

Chapter 9

Physics Alumni 1851–1961

Students 1871–76

The first student to graduate with a Victoria University (Owens College) degree in physics was Albert Griffiths in 1890. From 1867 until 1890, students registered for full time or part time courses and in some cases, proceeded to study for degree courses elsewhere. Schuster's colleagues [6] listed some of the past students who had been connected with the Physical Laboratories, admitting that the list was not complete.

1867–72	John Henry Poynting
1868–70	Ernest Howard Griffiths
1871–76	Joseph John Thomson
1884–87	Charles Thomson Rees Wilson
1879–81	William Stroud
1880–82	Henry Stroud
1875–77	Arthur Mason Worthington

Graduates 1890–1951 & Student group Photographs

The degrees of PhD and DSc were first introduced in Manchester in 1918 and it was the norm before this time and for a period thereafter, for BSc

graduates to follow up with a one year MSc course.

1890

First Class: Albert Griffiths.

Third Class: Ernest Edward Dentith Davies.

Albert Griffiths Assoc. Owens 1890, MSc 1893, DSc 1899.

After graduating, Albert Griffiths was a research student, fellow, demonstrator and lecturer at Owens between 1892 and 1898, in between posts at Freiburg, Southampton and Sheffield. He became Head of the Physics Department at Birkbeck in 1900.

E E D Davies, born on the Isle of Man, obtained a BSc in mathematics in 1889, an MSc in 1892, a BA in 1893 before becoming a Congregational Minister in 1895. Joseph Thompson lists him [246], as a student at the Lancashire Independent College in 1893. He wrote a book *Science Experiments. A course in practical mechanics and physics for senior classes in elementary schools, and first year preliminary technical classes*, published in 1912 and then *The Sunny Side of the Hedge, and other stories to tell children*, published in 1939.

1892

Third Class: William Paul Steinthal.

1893

Third Class: Thomas Coulborn Armitage.

T C Armitage M.Sc 1896.

1894

First Class: James Dewsbury Chorlton.

J D Chorlton Assoc. Owens. 1894, MSc 1897.

1896

2nd Class: William Bolton Shaw.

W B Shaw Assoc. Owens 1895, MSc 1898.

1897

Third Class: Edward Reeve.

E Reeve MSc 1909.

1898

First Class: William Mason.

2nd Class: James Lord, Joseph Lustgarten.

J Lord Assoc. Owens 1899, MSc 1901. Joseph Lustgarten Assoc. Owens 1901, MSc 1901, became Joseph Lustgarten Langton.

1899

2nd Class: Harold Morris-Airey, Simon Rosenbaum.

Third Class: John Tomlinson.

H Morris-Airey Assoc Owens 1899, MSc 1903. J Tomlinson Assoc Owens 1902, MSc 1902.

1900

First Class: George Clarke Simpson.

2nd Class: William Stansfield Brooks, Royden Cobden Whale.

W S Brooks Assoc Owens 1902, MSc 1903. G C Simpson MSc 1905, DSc 1906. R C Whale Assoc Owens 1901, MSc 1903.

1901

2nd Class: Tom Douglas Farrar.

Third Class: Alphonso Fritzalan Quarmby.

T D Farrar Assoc. Owens 1901, MSc 1904. A F Quarmby Assoc Owens 1901, MSc 1904.

Despite having a name that defies any other person on the planet to share it, I have been unable to trace the future career of Mr Quarmby.

1902

First Class: Arthur Stanley Eddington, John William Nicholson, Harry Edwin Wood.

2nd Class: Frederick Alwyn Haig, Edgar Sutcliffe.

A S Eddington MSc 1906, DSc honoris causa 1925. F A Haig Assoc Owens 1902. J W Nicholson MSc 1905. E Sutcliffe MSc 1905. H E Wood MSc 1905.

1903

First Class: Leonard Noel Barker, Travis Rimmer, Frederick Unwin.

2nd Class: Thomas Wadsworth.

Third Class: Harry Hirst.

H Hirst MSc 1906. F Unwin MSc 1906. T Wadsworth MSc 1906.

1904

First Class: Roger Ernest Grime, James Grime Isherwood.

Third Class: John Maclean Baldwin, George Frederic Douglas, John McPherson.

J M Baldwin MSc 1919. G F Douglas MSc 1908. R E Grime MSc 1907.

1905

First Class: James Robert Beard.

2nd Class: Harold Clarke.

Third Class: Edith Lettice Hewlett, Arthur Westley Wildridge.

J R Beard MSc 1909. H Clarke MSc 1908. E L Hewlett MSc 1908. A W Wildridge MSc 1908.

1906

First Class: Thomas Royds.

Third Class: Samuel Greenup Atkinson, Alice Jane Taylor.

S G Atkinson MSc 1914. T Royds MSc 1906, DSc 1911.

1907

First Class: Stephen Butterworth, Frank Walmsley Whaley, William Wilson.

2nd Class: Thomas Gough.

Third Class: James Bleakley, Clifford Riley.

F W Walmsley MSc 1908. J Bleakley MSc 1910. S Butterworth MSc 1908. T Gough MSc 1910. F W Whaley MSc 1908. W Wilson MSc 1908, DSc 1913.

1908

First Class: Percy Maden Elton, William Albert Harwood, Roberto Rossi.

Not Classified: John West.

P M Elton MSc 1909. W A Harwood MSc 1909, DSc 1922. R Rossi MSc 1909, DSc 1914.
J West MSc 1911.

1909

First Class: Ernest Marsden, Margaret White.

2nd Class: Harold Gerrard.

H Gerrard MSc 1910. E Marsden MSc 1910, DSc 1914. M White MSc 1910, DSc 1919,
became Mrs R B Fishenden.

1910

First Class: Henry (Harry) Cotton.

2nd Class: William Laurence Long, Bevis Platt, James Clement Platt.

Third Class: Christopher England Waugh.

H Cotton MSc 1910, DSc 1930. B Platt MSc 1911. J Platt MSc 1911. C E Waugh MSc
1911.

1911

First Class: James Chadwick, William Macdonald Gregory, Joseph Higham,
John Mitchell Nuttall, Harold Robinson, Horace Pearson
Walmsley, John Wood.

2nd Class: John Alfred Clayton, George Matthews, Ernest Nightingale.

