

ROBERT CARACHI • DAN G. YOUNG • CENK BUYUKUNAL

Editors

a History of
SURGICAL PAEDIATRICS



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SURGICAL PAEDIATRICS

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FOREWORD

One aim of the International History Club at its inception nearly 25 years ago was to document the history and development of paediatric surgery. It has taken this length of time to realise this dream of publishing a book on the topic and as editors we are proud to have achieved this. It would of course not have been possible to write without the enormous contributions made by our international colleagues in this specialty which has grown so prodigiously in a relatively short period of time. The time is right for such a book to document accurately facts about the pioneers in paediatric surgery by many who can recall the earlier pioneers who have sadly passed away. We are indeed fortunate in having Dan as one of our editors who has such a worldwide network of friends all of whom, even if they wanted to, felt unable to refuse our gentle request to contribute to such a book. Despite some delays, almost all have contributed substantial material and we are grateful to them for the many hours of work amassing their material.

After some discussion between the three editors, we reached an agreement with World Scientific Publishing Co. Pte. Ltd. who agreed to publish "*A History of Surgical Paediatrics*". This was a great undertaking unlike other previously published textbooks, scientific material or papers. The plan was to create a history from as many parts of the world as possible rather than limit to certain local areas where individual contributions have been published in past years. Last summer we contacted friends and colleagues around the world asking for their support and for contributions in this venture. The specialty is rather exceptional in the enlarged "family"

approach which has made strong bonds between paediatric surgeons internationally. Their common bond is in seeking to improve the health and welfare of the infants and children and not one controlled by the financial return which may be achieved.

“Paediatric Surgery” or “Surgical Paediatrics” are in fact synonymous terms and we had considerable discussion on which term we would use for the title. We settled on the latter as we are in practice paediatricians who look after the many infants and children with surgical disorders. In many places in the 19th century and well into the 20th century, the medical paediatricians preferred to have a surgeon “on call” for when they considered it appropriate to ask for surgical assistance. Where surgical beds and service were provided, it has been seen and recorded more than a century ago that more patients were referred to surgeons than to the medical paediatric clinics in these hospitals — a fact alluded to in at least two of the chapters, The specialty has developed from general surgeons who have had an interest in children’s care and have developed expertise in the handling and management of the infants and children.

The book gives an indication of the development of the historical group in the specialty by the initiator, Jan Molenaar. Contributions for the second section on the development of the specialty in a wide range of countries, and to our pleasure, almost all of those asked have contributed interesting accounts of how the specialty has evolved in the vastly different social systems around the world. Following is a list of individuals whose names have been selected by asking a large number of our international colleagues to give us a list of individuals whom they felt had made major contributions to the development of the specialty. From the replies we have selected the most frequently quoted individuals in Section 3 and either referred to them there or indicated where they had received considerable mention in Section 2. The range of names received sometimes had a local dominance and from others the list given was very much reflected on the international standing. We felt it reasonable to limit the list to the 32 names although a great many others were mentioned. The one exception was the addition of Wilms.

We record our gratitude for the overwhelming support from all the contributors. The initial request was for an account of up to 3000 words for the countries or about 300 words on the individuals, but there is a wide variety in the responses. Limits have not been enforced, no doubt reflecting on the authors' respect of the request balanced against their view of the importance of recording of the innumerable facts they could have included. The exercise did help people get 'in touch' with colleagues' who were in retirement and reminisce about earlier days in the specialty and of colleagues, contributions and idiosyncrasies. Age has been no barrier; at least one 94-year old has recalled details that had not been documented previously.

Brief accounts of Associations and details of the current journals are followed by a selected group of contributions. They include two historical papers, a review of fetal surgery, a view on the minimally invasive surgery and one on modern imaging for our patients.

One of the Editors would like to acknowledge Professor V. G. Griffiths, whose interest in the history of surgery served as a beacon in those formative years at medical school.

Without the organisation and control of Kay Byrne of the Department of Surgical Paediatrics in Glasgow the finalised articles from so many different parts could not have been achieved. We wish to record our thanks to her for all her painstaking and careful work and in her contacts with the contributors, publishers and ourselves.

