

A funeral service for Emeritus Professor Musgrave was held on 24 November 2010 at Altringham Crematorium; the Chemistry staff of Durham University was represented by Emeritus Professor Richard Chambers and Dr Gerald Brooke, Reader Emeritus. Research students of Professor Musgrave at Durham were represented by Professor Chambers, Emeritus Professor Eric Banks (Manchester University) and Dr John Hutchinson. The following eulogy was delivered by Dr David Clark, like Dr Hutchinson a former industrial chemist; as Professor Clark, he was Professor Musgrave's immediate successor as Head of Chemistry at Durham.

Ken Musgrave

- 1) I'm honoured to say a few words on behalf of Ken's many friends, colleagues, former students both postgraduate and undergraduate; and I would like to add a few reminiscences of my own.
- 2) We celebrate a most remarkable man, who impacted many lives; his was as we say 'a life well lived'.
- 3) I would like to start by saying a little about the way serendipity featured in Ken's life, perhaps it began with his choice of university for his undergraduate and postgraduate study. He was after all a Durham lad having been brought up in Stanley and matriculated from Stanley Grammar School.
- 4) He chose to read Chemistry at Birmingham having concluded that it was one of the foremost research departments for the subject. (Durham in the 30's and early 40's did not have an international reputation in the sciences). His decision was a wise one since he met and married Joyce a fellow student and came under the influence of the Nobel prize-winner Sir Norman Haworth.
- 5) After Ken had completed his wartime PhD in record time Sir Norman asked him to be one of the first to help the Anglo-Canadian end of the Manhattan project. He moved with Joyce to Chalk River near Montreal. It is worth being reminded that fluorine chemistry received enormous impetus from the war effort and this was pivotal to the gaseous diffusion process for separating U-235 from U-238.
- 6) The then head of the chemistry section, Professor Paneth, set Ken on a difficult radionuclide separation problem that had previously proved intractable. Yet remarkably, in a few months he had cracked the problem using his wide knowledge of organic, inorganic and analytical chemistry skills. This stood him in good stead since Paneth, as the returning head of the Chemistry Department in Durham, invited Ken to a lectureship at the University at the end of the war.
- 7) It must have been a daunting prospect since research was not a high priority in Chemistry and with few staff to teach the whole of the subject, teaching and practical loads were very high. (It was rumoured that the head of department's interests were in colour photography and chasing the secretary round his desk. I am happy to record that although Ken and I as subsequent heads of department were interested in the former we had no proclivity for the latter!) Ken set about transforming the teaching of chemistry and set up research in organofluorine chemistry. By the time of his retirement many considered the Durham fluorine group the best in the world.
- 8) Moving from lecturer to reader and thence professor and head of department, Ken had a pivotal role in building up the Department such that for both teaching and research Durham Chemistry loomed large on the international map.
- 9) His wider role in the University as Dean of Science, and Pro-vice Chancellor were important in overseeing the wider developments in the University; in particular on the science and engineering site.
- 10) His vision and administrative skills were important in the transformation of Durham from a small regional university to the major player on the international stage that it then became. His period as acting Vice Chancellor confirmed the view in many of us that he had the rare combination of altruism and vision coupled with exceptional administrative ability and was probably the best Vice Chancellor that Durham ever quite had.

- 11) Ken took early retirement but our paths continued to cross. I have fond memories of the regular games of golf at Mount Oswald and even fonder memories of the 19th tee: the splendid lounge at The Orchard with tea and biscuits and the odd G&T with Ken and Joyce.
- 12) When Ken moved to a penthouse in Sale my trips to the NW on industrial business often included a stay with Ken and a meal out either at Dekkers near the M60, or a French restaurant in Altringham or the local hotel. He was always a delightful dinner companion (very knowledgeable about food and wine) and I have happy memories of a Talisker or 3 back at the apartment. The discussion would often turn to his lifelong interest in literature where the latest PD James or Dick Francis novel often featured, as did the classics. His extensive library extended to his cookery books (mostly English and French) and was a chef of some note himself - . 'It's only chemistry', as he often observed. I can still hear him say 'Don't trust Nigella; all of Delia's recipes work!'
- 13) I was amazed at how rapidly Ken adapted to the digital age. He was one of the first to set up an email account and to encompass videoconferencing by webcam. He was an early adopter of digital photography and a dab hand at improving his old photos by scanning them in and using Adobe Photoshop.
- 14) Because of his lifetime of service in the University and his total immersion in University politics many of us felt that Ken would have a great novel in him; something that would have rivalled anything from Tom Sharpe or Kingsley Amis or Malcolm Bradbury. I once asked Ken about this; he said he had thought about it and even had a potential title - 20 ways to get rid of a registrar! 'But', he said, 'the only problem is I get stuck on number 19'.
- 15) No doubt in looking at the University now Ken would have a wry smile to see that Old Shire Hall is being moved up to neighbour Chemistry; undoubtedly he would have complained however about blocking light in the research and teaching labs.
- 16) In a rich and impressive life that impacted so many, it is interesting to reflect on his legacy. One angle worth considering is that his research nearly 70 years ago could be very relevant to future energy needs.
- 17) At least one Nobel prize-winner has espoused the move from uranium-based fission to thorium-based reactors. The 2n technology is now feasible; for the same power generation 1/100th of the material is needed and thorium is as abundant as lead.
- 18) Ken would I think smile to think he had an impact on current climate-change problems which he generally regarded with some scepticism.
- 19) We shall miss him.

William Kenneth Rogerson Musgrave
16 September 1918 – 13 November 2010