J Chadwick MSc 1912. J M Nuttall MSc 1912, DSc 1929. J Higham MSc 1921. E
Nightingale MSc 1911. H Robinson is named as Harold in the 1911–12 University Calendar
and as Harold Roper in the University 1958 cumulative index [245]. He was awarded MSc
in 1912 and DSc in 1917. H P Walmsley MSc 1912, DSc 1929.

1912

First Class: Doris Bailey, Ernest Green, Harry Richardson, Albert Beaumont
Wood.

D Bailey BSc Mathematics 1913, MSc 1920, MA honoris causa 1952. E Green MSc 1913. H Richardson MSc 1913. A B Wood MSc 1913, DSc 1919.

1913

First Class: George Edward Condliffe, Bernard Williams.

2nd Class: William Henderson Struthers, Richard Henry Wilson.

Not Classified: Charles Cheadle Holland.

R H Wilson MSc 1923.

1914

First Class: Hartley Lupton, William Ferdinando Rawlinson.

2nd Class: Walter Mitchell Fernyhough, Joseph Watson Lewis, George Mutch, John Sheldon, Francis Philip Slater.

Third Class: Walter Caleb Lantsberry.

J W Lewis MSc 1926. W F Rawlinson MSc 1915, D.Sci. 1923. F P Slater MSc 1921. H Lupton MSc 1922.

1915

2nd Class: Gilbert Lindsay, James Poole, William Swaine.

Third Class: William Staton, William Ewart Williams.

W E Williams MSc 1926.

1916

First Class: Norman Tunstall, Joseph West.

2nd Class: Gertrude Fallows Cocks, Charles Croxson, Hilda Constance Parish.

Third Class: John Philip Kelly.

G Cocks MScTech 1918, became Mrs E V Newnham. J West MSc 1932, DSc 1932.

1917

First Class: Annie Ellis.

1919

2nd Class: Evelyn Taylor.

Evelyn Taylor became Mrs J B Wright.

1921

2nd Class: Hilary Bradley.

Third Class: Leonard Fielden.

Not classified: William Greenall Allanson.

H Bradley MSc 1934.

1922

First Class: Harold Boffey, Ernest Butterworth, Frank Charnley, Anthony James Hailwood.

2nd Class (ii): Edward Wattleworth Corlett, George Ernest Lanigan.

E Butterworth MScTech 1926. E W Corlett MEd 1931. G E Lanigan MScTech 1931.

1923

First Class: Orrell Darbyshire, James Gregory, Thomas Simm Littler, Leonard Wilcox.

2nd Class (i): Sidney Alexander Walker.

2nd Class (ii): Stephen Walmsley Evans, Henry Joseph Gilbody.

O Darbyshire MSc 1924. T S Littler MSc 1926, PhD 1934. L Wilcox MSc 1924.

1924

First Class: Samuel Causey, Dorothy Heyworth, Frank Ward, William Arnold Wood.

2nd Class (i): Thomas Boyer, Guy Burniston Brown, Thomas Frederick Spokes.

2nd Class (ii): Norman Booth, Charles Holt Smith.

Third Class: Harold Collinson, John Francis Kelly, John Pickston, Harold Redford, Joseph Tankard, Thomas Gordon Fletcher Wild.

T Boyer MSc 1926. G B Brown MSc 1925. D Heyworth, MSc 1927. C H Smith MSc 1951. J Tankard MSc 1935. W A Wood MSc 1925, DSc 1940.

1925

First Class: Walter Binks, John Turton Randall, James Thewlis.

2nd Class (i): James Adamson, George Harold Cashen, William Ernest Dawson, James Jackson Riley.

2nd Class (ii): Henry Septimus Barlow, Ellis Cockram, Eric Shore Davies, Thomas Stanley Hartley, Ellis Livesey, Maurice Longworth.

Third Class: Gertrude Alice Hilton, Stanley Keys, John Elliott Natrass, Douglas Whittaker.

Adamson MSc 1927. H S Barlow MSc 1927. W Binks MSc 1926. G H Cashen MSc 1926. W E Dawson MSc. 1926. T S Hartley MSc Tech 1930. J T Randall MSc 1926, DSc 1938. J Thewlis MSc 1926, DSc 1941.

1926

First Class: William Ashhurst, George William Brindley, Elsie May Firth, William Hodge Taylor.

2nd Class (i): Charles Henry Gregory, Leonard Edward Hall.

2nd Class (ii): John Fishwick, Jack Fitton, Elsie Mackintosh, Frederick John Manning, James Pinder Stephenson, Beatrice Margaret Whatmough, Colin George Wise.

Third Class: John Fowles, Albert France, Robert Howarth, Wallace Rasburn.

G W Brindley MSc 1928. Elsie Firth MSc 1926, became Mrs William Taylor. C H Gregory MSc 1927. W H Taylor MSc 1927, PhD 1930. DSc 1934. Beatrice Whatmough became Mrs T C Williams.

1927

First Class: Norman Abbott Alston, Fred Baird, John McGarva Bruckshaw, James Albert Darbyshire, Fred Fothergill, James Sudworth.

2nd Class (ii): John Kenneth Elliot, Cyril Isherwood, Albert Mayne Knight, John Latham Whitaker.

Third Class: John Dalton Alderson.

N A Alston MSc 1928. F Baird MSc 1929. J Mc Bruckshaw MSc 1928. J A Darbyshire MSc 1928, PhD 1933. J K Elliot MSc 1930. F Fothergill MSc 1929. J Sudworth MSc 1928. C Isherwood MScTech 1932.

The photograph of the 1927 graduation class (Figure 9.1 on the following page) was kindly given to me by Alison Goddard, the grand-daughter of Norman Abbott Alston, who graduated that year.



Figure 9.1: *The graduation class of 1927. Standing L to R: -, J A Darbyshire, -, -, -, -. Seated L to R: -, Norman Abbott Alston, W L Bragg, R W James, J McG. Bruckshaw.*

The photograph also offers the advantage of confirming the image of James Albert Darbyshire. In a letter to me of Dec 28th 1996, Arthur Porter asserted that J A Darbyshire, with whom he shared a lab in is on the extreme right of the 4th row in the department photograph taken ca. 1929, shown in figure 6.3. Darbyshire shares several features with Alan Turing. He never married. He also worked on the science of a top secret military project in which Germans and Russians alike were interested and like Turing, he was unexpectedly found dead of cyanide poisoning in the 1950s.

Cyril Isherwood, appointed physics teacher at Scarborough High School for Boys in 1935, was a founder member of the Scarborough Phoenix Drama Club.