We hope you enjoy reading it as much as we enjoyed researching it.

Robert Carachi
Dan G. Young
Cenk Buyukunal

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Section A

**THE INTERNATIONAL
HISTORY CLUB**



Jan C. Molenaar and his wife



Alice M. C. Ribbink-Goslinga



Ko Hagoort

THE BIRTH OF THE INTERNATIONAL SOCIETY FOR THE HISTORY OF PAEDIATRIC SURGERY: A NARRATIVE ACCOUNT

*Jan C. Molenaar
Alice M. C. Ribbink–Goslinga
Ko Hagoort*

In his Newsletter of April 1983, the Honorary Secretary and Treasurer of the British Association of Paediatric Surgeons, Sēan Corkery announced the upcoming 1983 London Meeting of BAPS. In his unparalleled style of writing he concluded his letter as follows:

“Jan Molenaar has had another rush of blood to the brain. This time he feels the need to see if there are enough interested members of the Association to form a “History Club”. He would like all interested members to meet at lunchtime either on Thursday or Friday at the London Meeting, if you are interested please write to me so that we can know what size of room to book. At the moment we have reserved a telephone booth but if that is too spacious we can get something smaller! Appropriate signs will be posted at the Meeting — so watch out for them”.

The response to this encouraging announcement was a rewarding one: 45 members of BAPS coming from 26 different countries attended. On Friday, July 22, 1983, the International Paediatric



Fig. 1. Figure taken from book “*Prima Linea Anatomes*” (Vienna, 1775) by J. J. Plenck and made by the artist Johann Ernst Mansfeld.

Surgical History Club came into being. Membership was opened to everybody with an interest in the history of paediatric surgery and willing to contribute to the furtherance of this field. The aims of the club were defined as follows:

- to record for posterity how paediatric surgery came into being;
- to create a centralized bibliography concerning the development of paediatric surgery;
- to stimulate the writing of articles and the presentation of papers dealing with every single aspect of paediatric surgical history; and
- to accomplish our final aim: the publication of a comprehensive book on the history of paediatric surgery.

During a second probing session at lunchtime on Friday, July 27, 1984 at the next BAPS meeting in Liverpool, it was decided that our first scientific session would be held in conjunction with the upcoming 1986 BAPS meeting in Birmingham.

However earlier, in 1985 at the close of the Annual International Congress of the BAPS in Vienna, the hosts of BAPS, Dr Peter Wurnig and Mrs Wurnig, invited the President of BAPS and members of the History Club to attend a guided tour through the venerable Mautner Markhof Childrens's Hospital, founded in 1875. At that BAPS meeting it was decided, at the request of the History Club, that the History Club's biennial scientific meetings would be held on the Tuesday afternoon prior to the official start of the BAPS meeting on Wednesday. At the time, the membership totalled 115, with the largest contingent from the USA, followed by the UK and the remainder were spread out all over the world.

The Birmingham meeting in 1986 appeared to be a remarkable success. Subsequently, the membership rose to a total of 122 members spread over some 30 countries. Mr Peter Jones from Melbourne, who was in the audience, made the following account:

“One of the most enjoyable and memorable events held in conjunction with the BAPS Meeting in Birmingham in 1986 was the meeting of the International Society for the History of Paediatric Surgery (ISHPS) on the day before the Scientific Programme began. Under the Chairmanship of Professor Jan Molenaar, the meeting was attended by some 50 paediatric surgeons from various countries, all of whom had a particular interest in the historical, cultural and social aspects of the specialty of paediatric surgery. The programme was as varied as its audience, and covered such subjects as the depiction of children in European paintings and various other works of art, and a most interesting account of the life, family and work of Ram(m)stedt, and his lasting contribution, serendipitously devised, to the treatment of pyloric stenosis”.

