

Professor Wynne Harlen OBE

12 January 1937 – 23 December 2025

An appreciation of a life well lived

Wynne Harlen was a pioneer in the field of science education, curriculum development, and reform of school assessment to support children’s learning, understanding, and enjoyment of science.



Wynne’s parents, Edith and Arthur Mitchell, met watching a rugby game in their hometown of Oldham, Lancashire. Edith’s family initially disapproved of Arthur, who was the youngest of twelve children and considered to have few prospects, so the couple eloped to the Isle of Man. From there, Arthur exchanged a series of letters with Edith’s somewhat formidable mother which eventually succeeded in persuading the family to accept the match.



After their marriage, Edith and Arthur moved south in search of work and had some difficult years during the Great Depression of the 1930s. Wynne’s older sister Ruth was born in Swindon in 1934 and Wynne in 1937, sharing her birthday with Arthur. Shortly afterwards, the family moved to Cheltenham in Gloucestershire. Despite leaving school at the age of 13, Arthur had a natural talent for engineering and found work at the newly established Dowty Aircraft Components Company, where he thrived. The family’s fortunes improved significantly and they moved into a newly built house at 94 Brooklyn Road, Cheltenham, a source of immense pride to Arthur and Edith.

They were also hugely proud of their intelligent and talented daughters. Wynne and Ruth both won places at Pate’s Grammar School, where the headmistress Dame Margaret Miles (described by educationalist Caroline Benn as “the quintessential British headmistress in the Great Girls School tradition of the 19th century”) was a leading campaigner for comprehensive education. Ruth was a brilliant student of English and won a scholarship to St Hilda’s College, Oxford. She also had somewhat tempestuous relationships with her parents and teachers, and it was perhaps partly as a result of this that Wynne chose a very different academic discipline, as one of only a handful of female physics students at Oxford at that time. A shy but popular (and very beautiful) young woman, Wynne loved her time at St Hilda’s and the group of lifelong friends she made there.



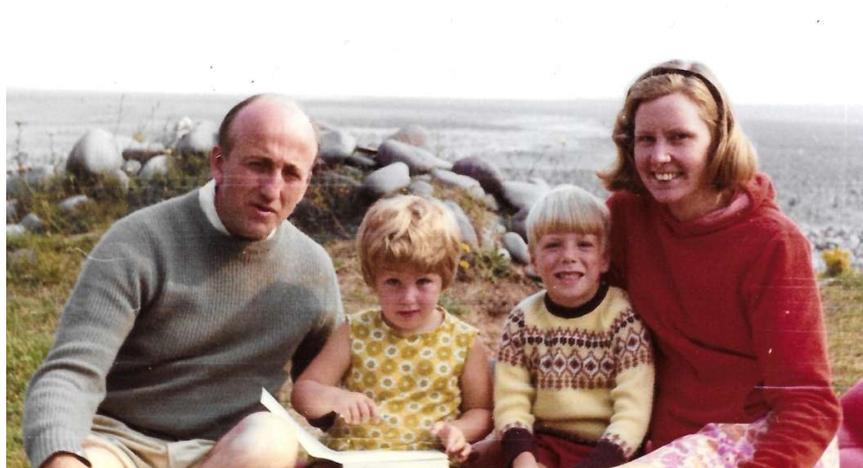
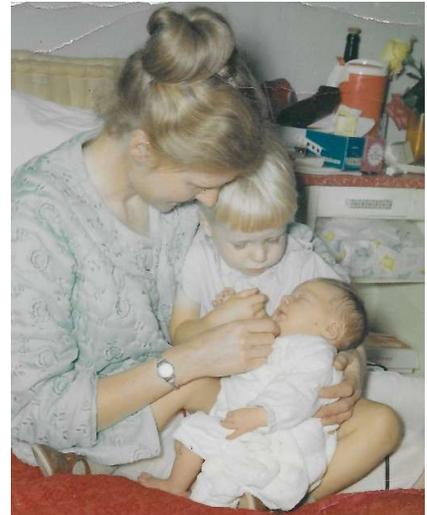


