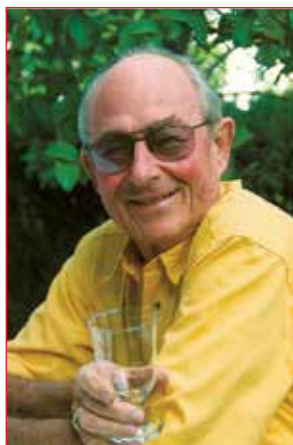


Obituary: Prof Patrick Anthony Foster



Patrick Anthony Foster died peacefully at his home in Hershey, Pennsylvania, on 23 April 2012, aged 86 years. Pat was born in London of English and South African parents and went to school in both countries. He received his South African schooling at St Andrew's College in Grahamstown. Having matriculated at the age of 14, he did a post-matric

year. However, he was obliged to obtain special permission to study medicine at such a young age. He received an MBChB degree from the University of Cape Town and did his internship at Groote Schuur Hospital in orthopaedics and neuropsychiatry.

He spent the following year at St Monica's Maternity Hospital in the then District Six and at Green Point Infectious Diseases Hospital, where he contracted virulent chickenpox, from which he took a long time to recover. During his recuperation in Stellenbosch, he met his future wife, Pamela. In January 1953, they were married in St Mary's Church, Stellenbosch. He then participated in general practitioner locums in Durbanville and Simonstown and was director of the Kimberley Hospital for a brief period. In 1953, Pat specialised in anaesthesiology, first in the USA at the Mt Auburn Hospital, Cambridge, Boston, and then in Liverpool in the department of Prof Cecil Gray, Liverpool Children's Hospital. During this time, he wrote and gained the DA, RCS(Lond), the DA, RCSI(Dublin), and the FCA, RCSI. Later, he was awarded the FFA, RCS. After a year's lectureship at the Liverpool Royal Infirmary, Pat returned to South Africa in 1956 to head the first Department of Anaesthesia of the newly founded Stellenbosch University Faculty of Medicine at Karl Bremer Hospital, Bellville. In 1970, he was appointed professor, a post that he occupied until 1987.

The 1950s, 1960s and 1970s were revolutionary times for anaesthesiology and Pat played a special role in

South African medicine, helping to usher in a fresh new approach to anaesthesia based on sound physiological and pharmacological science. For example, until well into the 1960s it was generally accepted that patients should breathe spontaneously during surgery. Anaesthesia was provided using semi-open (Magill) circuits that employed very high fresh gas flows. With the advent of muscle relaxants, it was a fine art to be able to titrate the right dose of gallamine (Flaxedil®) so that there was sufficient muscle relaxation to permit abdominal surgery while maintaining spontaneous breathing. Imbued with the teachings of Cecil Gray and the Liverpool school of thought, where the use of muscle relaxants was pioneered, Pat introduced the concept of total muscle paralysis with d-tubocurarine and controlled ventilation using circle-breathing systems with carbon dioxide absorption. Until 1971, there were only two anaesthetic machines in Karl Bremer Hospital that were equipped with ventilators, so all controlled ventilation had to be carried out manually. The rumour goes that after much wrangling with the provincial Department of Health, each theatre was at last equipped with a Bird bag-in-a-bottle ventilator. A medical superintendent enquired: "Dr Foster, now that there are ventilators in every theatre, what is the anaesthetist going to do with himself if he does not squeeze the bag?"

Pat was a man of wide-ranging interests and was a lateral thinker. His innovating abilities came to the fore during the planning of Tygerberg Hospital, long before the move began in 1972. It was largely due to his foresight that Tygerberg was equipped with roomy operating theatres that featured induction rooms, wall-mounted anaesthesia machines, roof-mounted gas consoles, gas scavenging and dedicated recovery rooms. Realising the deficiencies of the traditional Boyles anaesthetic machine, he designed the first anaesthetic workstation in South Africa. The Stellenbosch anaesthetic machine had many ergonomically advantageous features, such as touch-coded flowmeter knobs that were recessed out of harm's way, accurate low-flow rotameters, the grouping of cylinder and line pressure gauges, gas cylinders hung out of the way at the rear of the machine, the work surface raised to hip height, a draw-out writing surface at which the anaesthetist could sit and write, and a raised platform for mounting monitoring

equipment. He also designed the Stellenbosch t-piece for paediatric anaesthesia, and built a prototype miniature circle-breathing system with carbon dioxide absorption for children. Pat was the first to introduce routine capnographic monitoring to the operating theatres. Before the advent of automated noninvasive blood pressure monitors, he implemented an accurate method for noninvasive blood pressure measurement by placing an ultrasound transducer-receiver over a peripheral artery. This was particularly useful in paediatric anaesthesia.