The programme of this first meeting was as follows:

- 1) Why Paediatric Surgical History? J. C. Molenaar
- 2) The Contribution of Surgeons to Child Care through the Centuries. Mrs A. M. C. Ribbink-Goslinga
- 3) Dr Conrad Ramstedt, Paediatric Surgical Pioneer. G. Borgwardt

- 4) Children, Diseases and Doctors in Historical Pictures. P. J. Kuijjer
- 5) Paediatric Surgery in Birmingham and environs. P. Gornall

Mr Peter Jones continues: “Although it is perhaps invidious to select from among the excellent presentations, and the careful preparations demonstrated by every one of the speakers, Dr Görtz Borgwardt’s tenacious search for Ramstedt’s birthplace and the discovery of many of his relics, will be of particular interest and should, if feasible, be published in one of the paediatric surgical journals. Those who were unable to attend the meeting of the ISHPS will be delighted to know that Dr Borgwardt obtained a superb copy of the bust of Ramstedt sculpted by his obviously very talented daughter Tessa. The copy of the bust was later presented to the BAPS by Dr Borgwardt, to become one of the Society’s permanent memorabilia.

There can be no doubt that the ISPH should go from strength to strength, and win a place as an adjunct to all BAPS meetings. It is very fitting that we should be better informed of those who have contributed to the ethos, the ethics, the philosophy and the expertise of our specialty. All of us are in a very real sense pygmies, advancing on the shoulders of surgical giants of the past. The more we know of their lives, times and innovations, the better we are able to appreciate their contributions, and the foundations of the specialty of paediatric surgery.”

As an interesting note, Dr Borgwardt had serious difficulties in obtaining permission to leave his country, the DDR, and could do so only by special invitation of the History Club. Also in 1986, two interesting publications appeared:

- Vol. 20 of “*Progress in Pediatric Surgery*” was entirely devoted to “*Historical Aspects of Pediatric Surgery*” (Springer Verlag, Berlin, Heidelberg, 1986).
- “*Child Care through the Centuries*”. Papers given at the Tenth Congress of the British Society for the History of Medicine, Swansea, April 1984, including a paper of one of our members,

John D. Atwell from Southampton, UK, who lectured on “*The History of Paediatric Surgery*” (STS Publishing, Cardiff).

In 1988 the BAPS was meeting at an unusual date; the end of September. On the afternoon of Tuesday, 20 September 1988, the ISHPS had its second meeting under the watchful eye of Pallas Athene at the Astir Palace Hotel in Athens. One of the highlights of this meeting was the lecture by Professor Mark Ravitch from Pittsburgh on the anatomist Fredericus Ruysch of Amsterdam (1638–1731). Earlier that year the logo of our society was coined into a beautiful bronze medal, financed by the Foundation University Fund Rotterdam. At the close of the BAPS meeting, this medal was presented for the first time by the President of BAPS to Drs Çenk Büyükuñal and N. Sari from Istanbul, Turkey for their prize-winning presentation: *Sabuncuoğlu Şerafedding (XVth Century), an outstanding personality in the Turkish history of paediatric surgery*.

The History Club has proceeded from then on with scientific meetings every two years prior to and in conjunction with the international meetings of BAPS, in close collaboration with Miss Dorothy Grant, staff secretary of BAPS, who has always been of great help from the very beginning.

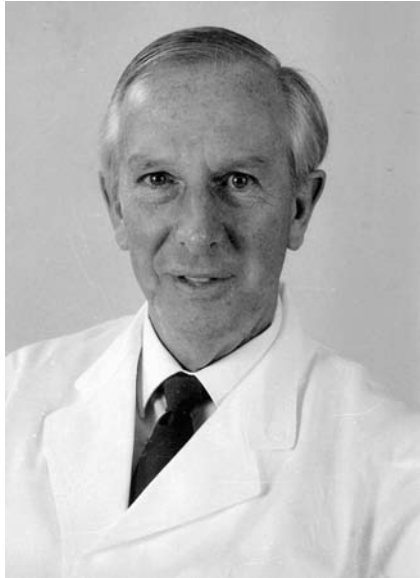
A very special meeting was held in Istanbul on Tuesday morning July 22, 1997, in the historical setting of the Topkapi Palace. It was here that chairmanship of the History Club changed hands. As the History Club newsletter of June 1997 puts it: “This newsletter, we’re afraid, is the last one to be sent from the Sophia Children’s Hospital in Rotterdam. As already alluded to earlier, Jan C. Molenaar has now retired from his office, and wishes to hand over the chairmanship of our society as well. Excellent candidates, in his view, would be Prof. Cenk Büyükuñal from Istanbul, and Mr Robert Carachi from Glasgow.”