Returning home after the first day of a summer job during the long vacation before her final year at university, Wynne described her new boss to her parents as a “brusque Yorkshireman”. At the end of the week, that Yorkshireman, Frank Harlen, arrived at the door of Brooklyn Road announcing that he was there to take Wynne out for the evening. Frank and Wynne dated throughout that summer and her remaining year at Oxford (as her manager and 11 years her senior, this would probably be disapproved of these days, but those were different times and it was probably called ‘courting’ then!)

and they were married soon after she graduated, honeymooning on a walking holiday in the Lake District. They later had two children: Oliver, born on New Year’s Day 1965, and Juliet in the summer of 1967.

From teaching to research

Wynne’s first job was teaching physics at Cheltenham Ladies’ College and so her a lifetime as a teacher, researcher, and author in science education began. She joined the newly established St. Mary’s College of Education in Cheltenham in 1960 as a lecturer in science, later moving to the School of Education at the University of Bristol where she was awarded an MA in Education, followed by a PhD, studying part-time whilst also working as a research fellow on the ground-breaking Science 5-13 project, not to mention raising a young family. In 1973 she became Director of the Progress in Learning Science project at Reading University. At the same time, Frank was promoted to a post at the National Radiological Protection Board based at Harwell in Oxfordshire, so the family moved to the village of East Garston in West Berkshire, where Oliver and Juliet spent a very happy childhood.



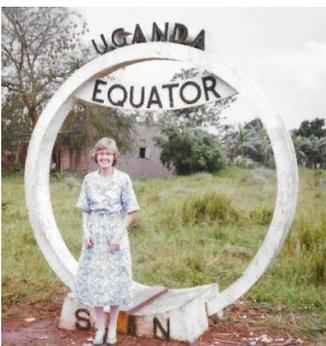
Wynne's next role was Deputy Director of the Assessment of Performance Unit at the University of London (working under Professor Paul Black) from 1977-1985, before being appointed to the Chair of Science Education and Head of the Education Department at the University of Liverpool. In 1990, she moved to Edinburgh to become Director of the Scottish Council for Research in Education (SCRE); and in 1991, she was honoured for her services to education. Arthur and Edith were delighted beyond measure to be able to go with Wynne to Buckingham Palace to see her receive the Order of the British Empire from Queen Elizabeth.



PhD student and great friend Jane

She retired from SCRE in 1999 at the age of 62, but continued working well into her eighties, as Visiting (then Emeritus) Professor at the

University of Bristol and serving, amongst many other roles, as editor of the Primary Science Review, president of the Association for Science Education, and a founder member of the Assessment Reform Group (a group of senior researchers working to ensure that assessment policy and practice at all levels took account of relevant research evidence, working closely with teachers, teacher organisations and local education authority staff to advance understanding of the roles, purposes and impacts of assessment.)





Big ideas of science education

Wynne was involved in international development and collaboration throughout her career and across the world, visiting countries too numerous to list but spanning every continent (Antarctica excepted!) to participate in conferences, lead workshops for teacher trainers, support researchers, and advise policymakers. In recognition of this, in 2008 she was one of the two winners (with Guillermo Fernández de la Garza) of the international puRkwa (a phonetic spelling of “pourquoi”) prize for science education awarded by the École Nationale Supérieure des Mines and the French Academy of Sciences. The prize was awarded to pioneers in the innovation of general science education in school curricula, and Wynne used her share of the prize money to gather a group of distinguished colleagues from across the world to a seminar at Ross Priory on the shore of Loch Lomond in Scotland.

The starting point for the group’s discussions was “the recognition of the multiple problems which stemmed from the curriculum being overcrowded with content, allowing insufficient time for understanding through inquiry-based learning. Assessment dominated by tests of disconnected facts added to the perception of science as fragmented, and encouraged memorisation rather than understanding. As a result, many students did not see science education as interesting or relevant to their daily lives.”