Anticipating the escalating use of complex technology in operating theatres, Pat introduced anaesthetic technologists into Tygerberg Hospital *ab initio*, whose job description was to work full-time in the operating rooms and intensive care units, maintaining equipment and assisting anaesthetic staff with their equipment and monitoring needs. Today, anaesthetic technology is an independent profession in which anaesthetic technologists receive professional training and certification with the Health Professions Council of South Africa. Pat was also responsible for appointing the first acute pain nurse. However, because of lack of funding, that position could not be sustained in the provincial health system. The Department of Anesthesiology and Critical Care at Stellenbosch University gratefully remembers Prof Patrick Foster as a person who planned ahead in the interests of good anaesthesia practice. At a personal level, he stimulated curiosity and encouraged a scientifically based approach in his students and colleagues. Today, this approach continues to be the cornerstone of the department.

He was author and co-author of 29 publications listed in PubMed, as well of several books, including *The Capture and Care of Wild Animals* (1973), *Anaesthetists' Handbook* (1980-1987), *Anesthesia Patient Safety Foundation White Paper on Equipment Obsolescence* (1992) and a video, *Anaesthesia in Remote Locations* (1997). Pat was honoured with several awards in recognition of his service to anaesthesia in South Africa and the World Federation. He served on numerous education committees in anaesthesia, examining bodies, conferences and committees.

As a result of his keen interest in diving and underwater medicine, Pat worked closely with the diving school of the South African Navy. He was a Surgeon Lieutenant Commander in the South African Navy from 1965-1987. During this time, he participated in exercises at sea and was an anaesthetist for the first surgical procedure that was performed at sea on a South African naval vessel. He also planned and participated in courses in underwater medicine for physicians.

Pat's interests were not confined to technological matters. He was a connoisseur of good wines and food and had many wine farmer friends in the Western Cape. He served as president of the *Les Tastevins du Cap*. Students from the early Karl Bremer days will recall how his lectures were sometimes interspersed with accounts of how to find and prepare edible mushrooms on the slopes of Table Mountain, all beautifully illustrated with colour slides, a product of another passion, photography. Registrars during the 1960s and early 1970s will appreciatively recall Tuesday evenings at the Foster home in Rondebosch at which Pamela served tea and refreshments during the tutorial and journal club meetings.

He was an enthusiastic walker among the mountains and beaches of the Cape near Arniston and Greyton, where he had holiday cottages in which he constructed the joinery himself. These homes were furnished with fine furniture that he handcrafted. He loved Hermanus and especially the cliff walk. After his retirement, Pat and Pamela moved first to Pittsburgh, and then to Hershey, Pennsylvania. However, they kept a flat in Hermanus for many years to which they would return to spend the Cape summers, as well as attend summer school at Cape Town University. Pat was clinically active into the early 1990s, continuing to provide anaesthesia while supervising residents and medical students. He was also instrumental in several successful teaching projects at the Pennsylvania State University College of Medicine, such as the "First three days of anaesthesia", as well as practical, hands-on teaching in the Simulation Center. He wrote many handouts for residents and medical students in the 2000s, guiding their initial steps in the use of anaesthesia equipment and techniques.

Pat and Pamela lost their teenage son, Nicholas, in a tragic motor car accident in 1970, in which Pat also sustained severe injuries. He is survived by Pamela and children, Crispin, Cornelia (daughter-in-law), Jeremy and Tansy, as well as two grandchildren.

Patrick Foster had a rich and productive life. He once said to Pamela that he had accomplished everything he wanted to do in his life: a statement that only a few can make. He often had a smile that played in his blue eyes and at the corners of his mouth; a smile that enveloped his whole face and closed his eyes. That is how he will be remembered.

JF Coetzee

AR Coetzee

B Murray