In conclusion, a new tradition within the BAPS organization has been established. Not all the aims formulated at the start of the International Society for the History of Paediatric Surgery were accomplished, but the final aim, the publication of a comprehensive book on the history of paediatric surgery, has now been instigated.

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Section B

**THE DEVELOPMENT
OF SURGICAL PAEDIATRICS
IN COUNTRIES**



E. Durham Smith

AUSTRALIA

E. Durham Smith

It is one of the strange ironies of surgical history that one of the great contributors to the development of paediatric surgery, certainly in Britain, its colonies and in Europe, was an Australian who never practiced surgery for a single day in Australia. **Denis Browne*** graduated from Sydney University in 1915, immediately left to serve in the Australian Army overseas, and did not return to Australia for 50 years, by which time he had retired. His entire career was in Britain, but his Australian origins are of interest in determining the character and personality that had a dominating influence on the early development of the specialty.¹

Prior to World War II (WWII)

Prior to World War II, Browne was not the only contributor to paediatric surgery in Australia, although at least to the end of World War I, children's surgery was mostly performed by practitioners who remained in family practice or in adult general surgery. Their contributions need to be seen in the context of the history of Australia.

European settlement began in Australia in 1788, when the first fleet of British ships established a penal colony in Port Jackson, Sydney, on the east coast. Indigenous Australian Aborigines, however, had occupied the land for at least 40,000 years. From their intimate knowledge of and respect for the land and its resources they had many empirical remedies from seeds and plants, but little is known of any of their surgical procedures. Of the many tribal groups some did employ a "sub-incision" in males as an initiation rite — virtually

producing a hypospadias penis — perhaps to serve a contraceptive purpose, but there is no record of female genital interference. After European settlement, paediatric care was very limited in the 19th century. Surgeons attached to the military garrisons cared for the children of the soldiers, but no public facilities were available until children’s hospitals were established, the first in Melbourne in 1870, and later in other cities. Surgical staff was appointed to these hospitals on a part-time and honorary basis, and always combined with adult practice as it was not considered financially viable to practice exclusively in paediatrics or paediatric surgery. Nevertheless there were some outstanding individuals in all Australian States from the end of the 19th century and not a few landmark contributions. In the State of Queensland, John Lockhart Gibson was an Honorary Medical Officer to the Hospital for Sick Children, Brisbane from 1884–1921, mainly as an ENT surgeon, and together with A. J. Turner identified the syndrome due to lead poisoning from the ingestion of particles of lead paint on domestic surfaces. Dr Lillian Cooper was the first woman to be registered as a surgeon in Australia, and was appointed to the hospital in 1894. Perhaps the most dominant personality in paediatric surgery in Queensland before WW2, and extending into the post-war period was **K. Fraser** (later **Sir Kenneth**), serving the hospital from 1923 for 34 years. He was a brilliant scholar, won University “Blues” in cricket, football and athletics, and became a national champion hurdler and sprinter. He had wide surgical experience but with a particular interest in cleft palate, in which he wrote a monograph in 1939, beautifully illustrated with his own sketches, although his technique was later criticised; in hypospadias, he developed a repair utilising a scrotal flap.² He was a powerful voice in medical circles, with a personality to match, serving on the Senate of the Queensland University, and was a principal influence in the formation of the University Department of Paediatrics. He was the founder of the St. John Ambulance Brigade in Queensland (1948) and Foundation Member of the Australian Paediatric Association, of which he was President from 1958 to 1959.