A major part of the solution the group proposed was to conceive the goals of science education “not as a collection of facts and theories, but rather as progress towards a relatively small number of key ideas that are most worthwhile and relevant to students’ lives during and beyond school. A set of such ideas would provide a map for curriculum developers and teachers to select or create significant learning experiences from the enormous range available. Creating a reduced and more coherent curriculum framework meant asking: what are the most important ideas that students should encounter in their science education to enable them to understand the natural world?”

The result of this seminar was the publication of *Principles and Big Ideas of Science Education*, which was widely circulated around the world and translated into several languages. Five years later, the same group met to set out in more detail the rationale for working with big ideas and to consider the implications for curriculum content, pedagogy and student assessment, resulting in the follow up publication *Working with Big Ideas of Science Education*.



Beyond academia

The summary of Wynne’s career above might suggest that she had little time remaining for interests outside academia, but this was far from the case (although she did work incredibly hard). She remained very close to Arthur and Edith throughout their lives (they were married for over 60 years, and both lived well into their nineties). Frank unfortunately died suddenly in 1987, and Wynne remained single for the rest of her life. She was a devoted mother and incredibly supportive of Oliver and Juliet, taking great pride in their activities and achievements; and that of course extended to her grandson, Alex, nephew Paul, and nieces Anne, Jane, Sarah and Pamela and their families.



with Ruth at Edith & Arthur's diamond wedding anniversary, 1987



with Anne & Paul, San Francisco c.1995



At Cambridge for Oliver's doctorate ceremony 1991



Oliver & Christine's wedding July 1999



with grandson Alex, August 2003



Juliet & John's wedding November 1999 (John was there ... somewhere!)



First post-lockdown visit 2020



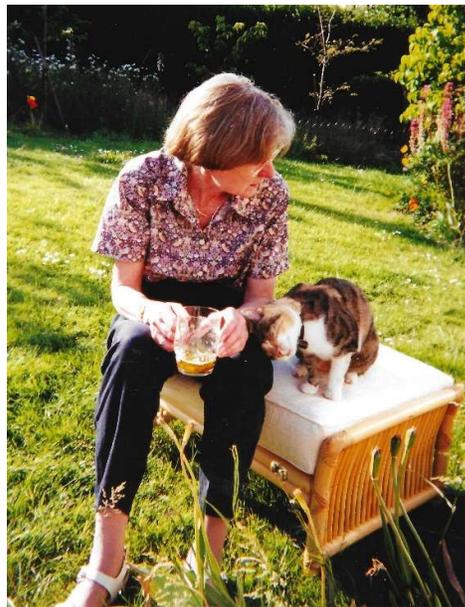
Lifelong friends Audrey & Margaret at Oliver's wedding

For the last 25 years, Wynne lived in Duns in the Scottish Borders in the Coach House next door to Juliet and John's house, which she converted from a derelict outbuilding into a warm and elegant home, filled with treasures from her trips around the world. Many of the colleagues and students she worked with in the UK and abroad became lifelong friends; and she was an enthusiastic and generous host (although it must be said, mostly a pretty terrible cook, with the honourable exceptions of her mince pies and exceptionally good marmalade!).

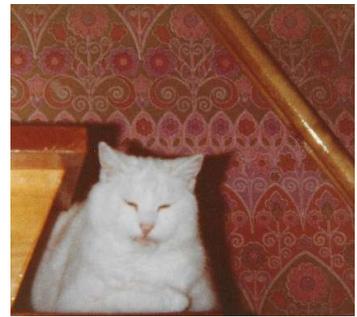
She was, however, a talented seamstress – she was of course always immaculately dressed – and made beautiful dresses from the gorgeous batik fabrics she brought back from her many visits to Indonesia (see the photo at the top right of the fourth page for an especially lovely example). She could knock up a pair of curtains and matching cushions in no time; and was expert at hanging wallpaper, perfectly pattern-matching the large swirly designs that were a feature of the family home in the 1970s and early 1980s! She always had at least one cat and delighted in their affection and antics.