J Mc Bruckshaw obtained a PhD at Imperial College in 1934, having taken part in the Imperial Geophysical Experimental Survey to test Australia's mineral wealth 1928–30. The Daily News of Perth reported his arrival in Perth on the R.M.S. Orvieto on 22 January 1929, on his way to Melbourne. He was then a scientific officer at the Fuel Research Station 1935–37, before returning to Imperial College as a lecturer in physics 1937–48. He was then a reader in geophysics 1948–54 and professor 1954–69 becoming a much revered head of the geophysics department.

On July 20th 1946, J K Elliot asked his former professor W L Bragg to support his application for promotion the post of Deputy Education Officer in Manchester. Bragg wrote to say:

‘I cannot add much to the testimonials I gave Elliot in 1927 and 1930. Memory of Manchester students is getting dim. I think Elliot did well in the more elementary work but was not equal to the more gruelling third year test. He was a businesslike, efficient student and should be an excellent Education Officer.’

Indeed, Elliot eventually rose to become the Chief Education Officer and is remembered for his dynamic contributions to Manchester Education.

1928

- First Class:* Charles Dunbar, William Welsby Jackson, Raymond George Wood.
- 2nd Class (i):* Winston Eric Carr, Charles Jones, Alfred Hartley Jay, William Ulliott Wray.
- 2nd Class (ii):* Frank Leighton Finch, Alan Meadows.
- Third Class:* Leslie Ernest Heath.

W E Carr MSc 1930. C Dunbar MSc 1930. W W Jackson MSc 1929. A H Jay MSc 1931, PhD 1933. R G Wood MSc 1929.

None of the graduates has been definitely identified in the group shown in Figure 9.2 below and the only reason for thinking that this might be 1928 is that

the person standing second from the right (fair hair brushed back) looks somewhat like W W Jackson. The absence of any of any female graduates in the class of 1928 is supportive that this graduation photo was taken that year.

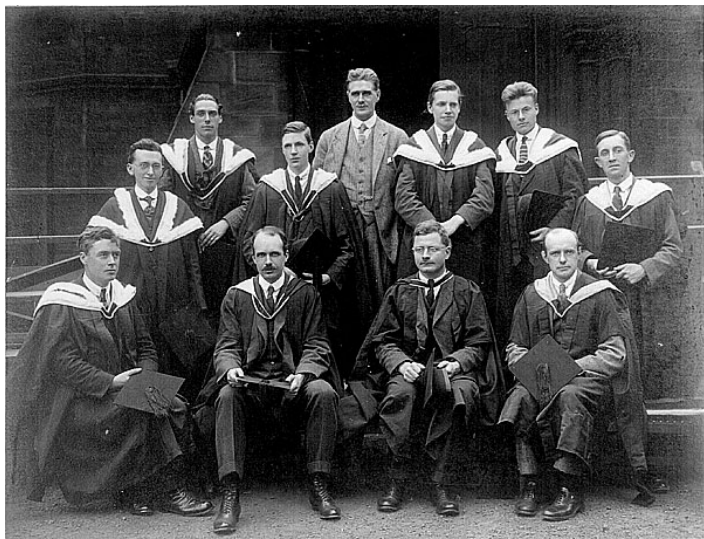


Figure 9.2: A graduation class, possibly 1926. Standing L to R: -, -, -, W A Kay, -, -, -. Seated L to R: -, W L Bragg, R W James, -.

1929

First Class: Jack Finney.

2nd Class (i): Cecil Bellis, Fenton Braithwaite.

2nd Class (ii): Reginald Bogie, Harry Pimlott, Philip Cawthorn Thornely, Thomas Willcox.

Third Class: Stanley James Grundy, William Burston Hindle, Harry Kaye, Robert Whittaker.

C Bellis MScTech. 1933. P C Thornely MScTech. 1939. T Willcox MSc 1930.

Flying Officer 61321 Philip Cawthorn Thornely of the Royal Air Force Volunteer Reserve, died 14th March 1941 aged 34 and lies in Stockport Crematorium, panel 6.

Fenton Braithwaite, OBE, MSc, FRCS, (1908–25 Aug 1985) had a remarkable career, carrying on the prodigy culture of Manchester by matriculating from Baines Grammar School at the age of 13 and according to his obituary [247], entering Manchester for an honours degree in mathematics when he was 16, the minimum age allowed for entry to a degree course. The official University Register, however, contains no record of him being awarded a mathematics degree. After misspelling the name of his school, the obituary then cites an MSc at the age of 21, whereas the official University Register entry shows it to be a BSc in physics, with his MSc awarded in 1931. We therefore take with caution the obituary's further claim that he then won a scholarship to Gonville and Caius to read biochemistry, anatomy and physiology, being awarded, according to his obituary, double first class honours. He then proceeded to St. Bartholomew's Hospital to secure desired medical qualifications. He gained a reputation for reconstructive surgery, especially cleft lip and palate deformities in children which he 'lovingly and expertly converted into some of the best results in the world' [247]. During World War II, the experience he gained in the Royal Air Force made him an expert in the management of burn injuries and his physics background provided input to the radio-therapy service that he devised for head and neck cancers. Fenton Braithwaite epitomises the soul of this chapter: Manchester physics graduates who went on to bestride other worlds.

1930

First Class: Francis Wilfrid Cotton, James Stanley Hey, Richard Arnold Hoyle Hope, Herbert Myers Parker, Harry Potter.

2nd Class (i): George Lees, Ronald Leslie Moore.

2nd Class (ii): Wilfred Garthwaite, Roland Jackson.

Third Class: Arthur Charnock Smith.

F W Cotton MSc 1931. J S Hey MSc 1931. DSc 1950. R A H Hope MSc 1931. R Jackson MSc 1933. R L Moore MScTech. 1931. H M Myers MSc 1931. H Potter MSc 1931.

1931

- First Class:* Joseph Bor, Eric Eastwood, Deborah Jackson, Albert Sidney Louis Morgan, Thomas Stafford Walker.
- 2nd Class (i):* Alan Baxter, Louis Frith, Oscar Janus, Colin Alfred Meek, Kelsall Robson Willacy.
- 2nd Class (ii):* Hedley Vickers Ellis, Ernest Hughes, Arnold Mather, Mahmoud Omar, Francis James Stubbs.
- Third Class:* John Henry Corkill, Fahmy Yousif Girgis, James Moorhouse Gorton, George Alfred Richardson.