In New South Wales, the same pattern of holding other positions in surgery or general practice continued by surgeons appointed to the Sydney Hospital for Sick Children (later to become the Royal Alexandra Hospital for Children). Robert Wade was associated with the hospital from 1897 and Honorary Surgeon from 1912 to 1932. He specialised in orthopaedic surgery and became President of the Royal Australasian College of Surgeons (RACS) 1935 to 1937. He was the first surgeon to be associated with paediatric surgery to hold this position. The seminal surgical contribution of the hospital, however, was in the management of intussusception. **C. P. B. Clubbe** (later **Sir Charles**) had written a monograph on the diagnosis and treatment of intussusception,³ and reported the first successful resection of an intussusception in a child in 1897, but it was the work of P. L. Hipsley in the next two decades that established the value of hydrostatic reduction of the mass. Although Hirschsprung of Copenhagen had described the technique in 1876, it was Hipsley who published a successful series of saline reductions in 1926,⁴ which confirmed the value of non-operative management under the right conditions.

In the State of South Australia, another President of the Royal Australasian College of Surgeons, Henry S. Newland (later Sir Henry), President of the College (1929–1935) was a Consultant at the Children's Hospital from 1903 to 1928. **Douglas Mackay**, another staff surgeon appointed pre-war, continued a family practice combined with paediatric surgery. He was a co-author of an important paper with Robert Fowler and John Barnett of Melbourne on the aetiology and treatment of congenital hydrocele.⁵

In the State of Victoria, the Children's Hospital (later Royal, in 1953) commenced in 1870. Until 1902 little distinction was made between physicians and surgeons in appointments to the honorary staff, with one notable exception. **Robert Hamilton Russell** (1860–1933) (Fig. 1), born in England, had been house surgeon to Joseph Lister. He migrated to Australia in 1890. After a brief period in general practice he was appointed to the hospital in 1892 and served as an Honorary until 1902 when the (adult) Alfred Hospital persuaded him to join their staff. Nevertheless, after retirement



Fig. 1. Portrait of R. Hamilton Russell.

from the Alfred Hospital, his love of children drew him back and he returned to the active staff of the RCH in 1920 for 5 more years. Sadly, he was killed in a motor car accident in 1933. He was also a gifted pianist and his specific contributions to paediatric surgery covered a wide spectrum, but he was best known for his insistence that almost all, if not all, inguinal hernias in infancy and childhood were due to the persistence of a patent *processus vaginalis*, and that surgery only required the removal of the sac. It was a revolutionary concept in 1899 when he published it⁶ and it was against the prevailing wisdom of the day, which was using procedures which carried a significant mortality and morbidity. His second contribution was in hypospadias. In 1900 Russell described a ‘stole’ operation, a pedicle tube of penile and preputial skin,⁷ and in 1915, after excising a urethral stricture (not in hypospadias), he found that if the urethral ends or part of their circumference were joined together as a flat strip of mucosa and buried, the urethra re-formed.⁸ Denis Browne always attributed his “buried strip” idea to Hamilton **Russell**, although

Duplay had actually described the concept in 1800. Russell is also well known for his method of simple 3-point traction for femoral fractures without a Thomas splint or plaster. He advocated prolonged rest and conservative support in a Thomas splint for tubercular hip and spine disease, against the destructive effects of surgical excision current at the time. He wrote about intussusception in 1902, stressing the “gentleness and care” of the gut in operative reduction; and in cleft palate repair he stressed that the operation should concentrate on the principles by which speech is produced and assured.

