

## **FRANK DOUGLAS STEPHENS**

By Durham Smith

Douglas Stephens died on 10<sup>th</sup> December 2011 at the age of 98 years. There are some scientists who have an encyclopaedic knowledge of a subject, or who systematize a body of existing knowledge, but, valuable as this may be, they do not necessarily advance that science. Frank Douglas Stephens was one who broke through barriers and made such original observations that our understanding was advanced into new directions. He was a master of the patho-embryology of developmental processes in congenital abnormalities. In the areas of the urinary, genital and ano-rectal systems, he was the most prolific and significant contributor in the world.

After secondary schooling at Melbourne Grammar School he graduated in Medicine from the University of Melbourne in 1936, attending Trinity College which he represented in football, tennis and cricket. On completing Residences at the Royal Melbourne and Royal Children's Hospitals he served Australia with great distinction in a Forward Operating Team in the AIF, 6<sup>th</sup> Division, 2/3 Field Ambulance, in the Middle East, in the siege of Tobruk, and in the SW Pacific. At El Eisa in 1942 he was awarded a DSO in the field for exceptional bravery attending wounded under heavy enemy fire, an honor he never spoke about. After the War he returned to the Children's Hospital, but his enquiring mind was recognized by the award of a Nuffield Research Fellowship for three years at the Hospital for Sick Children in London, where he began studies of major congenital anomalies, working with (Sir) Denis Browne, T Twissington Higgins (Urologist) and Martin Bodian (Pathologist).

On return to Australia in 1950, he was appointed as a Consulting Surgeon at the Royal Children's Hospital in Melbourne, but from the beginning he combined research with clinical surgery. He was made Director of Surgical Research in 1958 in a fulltime position. As a clinical surgeon, with Russell Howard, he did the first recto-sigmoidectomies for Hirschsprung's Disease in Australia in 1950, in which disease he had already co-authored a seminal paper in 1949 on the pathology of the disease, following the original work of Orvar Swenson in Boston. At the same time he was a Consultant at the Royal Women's Hospital for 25 years, a significant appointment as it afforded him access to studies on the newborn and to pathological material from embryos and stillborn infants. In 1965, having been a Fellow since 1943, he was elected to the Council of the Royal Australasian College of Surgeons, becoming Treasurer 1969-1975, and Editorial Secretary of the Australian and New Zealand Journal of Surgery for 16 years. At the age of 61 years, in 1975, his international status was recognized and he was invited to a Chair in Surgery and Pediatrics of North West University of Chicago, working at the Children's Memorial Hospital, where he was also Director of Surgical Research. He returned to Australia to retire in 1986 but continued to research and write.

His research encompassed the embryology and pathological development of anomalies of the urinary tract, especially ureteric reflux, dysplasias, duplications, ureterocoeles and urethral valves; of the genital tract, including cloacal and vaginal anomalies; and of the vast range of ano-rectal anomalies in which his work defined the detailed anatomy of each type and especially the controlling sphincter muscles in relation to each type. In each area, his contributions led to new surgical procedures, and in the case of ano-rectal anomalies, a radically new orientation of surgery which greatly improved the results at that time. This paper, published in 1953, was not fully appreciated till almost 20 years later. Modern techniques by Alberto Peña and others have refined the approach, with better exposure, but his detailed studies of the vast range of anomalies were fundamental. In

urology, also, his early research was years ahead of its time; for example, that dilatation was often a result of congenital dysplasia in utero, or a functional problem in the motility of the structure, without the implication of obstruction, and therefore not necessarily requiring surgery, as had previously been done for “obstruction” at the utero-vesical junction or bladder neck. This saved many children from unnecessary surgery. Dr Lowell King, Chief of Surgery at Children’s Memorial Hospital in Chicago was one who realized the significance of Stephens’ contributions, which led to the invitation to work in America.

His technique of investigation commenced with observation of the abnormalities in clinical patients and in operative surgery; every detail was described, drawn and photographed; and series of patients with variations on the theme were then assembled to provide a spectrum from which steps in a process of embryological development could be postulated. These were then correlated with the dissections of pathological material of embryos and still-born foetuses to trace the beginnings of the disease process. His office walls were lined with scores of volumes of accurate drawings and notes of his painstaking dissections and of literally thousands of histological sections. His originality lay in the marriage of clinical observation and dissections, and the postulates to link the two. He possessed a capacity for prodigious energy, enthusiasm and original innovative ideas. Even into his late 80’s he was revising the text of a new edition of his monumental 1996 book on Congenital Anomalies.

