supervised a large number of research students and has produced more than 100 research papers on foams and minimal surfaces. He is involved with many academic societies, is a Director of the Institute of Non-Newtonian Fluid Mechanics, a Fellow of the Learned Society of Wales, and currently President of the British Society of Rheology. The future for mathematics at Aberystwyth is bright.

Sources

[1] C.R. Fletcher, Mathematics by the Sea, Private publication, 2002.

[2] E.P. Davies, Yr Hen Coleg, The Old College, Gomer, Llandysul, 2011.

[3] C.R. Fletcher, 'The College By the Sea' and its photographs. J. Nat. Lib. Wales, 2010.

[4] E.L. Ellis, The University of Wales, Aberystwyth, 1872-1972, Univ. Wales Press, Cardiff, 1972.

[5] A.W. Conway, Obituary Notices of Fellows of the Royal Society, Vol. 2, No. 7 (Jan., 1939), pp. 451-454. https://www.jstor.org/stable/768996

[6] Image from the MacTutor History of Mathematics Archive, mathshistory.st-andrews.ac.uk/Biographies/Young/

[7] D.S. Meyler, Bull. London Math. Soc., 11 (1979), 104-105.

[8] Old Students' Association Annual, February 1951.

[9] Image courtesy of J. Archer / Aberystwyth University archives.

[10] Image from imstat.org/2014/05/15/obituary-dennis-v-lindley-1923-2013/, where it is attributed to Rowan Lindley.

[11] Image courtesy of S. Lutkins.

[12] Image from www.cardiff.ac.uk/people/view/98572-davies-russell


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