A Baxter MSc 1932, PhD 1935. J Bor MScTech. 1932. E Eastwood MSc 1932. L Frith MScTech. 1932. Deborah Jackson became Mrs C E White. C A Meek MSc 1932. A S L Morgan MSc 1933.

After graduating in physics, Oscar Janus turned to medicine, eventually becoming a consultant physician in Oldham. Born in Manchester, the son of a shipping merchant, he went to prep school in Buxton and then public school at Epworth College. During his time at Manchester he was president of the University Union. As a squadron leader in the RAFVR between 1946 and 1948 he was involved in the care of patients with tuberculosis in field hospitals all over the country. From 1948 until 1951 he was chief assistant to J H Kellgren at the Nuffield rheumatism research department at Manchester Royal Infirmary. Then in 1951 he was appointed consultant physician to the Oldham Group of Hospitals, where he established intensive care units and founded the postgraduate medical centre.

1932

- First Class:* Duncan Cameron, Dennis Illingworth Lawson, Philip Parker.
- 2nd Class (i):* Margaret Renton Fawthrop, Eric Howgate, Ronald Stanley Walshaw.
- 2nd Class (ii):* Frederick Everard Baguley, Kenneth Freeman, John Hurst, Arthur Jones.
- Third Class:* John Leslie Boardman, John Harrison Boyer, Stanley Leonard Harrison, Denis Robert Stubbs, Herbert Wilkinson.

D Cameron MSc 1933, PhD 1936. Margaret Fawthrop became Mrs H M Parker. K Freeman MScTech. 1935. S L Harrison MScTech 1936. D I Lawson MSc 1932. P Parker MSc 1933. H Wilkinson MScTech 1933 PhD 1937.

1933

First Class: J W Illingworth, Ronald Liddington, Arthur Porter, Thomas Herbert Reynolds, Abraham Taylor.

2nd Class (i): Leslie Wilson Ball, Alice Edwards, William Huntingdon, Thomas Murray Martin.

2nd Class (ii): John Arthur Thorp Dawson, Harry Rostron Hindley, Annie Mason, John Rider Moore.

Third Class: Alfred Harvey Mitchell, Syed Ahmed Quadri, Jesse Holland Walker.

L W Ball MScTech 1935. T M Martin MSc 1935. J R Moore MSc 1935. A Porter MSc 1934, PhD 1936. A Taylor MSc 1934, PhD 1936.

Syed Ahmed Quadri was born in Tekmal in 1908, the son of sufi Syed Mahmood Pasha Quadri and Amatul Fatima Shahzadi Begum through whom his lineage can be traced to the fourth Caliph Ali ibn Abi Talib who ruled over the Islamic Caliphate from 656 to 661 AD. Syed's ancestors migrated from Baghdad to Tekmal, in Andhra Pradesh whence Syed acquired Indian nationality. After graduating from Manchester with a degree in physics, he became a lecturer in physics at Osmania University. In the tradition of tall Mancunian physicists like Fokker, Darwin, Robinson and Bohr, he exploited his tallness in university sports and paramilitary activities. He was awarded the title of Khan Saheb by the British government of India in 1943, when the photograph shown in [Figure 9.3 on the next page](#) was taken. His career blossomed in Indian education and he became an advisor to the UN. He died on 16th May 1990 and is buried in the ancestral tomb in Tekmal.



Figure 9.3: Syed Ahmed Quadri (centre) with his wife and entourage at the Khan Saheb ceremony in 1943.

1934

First Class: Leo Connell, Gordon King, Amy Alice Smith.

2nd Class (i): Alexander Dumbill, Joan M. Honeyburne, Leslie Twyford.

2nd Class (ii): James Dawber, Herbert Green.

Third Class: Eric Bowen, Alan Young Cooper, Margaret Farrimond, Clifford Flemming, Frederick Breakell Stubbs.

Margaret Farrimond became Mrs Nicholas Westcott. Joan Honeyburne became Mrs Beresford Bland in 1945. G. King MSc 1935.

According to the magazine of Manchester High School For Girls, Joan M. Honeyburne left the High School in 1931 and started her degree course at Manchester that year. After her BSc in 1934, she gained an MSc in 1935 before

pursuing her career in radiology, for instance, in the Physics Department of the Royal Cancer Hospital, now the Royal Marsden NHS Foundation Trust in London. She was born in the Guisborough district in 1913, her family moving to Chorlton by 1917. Her marriage to Beresford M. Bland, librarian at Southampton University is registered in index of births, marriages and deaths in the Cockermouth district during the last quarter of 1945.

1935

First Class: Noel Corcoran, Edward Lee, William Makinson, William John Meredith, Eric Pickup, Gordon Hugh Thorndike.

2nd Class (i): John Atherton Clegg, Ian Ronald Robinson, David Lorrison Smare.

2nd Class (ii): John William Cole, Robey Johnson.

Third Class: Alice Frances Hodgkiss, Richard Thomas Wilson.

J A Clegg PhD 1948. N Corcoran MScTech 1937, BA(Com.) 1940. E Lee MSc 1936. W J Meredith MSc 1936. D L Smare MScTech. 1937. PhD 1942.

1936

First Class: Neville Samuel Billington, Philip Simpson Crowther, Harold Edge, Agnes Muriel Fletcher, Maurice Stephenson.

2nd Class (i): John Kenneth Berry, John Johnson.

2nd Class (ii): Sidney Evans Lomax, Percy Phillips, Ludwid Sandler, Harold Charles Shellard, Harry Owen Walker.

Third Class: Helmut Julius Goldschmidt, Charles Speers Parsonage, Joseph Mylchreest Qualtrough.

N S Billington MSc 1937. P S Crowther M.Sc 1940. Agnes Fletcher MSc 1937, became Mrs Thomas. H J Goldschmidt MSc 1938, DSc 1955.

Despite having a name to match 1901 graduate Alphonso Fritszalan Quarmby, that also defies anyone to share it, I have found no trace of Joseph Mylchreest Qualtrough's further career.

1937

First Class: John Crank, Ronald Lee Stafford.

2nd Class (i): Robert Fenwick Archer, Samuel Baxter, George Eric Buckley, Edward Dearden, Arnold Hargreaves.

2nd Class (ii): Leonard Dunkerley Brownlee, Albert Cooper, Gerald Owen Forester, Roland Harper, Sydney Edgar Kelly, Joe Ravenscroft Leach, Maurice Bernard Warren.

Third Class: Marjorie Kathleen Fallas.