Charles C. Ryan, who was on the staff of RCH from 1882 to 1914, was one of the first surgeons to operate successfully on intussusception in 1899, just after Clubbe’s success in 1897. Perhaps the best “all-rounder” was **Henry Douglas Stephens**, father of F. Douglas Stephens (see *infra*), who served the hospital for 50 years. In 1904 he entered private practice, largely as a paediatrician in association with a senior paediatrician, Hobill Cole, whose daughter he married. He acquired both MD and MS very quickly. At this time he also became the Honorary Pathologist to the RCH in 1914, stimulating his interest in congenital anomalies. By this time he had also acquired a good reputation as a skillful operative surgeon in a wide range of surgical conditions; he was confirmed as a Consultant Surgeon from 1909 to 1939, although even then, he was recalled to carry the burden due to WW2 due to the absence of younger surgeons in the Services. He held prestigious appointments in the hospital and in the profession generally. He was not only an experienced surgeon, but had an eager enthusiasm, an avidity for knowledge, and a flexibility of mind which together undoubtedly was the greatest inspiration to his son, Douglas. John Colquhoun (1930–1960) and E. E. Price (1936–1962) in orthopaedics, John G. Whitaker (1934–1955) and W. R. Forster (1944–1948) in general surgery, also served through the war years and beyond.

During the 1920’s and 1930’s in Australia, it was not easy to establish a surgical practice, and a number of surgeons who later became very successful and prominent surgeons had accepted appointments in Children’s Hospitals only until they secured an appointment in an adult Teaching Hospital. The “pure” Paediatric Surgeon,

committed entirely to the surgery of children, did not emerge until after WW2.

Ample records exist as to the spectrum of surgical conditions encountered. Prior to 1900, the list was dominated by infection, particularly tubercular glands, bone and joints, syphilis, abscesses, osteomyelitis and septicaemia. Injuries and burns were frequent, calculi, spinal deformity, congenital dislocation of the hip, Perthé's disease, talipes, poliomyelitis, cleft lip and palate, hypospadias, hernias, and intussusception. From 1900 onwards, these conditions continued and we hear more about pyloric stenosis (the first operation for this condition at the Melbourne RCH was in 1903, treated by a gastro-enterostomy, as the Ramstedt procedure was not developed until 1912), appendicitis, neck lesions, anal lesions, Wilms' tumour and tonsillectomy. Very little changed until the advent of better anaesthesia, understanding of fluid and electrolytes balance and the development of antibiotics, all of which were occurred during and after WW2.

During and After WWII

During the war years, older surgeons carried the load in children's hospitals. Despite the difficulties, two events are worth recording. In 1941, Norman Gregg (later Sir Norman), an ophthalmologist in Sydney, discovered the link between maternal rubella and the congenital anomalies of cataract, deafness, mental retardation and cardiac defects.⁹ In March 1944, a patient, AG, was admitted to the Melbourne Children's Hospital, dying of osteomyelitis and septicaemia. The Superintendent, Dr Elizabeth Turner, obtained some penicillin from the Royal Melbourne Hospital, then occupied by the American Army, and empiric doses were injected. AG recovered completely, without any complications. The penicillin era had arrived, and with the subsequent development of other antibiotics, to revolutionise medicine and surgery.

The first generation 1945–1975. Post-war, surgeons returned from the Services and were appointed to their Children's Hospital posts.

Many had been Residents pre-war, and a few had already achieved a surgical appointment before enlisting, but not all saw a future in paediatric surgery. The change to a commitment to ‘pure’ paediatric surgery varied across the country. A confluence of far-seeing decisions and a significant personality determined that Melbourne became the earliest starter in the field, which set the pattern for other areas. Under the Presidency of Lady Ella Latham (1933–1954), the wife of a future Chief Justice of Australia, she had a vision that the hospital had to change from one “for the sick poor” to a centre for research, training and high standards. The Honorary system did not suit these objectives. At the same time, 1952, an equally remarkable Medical Director, Dr Vernon Collins, urged the appointment of full-time Directors of Departments, both in Research and in specialties like Neurosurgery and Plastic Surgery, and he instituted a system of sessional payment for visiting consultants and assistants. Immediately there was financial support for young surgeons to commit to paediatric surgery, and the numbers “took off”.