As Director of a Surgical Research Department in both Melbourne and Chicago, he took his training responsibilities very seriously; he had a constant stream of young surgeons coming through, all stimulated to pursue some research project. He has been responsible for personally molding more than 100 post-graduate surgeons directly, and many more indirectly, in a critical approach to surgical problems. His stimulation was uncompromising and demanding in the quality he expected, and yet these same students now acknowledge that time spent with him fundamentally changed their career objectives. No part of Douglas’s character will be remembered and loved more than his generosity of heart, mind and spirit for the surgeons whom he trained. His help was quite specific and in detail. Behind the scenes he put work into their hands, finding specimens to dissect, suggesting a facet to research. In the preparation of papers to be published or presented, he would spend hours with them, rehearsing, vetting every sentence. He made opportunities for them to lecture and present their work, and in their publications he frequently omitted his own name on them, even though many of the ideas came from him. His generosity was extended to private entertaining of trainees and their families, with especial care of young surgeons from developing countries. Racism was a word he did not know.

His formal Honours include AO (Officer of the Order of Australia), 1987, Honorary Membership in major Surgical and Urological Associations in Australia, UK, USA, Brazil, Argentina, Canada, Japan and India. He was an Arris and Gale Professor of the Royal College of Surgeons of England, received the Triennial Research Medal of the British Medical Association, Australia, 1962, and the Denis Browne Gold Medal of the British Association of Paediatric Surgeons, 1976, the highest honour in this discipline of surgery. In addition, his CV reads like a map of the world where he has been invited as a Guest Lecturer or Professor throughout almost all the States in the USA and Australia, in UK, Canada, Mexico, Germany, Austria, Italy, Poland, Brazil, India, Ivory Coast and Japan.

He is the author of more than 100 articles in peer-reviewed Journals, but there are as many articles again published by research workers from his Departments, which do not bear his name. He has published 5 books, as sole author or as the major contributor, each being the standard world reference text in the congenital anomalies of the ano-rectal, urinary and genital tracts, and each received “rave” reviews in their time. They represent, as one reviewer in 1983 commented “over 30 years (now over 50 years) of penetrating research by

an acknowledged master of the anatomy and embryology of the urinary tract". His ideas were always stimulating, but as one reviewer of his major work remarked "this is not easy night-time enjoyment, but a book to be savoured through methodical and careful study. In brief, it is a work of art".

With all his energies devoted to surgery and research, Douglas was no recluse. Although generally a private man, he loved a party and was a generous host. Friendship and warmth always accompanied the professional association. He had a happy family life, with a loving and very tolerant wife, Rosalie, for over 50 years until her death, and with his 3 children. He and Rosalie had always painted together, and his passion for watercolours has continued in his second marriage to Victoria Cooke, herself an outstanding painter in oils. Their holidays revolved around painting trips and painting groups, and he has staged several Exhibitions of watercolours. He was an avid fly-fisherman, a modest golfer, and an excellent tennis player, playing into his 96<sup>th</sup> year. He was always loyal to his friends, bore no malice or envy and humbly brushed aside any reference to his achievements. He had great charm, dressed immaculately, (even in the operating theatre where he always wore a headlight as if it were a crown), and enjoyed company, although in recent years a hearing defect made conversations difficult.

Stories always collect around great characters, especially those like Douglas who had a touch of gentle eccentricity. His wit had a puckish quality about it. One sister recalls calling him about some possible heart trouble, asking him for a good reference. He detailed the excellence and experience of a particular Specialist, saying he was the very best and a great friend. Then added, "First, better see if he is still alive"! At a dinner in Perth, Douglas arrived early and received his drink from the bar just inside the front door. As more and more guests arrived, he was pushed further and further back, and, his glass now empty, he could not get back to the bar. Nothing daunted, he jumped out a rear window and came round through the front door again! On a ward round, he wanted to show a new procedure which he had developed for hypospadias, and, as usual after surgery on this organ, the tissues may swell. As he threw back the bedclothes to receive the acclaim of the assembled minions, he said "There, what do you think of that"? On this occasion the swelling was positively horrendous and the organ almost unrecognizable. Everyone was stunned into dead silence, until our Indian Registrar, himself a model of courtesy and decorum, said "Sir, ecstasy can be expressed in silence"! Three weeks before he died, when he was clearly in terminal failure he said to me "I'm on the way out, and the quicker the better". But days passed and just 2 or 3 days before death in a brief lucid interval, he seemed to realize he was still lingering on, and he whispered to me "I've bugged this up, haven't I?" This was quintessential Douglas, direct, uncomplicated and self-effacing.

Here was a remarkable man of originality of thought, prodigious energy and output, an encourager to a host of young surgeons of many nationalities, a brave man in war, a humble and gentle man in peace, and an utterly generous friend. As Douglas advanced into old age, to quote from an obituary penned for his father, a phrase from Cicero sums Douglas up – "the minds of such stand out of reach of the body's decay". He was of the Ciceronian elect, and it was his ever youngish outlook which enabled him to utilize his rare gifts to such great advantage.

*Durham Smith was associated professionally with Douglas Stephens for 55 years*