S Baxter M.Sc 1938. J Crank, MSc 1938, D.Sc 1953. E Dearden MSc 1938. G O Forester MSc 1938, PhD 1941. A Hargreaves MScTech. 1938, PhD 1940. R Harper MSc 1938.

1938

First Class: Herbert Fletcher, Peter Ingleby, Reginald Meredith.

2nd Class (i): Alan Heathcote, Joseph Paine, Arthur Pennington, Alan Walsh.

2nd Class (ii): Robert Neville Garside, Leonard Wright Hubbert, Arnold Littlewood, Richard Mather, Ivan Leonard Muter.

Third Class: Norman Clarke, Cyril Dewhurst Stringfellow.

H Fletcher MSc 1945. R Meredith MSc 1946, DSc 1955. A Walsh MScTech 1945.

Reginald Meredith briefly did research on cosmic rays before joining the British Cotton Industry Research Association. He became a Senior Lecturer in the Department of Textile Industries at Manchester College of Science and Technology in 1952 and then Professor of Textile Technology at Glasgow University in 1957.

1939

First Class: John Newton, Malcolm Macleod Nicolson, John Roberts, Albert Schofield.

2nd Class (i): James Rennie Whitehead.

2nd Class (ii): Robert James Duncan, William Hawarden Fisher.

Third Class: Eric Gallagher, William Anthony Greenwood, John Bromiley Sharples, Gerard Wood.

M M Nicolson MSc 1944. A Schofield MSc 1940.

1940

First Class: Sidney Benjamin Jackson, Albert Hickford Turnbull.

2nd Class (i): Charles Harold Forshaw, Frank Fowweather, Alfred Victor Parker, John Bryan Thornton.

2nd Class (ii): Derick Jacob Behrens, James Cooper.

Third Class: Frank Walter Holmes.

F Fowweather PhD 1951.

1941

First Class: Stanley William Baynham, Henry Elliot, John Greenhalgh, Charles Brian Anthony McCusker.

2nd Class (i): William Campbell, Douglas William Nicol Dolbear.

2nd Class (ii): Philip Cowlin.

Third Class: Lilian Higham.

D W N Dolbear MSc 1947, PhD 1950. H Elliot MSc 1947, PhD 1950. Lilian Higham became Mrs Smith. C B A McCusker MSc 1942.

1942

First Class: Edith Marjorie Boardman, Douglas Broadbent.

2nd Class (i): Joseph Anderson, John Pierson.

2nd Class (ii): Henry Ashworth Prime, John Felix Wood.

Third Class: Robert Arthur Chippendale, James Kent.

Edith Boardman became Mrs. Greenhalgh. H. A. Prime MSc 1946.

Figure 9.4 contains seven of the eight graduates of 1942, together with staff member Jimmy Nuttall. The identities of all persons in this photograph were confirmed to me by Douglas Broadbent in my office in 2003. Douglas, who lectured to me on mechanics in 1959, also graduated in this group.



Figure 9.4: *Graduation Class of 1942.*

Standing L to R: D Broadbent, J Kent, J F Wood, J Anderson, H A Prime.

Seated L to R: J Pierson, J Nuttall, E M Boardman.

Graduate Robert Chippendale was not present for the photograph.

1943

First Class: William Leslie Wilcock.

Third Class: William Kenneth Donaldson, Joseph Hall, Stanley Martin.

W K Donaldson MSc 1945, PhD 1946. W L Wilcock PhD 1951.

1944

First Class: George Paul Adamson, Herbert Frederick Kay, Colm Norbert Welsman Litting.

2nd Class (i): William Bardsley, Bernard Eastwood, Maurice Edmundson, James Holden, James Moss, John Templeton.

2nd Class (ii): Peter Denton, Walter Grattidge, James Hirst Hodgson, Joseph Harry Jaffe, William Rimmer Linton.

Third Class: Edward Dewhurst, Alan Howard Shaw.

P Denton MSc 1951. W Grattidge PhD 1950. J Holden MSc 1948. H F Kay MScTech. 1945, PhD 1947. C N W Litting PhD 1952. A H Shaw MSc 1948.

1945

First Class: Roy Claude Faust, Walter Hopgood, Pamela Gwenllian Morris.

2nd Class (i): Gordon Arthur Harold Arnold, Frederick Gordon Brooks, William John Morris, Thomas Gray Pearson.

2nd Class (ii): John Reginald Beattie, Audrey Letitia Greenfield Heckels.

R C Faust MSc 1946, PhD 1949. P G Morris MSc 1946, became Mrs Robert Dunsmuir. W J Morris MSc 1948.

1946

First Class: John Reginald Cook, Albert Leslie Hodson.

2nd Class (i): Kenneth Westerman.

2nd Class (ii): Louis Cohen, Rita Procter.

J R Cook MSc 1948. A L Hodson MSc 1947, PhD 1951. K Westerman MSc 1947.

Leslie Hodson became an expert on cloud chambers. He stayed on after PhD and helped to build the famous Jungfrauoch chamber in the department's workshops, before following J G Wilson to Leeds when the cosmic ray group disintegrated. In 1997, on the jubilee anniversary of the discovery of V-particles

in Manchester, he invited me to Leeds where he showed me the Jungfrauoch chamber, which he had modified for use in the undergraduate teaching laboratory and then took me to a warehouse storage depot in Armley, where he was paying rent for the housing of his enormous quark detecting cloud chamber, into which he walked. The Jungfrauoch chamber was promptly driven back to Manchester by me, with the help of undergraduate Brian Cox, whose expert knowledge of the Pennine Range gradients brought the heavy chamber safely back to Manchester where it now lives.

1947

- First Class:* Geoffrey Wallwork Eastwood.
- 2nd Class (i):* Anthony Carruthers Benson, Henry Whalley Duckworth, Edgar Lipworth, William Geraint Vaughan Rosser.
- 2nd Class (ii):* Norman Adams, Mary Blundell, Jack Vickers Bromily, Frank Rhoden, Bernard Augustine Worswick.
- Third Class:* Alec Crothers, Allan Green, Jack Hayes, Brenda Mavis Howe, Richard Edwin Hunt, Tom Ingham, Harry Malbon, Jack Moore, Alec Geoffrey Thompson, Francis Cecil Joseph Tildsley.

A C Benson PhD 1951. Brenda Howe became Mrs Everitt. F Rhoden MSc 1955. W G V Rosser MSc 1949, PhD 1951.