with family cat Kit at East Garston



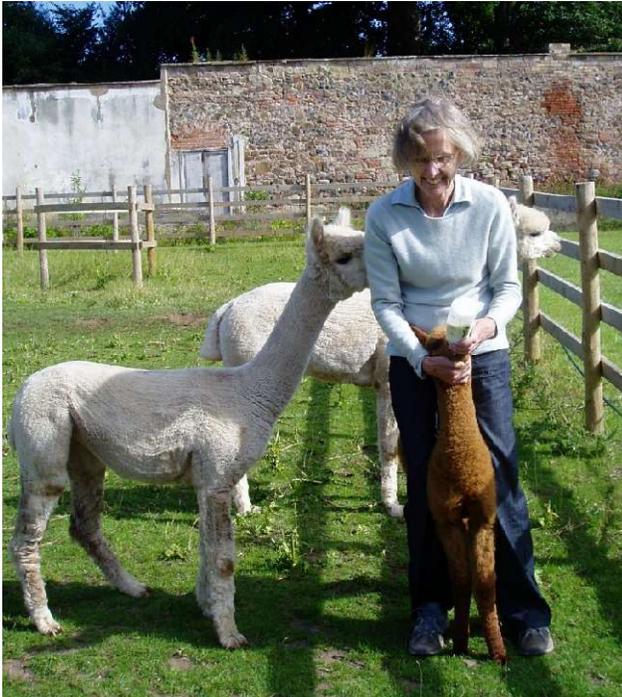
with Toffee in the garden at Edinburgh



Kit and wallpaper!



She was hugely supportive when John and Juliet adopted a family in 2005, and participated enthusiastically in all their activities and madcap schemes, including when the family expanded to include rather too many dogs and a small herd of alpacas!



Wynne loved classical music from an early age. As a child she saved up her pocket money to pay for her own piano lessons; and clubbed together with school and college friends to buy and exchange LPs. A keen cyclist, she would often cycle miles to attend concerts, including a memorable evening where she managed to sneak in through a side door at Gloucester Cathedral to hear the Halle Orchestra performing Elgar's Enigma Variations under Sir John Barbirolli. A highlight of her time at Oxford was playing timpani in the university orchestra; and she took up the piano again in recent years, buying herself a beautiful baby grand piano which was her pride and joy (and was later installed in Perth Cathedral, much to her delight.)

Wynne continued to regularly attend concert series and take part in tours to classical music festivals across the UK and Europe well into her eighties. She particularly loved opera, especially (if rather incongruously) Wagner, and was a subscriber to Scottish Opera for so long that she eventually graduated to the very middle seat in the front row of the Dress Circle! When the Duns University of the Third Age (U3A) was established, Wynne was of course a huge supporter and participated enthusiastically in a number of groups, including opera appreciation and a book club, which she enjoyed immensely.



First Munro "bagged": Ben Vorlich 1991

At home, Wynne loved gardening, taking charge of the vegetable garden on her move to Duns, where she also kept bees for a while (before unfortunately developing an allergy to bee stings which made it unsafe to continue.) She was hugely fit and a great walker, taking full advantage of the opportunities for hill climbing after her move to Scotland; although her great fear of heights (only matched by that of cows) meant that she usually had to stop just before the summit. In later years, she was well known in Duns for her long daily walks, often with several of Juliet and John's dogs in tow... or perhaps it was the other way round! In 2022 Wynne suffered a fall resulting in a broken pelvis which incapacitated her for a while and threatened her mobility longer term. With typical determination and tenacity, she followed her physiotherapists' instructions to the letter (they described her as their 'pin-up girl' and used her as a case study) and was walking independently around Duns again within six months, somewhat to Juliet's consternation...

Wynne's care needs gradually increased over the past couple of years, and in August 2025 she moved to a care home, The Manor House in Harrogate (near to Oliver and Christine's home in Burley-in-Wharfedale). This was of course a huge life change and wasn't easy for such a fiercely independent spirit to adapt to, but she understood the need for it and was steadily becoming more established and settled there. Juliet travelled down from Scotland regularly to see her and go to concerts together, and she particularly enjoyed the opportunity to see more of Oliver, Christine and Alex.



with Christine at The Manor House September 2025

We will remember Wynne with boundless love and huge gratitude for all that she was and all that she achieved and gave during her long and incredibly productive life.