The significant personality mentioned above was **Russell Norfolk Howard** (Fig. 2). After distinguishing himself with honours in all subjects at medical graduation from Melbourne University in 1928,



Fig. 2. Russell Howard.

he spent four years at the Children's Hospital as Resident, Registrar and Medical Superintendent, and a further residency at the Royal Women's Hospital. Surgical experience followed at St. James Hospital, Balham, in London and he completed degrees of MD, MRCOG, FRCS and FRACS. He served in the Australian Army in the Middle East and Southwest Pacific as a Lt. Col. in charge of a Surgical Division. Prior to the war, he had already been appointed as an Honorary Surgeon at both the Children's Hospital and at the Alfred Hospital, a senior Teaching Hospital of the University. After the war, he returned to both hospitals and quickly gained an enviable reputation as a dexterous and able operative surgeon, and a superb teacher. After seven years in both the disciplines of paediatric and adult surgery, a defining decision was made. He accepted an appointment as Chief General Paediatric Surgeon at the Children's Hospital in 1952 and gave up adult surgery. Here was a man who had the universal respect of his colleagues in adult surgery, and yet he chose paediatric surgery.

The significance was that it immediately gave paediatric surgery legitimacy, status and respect, unlike in most other areas of the country, and indeed the world. It was consolidated by the efforts of Howard in his role on the Council of the Royal Australasian College of Surgeons to establish a Fellowship in Paediatric Surgery in 1962. Howard's own surgical contributions were not only in organising a strong surgical department, which he did with an iron will and a fearless defense of standards, and specifically in thoracic surgery and in malignancies. He was the first surgeon in the southern hemisphere to have a successful result in oesophageal atresia in 1949. He performed the first ligation of a patent ductus arteriosus in 1946. He also realized that specialist anaesthesia was essential for the advance of surgery and secured the position of a full-time Director of Anaesthesia.

Russell Howard was not alone at the Melbourne Children's; one of the decisions made by the hospital in 1952 was to appoint two other staff surgeons to the hospital — Murray Clarke and Douglas Stephens. **A. Murray Clarke** had been a Resident before the war, served with distinction in the war, and returned on staff in 1946 until retirement in 1974. His contribution was to establish a Burns Unit in

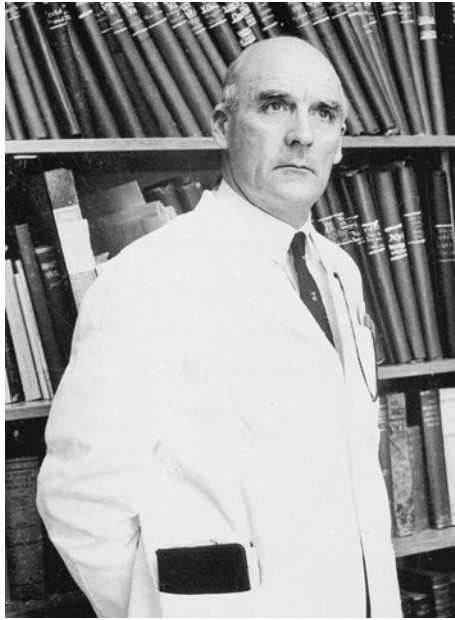


Fig. 3. Douglas Stephens.

1955, one of the first in the world. He, with Howard and Stephens, led one of the three general surgical units of the hospital.

Frank Douglas Stephens (Fig. 3) is one of the greatest contributors to the development of paediatric surgery. Stephens was an innovator, always breaking new ground and opening up new directions by original research. He is the master of patho-embryology. His studies of foetal material, his meticulous dissections and histological sections, literally by the thousands over a lifetime of research, have revolutionised the understanding and treatment of ano-rectal anomalies, and of many genito-urinary abnormalities. He was Director of Surgical Research from 1958 to 1975, but prior to this he had already been heavily engaged in research since his return from war service in 1946.