1948

- First Class:* Richard Bruce Owen, Alan Arthur Shepherd, Gordon Eric Thomas, Arnold Whittaker Wolfendale.
- 2nd Class (i):* Keith Homer Barker, Peter Chippindale, Joseph Stanley Greenhow, Derek Jakeman, Charles Gordon Little, Alan Francis Moore, John Jackson Sparkes.
- 2nd Class (ii):* Robert Sandford Barnes, Herbert Cooper, Albert Dudley, David Beverley George Edwards, Alan Harrison, Ronald Eric Harvison, Robert Wells Lawson, William Norman Mair, Ian Arthur Marshall, Edward Moss, James Claud Plowman, James Redfearn.

Third Class: Brian Birtwhistle, William Earley, John Thomas Hall, Dennis Jones, John Ernest Orleans Lindsay, Frederick Morley, Kenneth Taylor, George Harry Webster.

K H Barker PhD 1953. P Chippindale PhD 1951. D B G Edwards MSc 1949, PhD 1954. J S Greenhow PhD 1952. D Jakeman PhD 1952. C G Little PhD 1952. J C Plowman MSc 1950. A A Shepherd MSc 1949, PhD 1951. G E Thomas MSc 1950, PhD 1954. A W Wolfendale PhD 1953.

1949

First Class: George Derek Bell, Alan Dunworth, Gerald Nathan Fowler, Arvid Herzenberg, Kenneth Reginald Keep, Roylance Knowles, Francis John Lowes, Reginald Scott, Marjorie Woodward Swift.

2nd Class (i): Mary Almond, Arnold Rudolph Bodmer, William Dennis Bishop, Noel Keith Bridge, Eric Stanley Brown, Thomas Charnley, David George Christie, Derek Ian Dawton, William Edyvean, Thomas Henry Harker, Cyril Hazard, Aubrey Abraham Jaffe, Geoffrey Morgan David Bruce Jones, Stanley Arthur Kirkham, Henry James Marrinan, Harold Minshall, Frank Donald Morten, Philip Herbert Oliver, Geoffrey James Parish, Robert Stratton.

2nd Class (ii): Frank Armstrong, Derek Barber, Gilbert Arthur Baxter, William Benson, Alban Charnley, Cecil Roy Evans, William Douglas Bertram Greening, John Hudson Haywood, John Raymond Hodgkinson, Robert Hervey Hollway, David Morris Houghton, Edna Kay, Daniel MacFie, Donald Keith Mackenzie, John Barlow Massey, John Naylor, Raymond Neate, Kenneth Nelson, John Nightingale, Alan Reddish, Ernest Alan Sharples, Keith Smith, Fred Sumner, Bernard Vincent Arthur Wickenden.

Third Class: Thomas Wilfred Baker, Derek Astin Barker, Leslie Beckett, George Eaves, Thomas Harold Foxcroft, Ronald Frederick Hamman, Derek Mason, Frank Allan Newton, George Philip Nuttall, Henry Patterson, Edward George Pereles, William Riding, Peter Philip Starling, William James Glynn Trebble, Geoffrey Noel Vaughan.

Mary Almond PhD 1953, became Mrs J M Pickering. A R Bodmer PhD 1953. N K Bridge PhD 1955. A Charnley MSc 1950, PhD 1952. T Charnley MSc 1950, PhD 1952. D I Dawton PhD 1952. A Dunworth PhD 1953. G N Fowler PhD 1952. J H Haywood MSc 1950. C Hazard PhD 1953. C M D B Jones PhD 1952. K R Keep PhD 1952. F J Lowes PhD 1952. F D Morten MSc 1951. R Stratton PhD 1952. Arvid Herzenberg PhD 1952 and Marjorie Swift MSc 1952, fellow graduates, were married.

1950

First Class: Paul Joseph Black, Arnold Brendon Clare, Kenneth Durham, Raymond Hide, Harry Hughes, Derek Raynor, Derek Shaw.

2nd Class (i): Alfred Bennett, Adrian Anthony Langhorn Browne, Raymond Cooper, John Kenneth Crawshaw, Frank Brian Crossley, Brian Vernon Daniels, Alan Michel Devall, Thomas Ashworth Duerden, Joseph Brian Earnshaw, Derek Bathurst Gayther, John Edward Geake, John Higson Gerrard, George Grimshaw, Brian David James, William Alexander Scott Murray, Peter Rowden, John Leslie Rowlands, Raymond Shaw, Kenneth Eric Williams.

2nd Class (ii): Alfred Malcom Bancroft, Edward Cahill, Barbara Ann Fisher, Alan Raper Humphries, Roger Clifton Jennison, Arthur Kemp, Peter Lord, Gerard Joseph Marrison, Alexander John Miller, Trevor Walter Morrison, Janet Anne Newton, John Stuart Sutherland, Eric Gordon Tootill, Alan Turner, Jeffrey Whittle, Donald Samuel Wilkinson, Margaret Wilson, Kenneth William Young.

Third Class: Geoffrey Percival Barnett, Reginald Redvers Blakey, Gerald Chatburn, Albert Green, Kenneth Hickson, Raymond Stanley Howard, Frank Arthur Hudson, Alan Wilson Innes, Donald McPhie, Frank Marshall, Gordon Westall Meggitt, Brian Miles, Alan John Phillips, Alan Stewart Roberts, Frank Rossiter, Eric Shuttleworth, Arthur Antony Tilsey, Bruno Joseph Walmsley, John Wilson.

J K Crawshaw PhD 1957. T A Duerden PhD 1953. D B Gayther PhD 1954. J E Geake MSc 1951, PhD 1956. J H Gerrard MSc 1951. PhD 1953. R C Jennison PhD 1954. P Lord MScTech. 1951, PhD 1954. B Miles MSc 1952. W A S Murray PhD 1954. A S Roberts PhD 1954. Margaret Wilson became Mrs Welch.

Paul Black obtained a PhD at Cambridge in X-Ray crystallography, moved to Birmingham, where he became professor.

After his BSc at Manchester, Raymond Hide went to Gonville and Caius where he obtained a PhD and after a brief spell at the University of Chicago, worked at Harwell, was then a lecturer at King's College, Newcastle from 1957 to 1961, before becoming Professor of Geophysics and Physics at M.I.T. He was then Head of the Geophysical Fluid Dynamics Lab at the Met Office (1967 to 1990). He was appointed a Fellow of Jesus College, Oxford in 1983, holding his fellowship until 1996. Between 1984 and 1990, he was also Professor of Astronomy at Gresham College, based in central London. He was Director of the Robert Hooke Institute and a Visiting Professor in the Department of Physics at the University of Oxford from 1990 to 1992. He is, moreover, a member of the Pontifical Academy of Sciences, having been appointed by Pope John Paul II in 1996. Hide was elected a Fellow of the American Academy of Arts and Sciences in 1964, a Fellow of the Royal Society in 1971, awarded the Royal Society's Hughes Medal in 1998 and appointed CBE in 1990. Since 2000, he has been Senior Research Investigator, at the Department of Mathematics, Imperial College London

Derek Shaw (who provided Figure 9.5) obtained his PhD at Imperial College, then R&D at BTH Rugby (1953 - 1963) then in the Physics Dept at Hull.



Figure 9.5: *The 1950 physics graduates: an informal grouping in the main University Quadrangle. 1: Margaret Wilson. 2: Raymond Shaw. 3: Frank B Crossley. 4: John E Geake. 5: Barbara A Fisher. 6: Gordon W Meggitt. 7: Janet A Newton. 8: Paul J Black. 9: Thomas A Duerden.*

Kenneth Durham, Derek Raynor and Roger Jennison were all ex-servicemen and hence some years older than others in the class.

(Sir) Kenneth Durham eventually became chairman of Unilever and Kingfisher, the parent company of Woolworth's. He was considered to be a breath of Lancastrian fresh air when he was chosen as chairman of Unilever in 1982. Controlled by a 'special committee' representing the British and Dutch arms of the group, Unilever had the reputation of a cautious corporate bureaucracy; but Durham's style was pungent and outspoken: 'Just think of the amount of gut

there is out there for metabolising food,' he observed, in relation to future sales prospects. 'It's huge.' He attributed his rise through Unilever's hierarchy to his analytical powers as a research scientist combined with physical stamina and an ability to take decisions and not worry about them afterwards. He was equally outspoken on political issues such as the Labour minister Tony Benn's white paper on state intervention in industry, which Durham described as 'sinister' and apparently 'directed towards political ends rather than towards solving the economic problems of the country'. He had married Irene Markham, whom he first met when he was 16, in 1946 before he started his delayed degree course.

After a spell as lecturer at Manchester, Roger Jennison became a professor of electronic engineering at Essex.

Peter Lord became professor of acoustics at Salford.

Gordon Westall Meggitt went on to qualify as a surveyor and joined the British Overseas Surveys, serving in various African countries and then Malaysia for which he was awarded an OBE.

1951

First Class: John Scott Buchanan, Ian Butterworth, Harold Charnock, Phiroze Dorab Kapadia, James Ring, Michael Graham Sowerby, Lawrence Alfred Wyatt.

2nd Class (i): Kenneth Alwyn Bailey, Neville Taylor Byrom, George Crossley, Derek George Deeprise, Stanley Evans, Geoffrey Roy Holderness, John Victor Major, Geoffrey Victor Marr, Douglas Ian Page, Helen McCall Paterson, John Potts, Alan Leopold Rodgers, Cecil Rubenstein, Peter Henry Romans Scholefield, William Snowden, Connell Allison Uttley, David Slater Wilde, David Robert Wallis Williams, Colin Wilton, Wolfgang Zernik.

2nd Class (ii): Cyril Bolton, Kenneth Bullough, David John Dacam, David William Disley, John Adair Douglas, Geoffrey Arthur Ormiston Dunning, Ernest Michael Healey, Geoffrey Roy Hegan, John Allen Hughes, Peter Arthur Kenyon, Victor Geldart Lodwick, Brian James McDonald, James Daley McKee, Leslie Alan Mackenzie, Ian Macpherson, Thomas Perry MacRae, Gerald Hilton Millard, Joseph Alan Geoffrey Neville, Arthur Nowell, Edward Russell Ormesher, Charles Gerald Pickering, Neil Anthony Porter, Dennis Aubrey Rapier, John Joshua Sharp, Harold Williams, William Neville Woodyatt.

Third Class: Arthur Atherton, Raymond Barnes, Gordon Alan Bell, Donald Geoffrey Blears, Harold John Bunt, Keith Burrows, John David Clayton, Trevor Walford Davies, John Barker Dawson, John Shield Gaskin, Paul Harlen, Herbert Judson, Arthur Julian Kahn, Ronald George Pratt, Howard Compton Rose, Graham Spence, John Cragoe Tallack, John Knight Tutton, Brian Woodacre, Harold Robert Woolley, William Henry Wrigley.

J. S. Buchanan PhD 1954. K. Bullough MSc 1955. K. Burrows M.Sc 1957. I. Butterworth PhD. 1954. S. Evans PhD 1955. I. Mcpherson MSc 1954, PhD 1957. T. P. McRae MSc 1954. Graduates J. V. Major and Helen Paterson were married. D. I. Page PhD 1954. J. Potts MSc 1953. J. Ring PhD 1957. H. C. Rose MSc 1956. M. G. Sowerby PhD 1955. C. A. Uttley PhD 1956. H. Williams PhD 1955. L. A. Wyatt PhD 1955.

George Crossley wrote to me in 2011 to say that

‘It was a very exciting time to be in the physics department - that Blackett even had, only half in jest, threatened to ban the discovery of any more ‘fundamental particles’ until some of the existing lot had been sorted out - and there was also the explosion of progress in electronics and computing going on next door in the electrical engineering department, under F. C. Williams. There was excellent cooperation between the two departments at that time - some physics undergraduates were given the option of taking a proportion of lectures in the electrical engineering

department, and doing their third year ‘long experiment’ under Fred Williams’ guidance. Cyril Bolton and I both accepted this offer, which is probably why I ended up going to Malvern, rather than staying on at Manchester.’

Peter Zernik told me that his father Wolfgang Zernik came to England at the age of eight in 1939 on a Kindertransport from Leipzig.



Figure 9.6: *The 1951 physics graduates.*

Back Row : J Ring, C Wilton, H Williams, J A Douglas, P H R Scholefield, J B Dawson, J S Gaskin, A Nowell, S Evans.

4th Row : M Sowerby, R G Pratt, J A G Neville, J A Hughes, D A Rapier, P D Kapadia, G V Marr, B Woodacre, W Zernick, D B Blears?

3rd Row : T W Davies, H R Woolley, G A Bell, H J Bunt, H Charnock, D R W Williams, E M Healey.