Douglas was born in Melbourne and graduated from Melbourne University in 1936. After Residencies at the Royal Melbourne Hospital and the Children's Hospital, he served in a Forward

Operating Team and Field Ambulance of the 6th Division of the Australian Army in the Middle East and in the Pacific, from 1940 to 1946. He was awarded a DSO (Distinguished Service Order) in 1942 for conspicuous gallantry under fire, an honour to which he never referred. On return to the hospital in 1946, he was then awarded a Nuffield Traveling Research Fellowship which took him to London to the Hospital for Sick Children for 3 years. Here, he worked with Denis Browne, T. Twistington Higgins (Urologist) and Martin Bodian (Pathologist) and the beginning of a research career. On his return from England in 1950, he began building a team of young research workers, including Robert Fowler and Durham Smith, and led his team for 25 years. In 1975, at the age of 61 years his unique talents were 'head-hunted' by the Children's Memorial Hospital in Chicago as Professor of Urology and Surgery of North West University. His research encompassed the embryology and pathological development of anomalies of the urinary tract, especially ureteric reflux, dysplasias, duplications and ureterocoeles; of the genital tract, including vaginal and cloacal anomalies; and of the vast range of ano-rectal anomalies in which his dissections defined the exact anatomy of each type, and especially the controlling sphincters in relation to each type. His landmark papers in the latter subject were published in 1953.¹⁰⁻¹² He destroyed the concept that a dilated urinary tract meant an obstruction somewhere, but rather can equally result from a motility dysfunction in a tube or from congenital dysplasia, thus saving thousands of children from serious unnecessary invasive procedures current at the time. His originality lay in the marriage of accurate clinical and operative observations with meticulous dissection of foetal material or of operative specimens, leading to postulates of development. He has prodigious energy and enthusiasm and as the time of writing 2007, Douglas is still writing papers at the age of 94 years, on the concept of how pressure on the developing foetus in utero can displace structures and result in abnormalities. His books and publications are now classics, especially on "*Ano-rectal Anomalies*," and "*Congenital Anomalies of Urinary and Genital Tracts*".¹³ Space precludes discussion of his private life, but suffice to say he is no recluse. He has a happy family life and loves a party. An excellent



Fig. 4. Geoffrey Wylie.

water-colour artist, a fly-fisherman, a modest golfer and tennis player, he remains enthusiastic and active well into his nineties.

In Adelaide, South Australia, **Geoffrey Wylie** (Fig. 4) was the outstanding surgeon, and was the first surgeon in South Australia to confine himself to paediatric surgery. He is remembered for advocating the conservative approach for ruptured spleens. He was supported later by Brian Douglas, Joseph Savage and Bruce Davey.

In Perth, Western Australia, the pattern of general surgeons with part-time commitment to children continued until **Alasdair Mackellar** (Fig. 5) was appointed to the Princess Margaret Hospital for Children in 1960. He had migrated from Scotland, first to New Zealand, then to Melbourne for further training, until he was invited to the Perth appointment. He established a Paediatric Surgical Department, an Intensive Care Unit, a burns unit, and development of neonatal studies and data collection systems. He was a leading advocate for injury prevention in children, and instrumental in setting up the Child Accident Prevention Foundation of Australasia. He died in 2007, thus defeating his determination to have a further visit to Europe and attend the BAPS Seniors meeting in Edinburgh as he died early in the year. Ian Penn, Gordon Baron-Hay and the



Fig. 5. Alisdair MacKellar.

late Philip King all worked with him in Perth but are now replaced by a new generation.

In Brisbane, Queensland, Des McGuckin was the first full-time paediatric surgeon in 1962, not productive of papers but a superb operator whose results excelled; **J. Fred Leditschke** (Fig. 6) trained in Adelaide and Toronto and accepted the first professorial appointment in the University Department in 1967. He has made impressive contributions to academic surgery and in burn management. Peter Grant, Tony Milne and Stuart Pegg, as general surgeons at the Brisbane Royal Children's Hospital, the latter especially in burns treatment, and Leonard Marriott, served at the Mater Children's Hospital from 1962 to 1985.

In Sydney, New South Wales, with the retirement of those surgeons who had served children's surgery well — T. Y. Nelson, J. Steingrad, E. Goulston and E. Stuckey — the next generation became committed to surgical paediatrics exclusively, except in some of the specialties, who retained appointments in adult hospitals.