2nd Row : P A Kenyon, G R Hegan, V G Lodwick, D W Disley, G Crossley, D S Wilde, G H Millard, C Bolton, H C Rose, K Bullough.

Front row : J S Buchanan, J V Major, G R Holderness, I Butterworth, H Mc Paterson, A Atherton, J Abbott?, J D McKee, N A Porter. (Full list of names supplied by Helen (Paterson) Major.)

The two people in the photo named as J Ring and P D Kapadia were listed as Edward Ormesher and Brian MacDonald by Helen Major. Finally, Helen's list named the person third from the right on the front row as 'Abbot' but no person of that name, nor Abbott, graduated in physics in any year up till then. A John Abbott obtained an ordinary degree in science that year and it is possible he was included in the photo for some reason.

1952

First Class: J W Bradley, M S Coates, J L Douce, J C Gill, M N A Possener, Peter Rastall, R J Rout, G P Spilsbury.

2nd Class (i): D M Binnie, Matthew Dagg, D A Eyeions, P A Forrester, Brian Jackson, G D James, J H Leng, Ronald Naylor, P J Neale, P R Pinnock, N H A Smith, G E Steele, D B Thomas, A R Thompson.

2nd Class (ii): P G J Beer, J B Bownas, E W Burdett, Cyril Casswell, R W Dickinson, A G Dobbins, Fred Fidler, W F Greenhalgh, M J Larkin, J R Ley, Peter Muff, Eric Pearce, A G Smith, William Smith, W N Taberner, N J Taylor, E A Wain, Donald Whistlecroft.

Third Class: D N Brooks, S A Curry, Kathleen Dodd, Harry Fuchs, K H Gibbons, M H Graubart, Elisabeth B Jackson, J P Jackson, W E Lawford, J G Lum, James Marshall, A B Musgrave, Keith Stewart, Brenda M Sutton, F J Swaine, A J Vincent, J S Walker, R L Williamson, J A Woodward.

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Peter Rastall obtained his BSc and then a PhD under the loose supervision of Léon Rosenfeld and Julius Podolansky, whereafter he chose to do his National Service in the Rolls-Royce aero-engine division, which was a 'reserved occupation'. On being offered a post at the University of British Columbia, three months before the expiration of his 'duty' he seized the initiative by sending a letter of resignation to Rolls-Royce and catching the next boat to Canada. In the spirit of Henry Royce, the company never asked the Ministry of Defence to send a

pressgang to bring him back and he spent the next 39 years in Vancouver.

1953

First Class: W A Cooper, E M Dunstan, K C Lapworth, P H Lissberger, E J Squires, Dennis Walsh.

2nd Class (i): J W Berry, B R Chapman, J O Clarke, J A Edwards, B L Hewitt, Barbara Hodson, R J Lamden, Vincent Latham, Dennis Longley, W G Phillips, D H Roberts, Joseph Shepherd, Brian Young.

2nd Class (ii): J P Alderson, Arthur Bentham, E R Billam, Geoffrey Boyfield, C T Britton, Cyril Cowell, John Davis, P B Fay, Alan Foster, J E Hall, George Jackson, Alan Johnson, C E Leveson, W J Leyshon, A T Lunn, E L Neufeld, F J Parker, G C Platts, D W Senior, James Sherwin, D S Thornton, B O Wade, Paul Ward, Alan Whitaker.

Third Class: John Adams, J C C Bell, Allan Covell, T W Davidson, K I Dobson, J R Fielden, J A Gildea, Margaret Goldsmith, A P Harding, A H Harrison, Raymond Hoole, D A V Johnson, H R Joiner, Frederick Neuer, F P O'Dell, E R Payne, R G Robinson, J M Sneyd, R G Townend, Patricia M Woodhead, Norman Woodward.

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Figure 9.7: *The 1953 physics graduates with staff.*

Back Row: —, —, —, —, —, —, —, —, —, —, —, —, —, —, —

Middle Row: —, —, —, —, —, —, —, —, —, —, —, —, —, —, —

Front Row: C C Butler, J A Clegg, H J J Braddick, Z Kopal, A C B Lovell, P M S
Blackett, —, —, J Nuttall, B Owen, H Elliot, J A Newth.

1954

First Class: Vivian M Bradley, P Y Millns, B W Powell, Barrie Rowson,
Herbert Steiner.

2nd Class (i): J V Evans, Geoffrey Haigh, N E Ives, I L Jones, Gideon
Maidanik, J B Porritt, I M Schofield, A W Sharp, C D Watkins.

2nd Class (ii): JK S Barker, T S Billinger, J L Blakey, T K Cropper, Eirwyn Davies, E M Day, M J Denton, J W Harrison, G R Higson, Cedric Hitchon, B L Leek, W G Littlejohn, K G Lund, B W Mitchell, D V Moreton, J G Moses, Eric Norcross, John Parry, W L Robinson, Norman Sheriff, Kenneth Swift, William Thompson, Victor Warren, Alan Watson, C G Whittenbury.

Third Class: R H Abbott, J F Barlow, D J Blake, S S Hartley, A C Rhodes, J S Smith, R M Taylor, G R M Thompson.

XXX XXX XXX



Figure 9.8: *The 1954 physics graduates with staff.*

Back Row: -, -, -, -, -, -, -, -, -, -, -, -, -, -, -, -

Middle Row: -, -, -, -, -, -, V M Bradley, -, -, -, -, -, -, -

Front Row: -, -, -, -, -, G D Rochester, H J J Braddick, Z Kopal, A C B Lovell, W L Wilcock, -, -, -, -, -, G Maidanik.

In the interim between Blackett's departure in 1953 and Devons' arrival in 1955, George Rochester acted as Director of the Physical Laboratories. But it was decided that professors should take the prime spot in the group photograph and hence Kopal and Lovell occupy the two centre seats.

The newspaper *Feuille d'Avis de Neuchatel* carried the following short, tragic report on Wednesday December 21st 1955.

‘Grindelwald 20 Dec. - Un jeune Anglais de 22 ans, M. Peter Millns, astronome à la station de recherches de haute montagne du Jungfraujoeh, est tombé dans une crevasse d'une profondeur de 40 mètres, où il s'est tué. Son corps, que des guides ont dégagé, a été ramené á Grindelwald.’

Peter Millns was just into the second year of his PhD with Z Kopal, helping to methodically photograph the Moon through clear skies. The detailed photo-map was used by NASA for the first moon landing and Kopal published his and other photographs in a classic book: *A New Photographic Atlas of the Moon* in 1971.